

1. Are the strategic pillars of the Draft Strategy (Enhancing prosperity for New Zealanders, Demonstrating the sector's value, and Delivering minerals for a clean energy transition) suitable or is there more we need to consider?

Yes, they are suitable

Response:

Under “Enhancing prosperity for New Zealanders” we suggest that initial efforts should aim to establish an economic baseline so that the effect of the strategy can be measured. To generate this baseline, a robust economic analysis is required to better assess the amount and extent of economic return to regions. These returns could help pay for critical infrastructure and/or guarantee regions access to health services. Economic benefits should be distributed equitably as much as possible, to ensure economic growth does not widen any existing regional disparities. Transparent methods to determine profit share may help improve the social licence for mining.

The strategy accurately and clearly states that New Zealand's current revenue from mineral exports mostly comes from coal, gold, and iron sands/steel. Increases in future income may indeed come from finding more of these minerals, which will potentially “Demonstrate the Sectors Value”, but these minerals will have minimal impact on the “Clean Energy Transition”. As written, the strategy suggests they will. Most countries do not consider coal and gold critical minerals. Furthermore, extraction of these minerals is linked to some long-term environmental legacy issues. We suggest the strategy should include a plan to focus on finding viable alternative energy resources and metallurgical agents so that coal can be phased out as soon as possible. Including this goal will strengthen the “Clean Energy Transition” pillar.

The pillars should include a stronger focus on developing and measuring societal support for minerals. This could include educational efforts that help people understand why we need minerals and where they come from. The strategy should include plans to engage with local communities across the regions and to partner with iwi. Societal support will be critical to the development of a successful/growing minerals industry in New Zealand.

The strategy should place more emphasis on the importance of innovation and research & development to support sustainable mining practices that minimize environmental impact. This includes mechanisms that not only focus on mining, but also building an associated industry to add value to products before export.

2. Are the key actions the right ones to deliver on our strategic pillars, and are they ambitious enough?

No, the actions are not the right ones and not ambitious enough

Response:

Many of the actions in the strategy are reasonable and required, they are not specific enough, nor time bound and progress towards desired outcomes will be difficult to track and measure. We suggest the minerals strategy should more clearly define specific targets and associated implementation pathways for minerals researchers and industry in New Zealand.

“Improved reporting” of environmental, cultural, and social net benefits to their communities, doesn’t necessarily mean there will be improved benefits. Actions need to be focussed around improving outcomes for communities and New Zealand.

There should be an action setting more aggressive targets for recycling and reuse of minerals to enhance sustainability efforts. This is important for social license (e.g., Glassey et al. 2023). Recycling of minerals may create an opportunity for New Zealand to develop new industries to recycle minerals and metals. For example, increasingly we will see EV batteries reaching the end of their life. What opportunities are there for NZ to become self-sufficient in the recycling and reuse of batteries?

Older mining operations often leave minerals behind in tailings dumps through incomplete processing of the material. There are increasing opportunities to use new technology to recover a larger range of minerals at a higher recovery rate from mining waste. The strategy could set incentives for companies to fully process their resource, processing multiple commodities from the same source, for example.

The strategy should highlight the need (and goal) to incorporate renewable energy sources, like geothermal, solar or wind power, into mining operations. This action would reduce the environmental impact of mining and align with the broader goal of transitioning to clean energy. It demonstrates a commitment to sustainability and can also improve the public perception of the mining sector.

3. Are there opportunities for our minerals sector we haven't considered?

Yes, there are

Response:

One potential opportunity is the development of a green certification program for New Zealand minerals. This could position New Zealand as a leader in environmentally responsible mining, potentially opening new markets and increasing demand. Products using materials mined from NZ could get a "green sticker" indicating they come from a resource mined at high ethical and environmental standards. The Responsible Minerals Assurance Process (RMAP) from the Responsible Minerals Institute provides an example of what could be adopted.

[RMAP Assessment Introduction \(responsiblemineralsinitiative.org\)](https://responsiblemineralsinitiative.org)

New Zealand has a wide variety of minerals found both onshore and offshore, with the offshore less well understood and mapped. GNS highlights that there are opportunities in further increasing our understanding of New Zealand's extensive offshore exclusive economic zone and research could support developing sustainable and responsible extraction technologies for offshore mining. New Zealand could aim to be a leader in eco-friendly deep-sea mining.

There is no mention of integrating advanced technologies like AI and machine learning in mineral exploration and extraction processes to increase efficiency and reduce environmental impact. GNS consider this to be an important input into future of sustainable processes.

4. Are there challenges for our minerals sector we haven't considered?

Yes, there are other challenges not considered

Response:

Many of New Zealand's mineral resources coincide with areas of conservation land and/or areas where land is used for critical activities (e.g. farming, recreation, urban development, etc). A clear strategy to manage legitimate public concerns about the potential impact of mining on our natural environment must be established. Furthermore, any potential actions that might impact the clean-green image that underpins our tourism industry must be identified and managed.

The actual economic benefits for regions may be overstated. Local authorities must bear the cost to conduct consenting and monitoring, offer additional maintenance of infrastructure (e.g. local roads), and potentially put in place additional housing or access to services. An approach that clearly lays out just who benefits from mining operations is a challenge that must be addressed. When done well, this may lead to an increase in willingness to support local mining activities.

While offshore mining has significant potential as a source for key minerals, currently this activity is expensive, and it is difficult to monitor and mitigate environmental impacts. Work needs to be undertaken to establish social licence to operate in these offshore locations. Mechanisms that provide the needed resource while minimising negative environmental and societal impacts must be identified and tested.

Rehabilitation of land and a shift in its use following mine closure is a challenge that has not been adequately considered in this strategy.

The World Economic Forum Global Risks Report lists societal polarization and interstate armed conflict as the 3rd and 5th most severe global risks in the short (2-year) term. Critical change to Earth systems, biodiversity loss and ecosystem collapse, and natural resource shortages are considered the 2nd, 3rd, and 4th most severe risks in the long (ten-year term). We suggest that the minerals strategy consider these risks and incorporate plans to ensure New Zealand's key minerals supplies are resilient to global societal rifts and conflict and major environmental impacts that the world will face in the coming decade. For example, what happens to our efforts to decarbonise and increase our self-sufficiency through renewable energy if global copper supply chains are severely disrupted due to conflict and/or unavoidable climate change?

5. Are there any other things we have missed that we should include, or things we should not include?

Response:

The strategy should be more than just an action plan. At the very least it should define a problem (e.g., NZ's critical minerals needs), a vision (e.g., a prosperous minerals industry in NZ), a gap analysis and objectives (e.g., access to land, skilled labour, capital) with preferred outcomes such as minerals and mining a recognised industry that is important to our country. An action plan would flow from this.

An analysis of the total monetary cost and the amount of CO₂ emissions associated with extracting and refining minerals in New Zealand (vs. exporting ore to Australia, our closest neighbour with a well-established industry) should be conducted. We may see greater economic and environmental benefit comes from working closely with other nations to meet our mineral demands.

The strategy should emphasise the importance of international cooperation in the minerals sector, both for sharing best practices and securing global supply chains. Very few nations have all the minerals they need, and nations will need to import what they lack. New Zealand is one such country that imports most of its mineral requirements, either as raw materials, or intermediate or finished products (we only produce iron sands, aggregates, zeolite, etc, for our own domestic market).

There is potential for us to develop resources for our domestic consumption but more investment in R&D is needed to increase understanding, productivity and value-added processing. The strategy pertains to research into minerals and economic geology as a whole and there is a need for better allocation of funding for this to be done. We consider there needs to be a review of government funding for R&D into minerals research.

The strategy should set out a broader view on environmental protection, including encouraging mining companies to undertake sustainability reporting and better engage with landowners (including iwi).