Submission from Straterra to the Infrastructure Commission National Infrastructure Plan

December 2024

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 welcome the opportunity to comment on the National Infrastructure Plan, and in particular the document, *Testing our thinking. Developing an enduring National Infrastructure Plan* (the document).
3. Our submission relates to the section *Decarbonisation: A different kind of challenge* and focuses on the role of coal in the future electricity system as it relates to electricity infrastructure – generation, transmission, and distribution.
4. In this submission we outline why coal will continue to play an important role in backing up electricity generation and in achieving New Zealand's emission reductions overall. We also make some general comments about the role of New Zealand-sourced minerals as part of the infrastructure supply chain.

Key points

- We fully support the expansion of renewable electricity infrastructure in New Zealand but disagree with the assumption that increased renewable electricity generation means there is no role for coal (or gas) in the electricity generation mix.
- Retaining the role of small amounts of coal and other fossil fuels, as a back-up to renewable electricity generation to cover dry years and abnormal weather conditions, is consistent with the transition to net zero emissions by 2050 and should be recognised in the Infrastructure Plan.
- It would make that commitment easier to achieve because it would enable competitively priced electricity to incentivise the electrification of industry and transport.
- It will be important that the Government does not disrupt the production of New Zealand coal to provide the necessary back up to renewable electricity.

Minerals and Infrastructure

5. Minerals are a key component of the infrastructure supply chain and will play a major role in rectifying the current infrastructure deficit and housing shortage. Many of the minerals New Zealand needs are

sourced, or able to be sourced, locally and access to them will be needed if the goals of the National Infrastructure Plan are to be met.

6. Aggregate (crushed rock and sand) forms the foundation of buildings and other structures and makes up 75–90% of the material in roading. The Infrastructure Commission is very aware of the importance of aggregate.

7. Coal and limestone are also essential inputs for cement manufacture, not only through the high temperatures required, but also, in the case of limestone, as a mineral input.

8. Steel, which is integral in the development of infrastructure projects, is produced using locally sourced coal, ironsands and limestone. Coal used in steel manufacturing is a mineral input as well as a source of heat. There is currently no commercially viable alternative to make new steel at scale without coal. New Zealand Steel supplies around 65% of domestic demand for steel products.

9. Minerals will continue to play an important role as we develop the infrastructure into the future and as needed for a lower carbon economy. Low emissions technologies such as wind turbines, solar panels, electric vehicles and batteries etc will increase demand for minerals.

10. New Zealand has prospectivity for some of these minerals. Vanadium, lithium, rare earth elements, tungsten, nickel-cobalt and copper are examples of low-carbon economy minerals which we have the potential to supply, provided we have access to land and sea for exploration and minerals development.

Coal and Electricity Generation

11. We fully agree with the premise in the document that as the economy decarbonises we will need more low-emission, renewable electricity infrastructure. However, it does not follow that New Zealand's total electricity supply will or should move to 100% renewable.

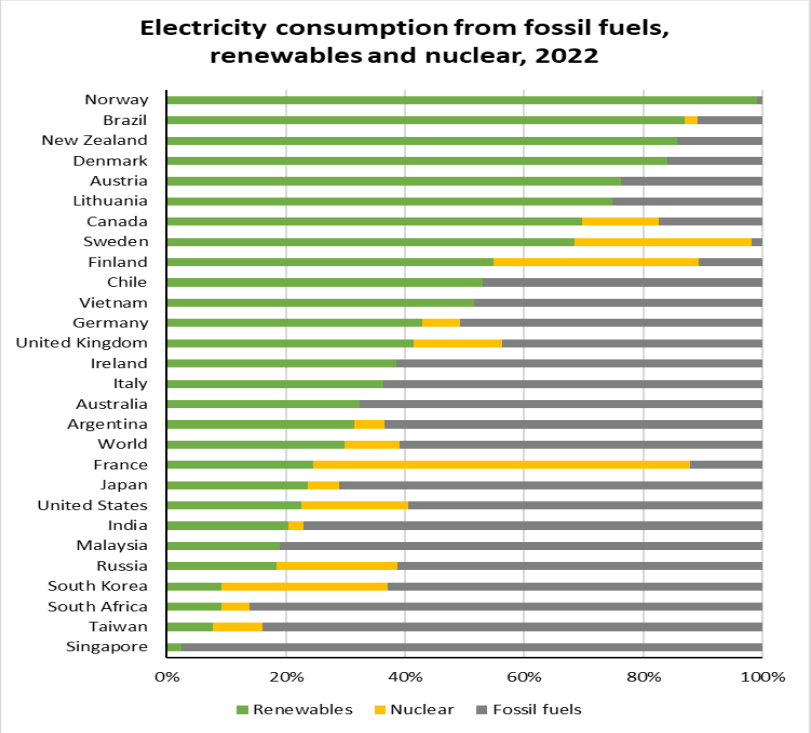
12. On page 61 it says, "*We'll need low-emission electricity generation options, like solar farms and wind farms, rather than high-emission options, like coal-fired power stations*." Straterra agrees with this. But we argue that coal and fossil fuels will continue to play the role they currently play as backup to renewable electricity generation, for the times the sun doesn't shine, the wind doesn't blow, and the rain doesn't fall.

Fossil fuels as backup to renewables

13. Currently in New Zealand coal and other fossil fuels make a crucial contribution to energy security by acting as a backup fuel for renewable electricity generation. That backup occurs in dry years when hydropower is limited; at times when the wind isn't blowing and the sun is not shining; and also, in the case of coal, in times of gas outages.

14. The proportion of electricity generated by renewables in New Zealand is high by international standards and the proportion generated by fossil fuels is low.

15. 85.6% of our electricity consumption is renewable, the third highest in the selection of countries in the graph above. (Source: Our World in Data)



Moving towards 100% renewable electricity generation

16. There are good reasons why, in the medium-term as electricity generation capacity grows, New Zealand should not try to squeeze out the remaining fossil fuels and move to 100% renewable electricity.

17. The new renewable generation capacity required to replace fossil fuels and achieve 100% renewable electricity would have to be very extensive to cover all weather scenarios and increasing electricity demand. Surplus capacity of renewable generation over and above what would be required in normal weather conditions would be required to cover dry years and abnormal weather conditions.

18. This "overbuilding" would have a detrimental impact on achieving New Zealand's overall emissions reductions because the cost of building such 'surplus' infrastructure would have to be recovered through higher electricity prices which would, in turn, be a disincentive for people and businesses to switch to greater electrification.

19. Competitively priced electricity would make New Zealand's increased electrification goal easier to achieve, and this can be achieved by leaving a percentage of generation sourced from fossil fuels. In fact, there is likely to be a case for an increased volume of fossil fuel generated electricity as the total demand for electricity increases. Significantly, this is unlikely to translate to an increased proportion of fossil fuel-generated electricity as our renewable generation increases at a greater rate. The percentage of renewable electricity would still likely move towards 100%.

20. Lower emissions for New Zealand overall would result through increased electrification, i.e. as transport and industry switches to electricity, as described in the document. In other words, perhaps paradoxically, continuing with or even increasing fossil fuels used for electricity generation can make the increased electrification goal easier to achieve (through lower prices) and reduce emissions in the process (as greater electrification occurs).

Gas versus coal

21. The Government seems to agree that fossil fuels will be needed for some years as a backup to renewable electricity generation infrastructure, yet it appears to believe natural gas will fulfil this role, not coal.

22. As matters stand, there is uncertainty in future gas supply in New Zealand, partly because of the existing regulatory constraints on new oil and gas exploration, and more importantly from outages at existing producing assets.

23. Coal is a reliable and flexible alternative energy input. It is easily stored and transported and is likely to continue to play its current role to safeguard New Zealand's energy security alongside gas.

24. Even though gas has a lower emissions intensity than coal it would be a mistake to rely on gas solely as the back up to renewable energy because of the forementioned points.

Do not disrupt supply of New Zealand produced coal

25. Because there is a place for coal as the backup to renewable energy infrastructure, the country needs to be careful about prematurely ending the supply of New Zealand produced coal.

26. Government policy decisions in recent years have assumed demand for coal will soon end and so have been punitive to New Zealand coal miners.

27. In addition to this, we are seeing unfavourable decisions towards New Zealand coal producers from organisations and business, often seemingly to boost their sustainability credentials. For example, many banks and investment funds have announced they have ceased to invest in or do business with New Zealand coal producers but, perversely, they are happy to do so with the companies that actually use and combust the coal.

28. This virtue signalling is hypocritical. It must not be allowed to lead to an outcome where coal suppliers, and fossil fuel producers generally, exit before there are sufficient available, affordable, alternative fuel sources.

29. If New Zealand electricity production is dependent on coal for longer than expected, New Zealand coal producers need to be able to meet this demand. If New Zealand coal is curtailed, the alternative would be imported coal to fill the gap. In this regard, the recent decision by Indonesia to impose export quotas on coal should be a wakeup call given that country supplies 86% of New Zealand's coal imports.

30. In conclusion, decisions should not be made to disrupt or prematurely end the supply of New Zealand coal for electricity generation under the misguided belief that it will be easy to move to renewable and other alternative sources as it might be needed longer than anticipated.