

Submission from Straterra To Interim Climate Change Committee Call for Evidence November 2019

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 from the Interim Climate Change Committee](#) to provide evidence to assist the soon to be established Climate Change Commission develop its emissions budgets as required under the Response (Zero Carbon) Amendment Act.
3. Straterra strongly supports the creation of the Climate Change Commission and its work programme to provide advice to the government on emissions budgets / how to reduce New Zealand's emissions.
4. There is an international imperative to reduce carbon emissions. We support New Zealand's obligations as a signatory to the Paris Agreement in this imperative, provided; a) the competitiveness of effected sectors of the economy is maintained and b) reduction of emissions in New Zealand does not lead directly to increased global emissions.
5. The New Zealand minerals sector is an important stakeholder in the efforts to reduce New Zealand's emissions.
6. In this submission we answer a selection of the questions provided in the response form and we provide comments on minerals and climate change, and the role of coal.

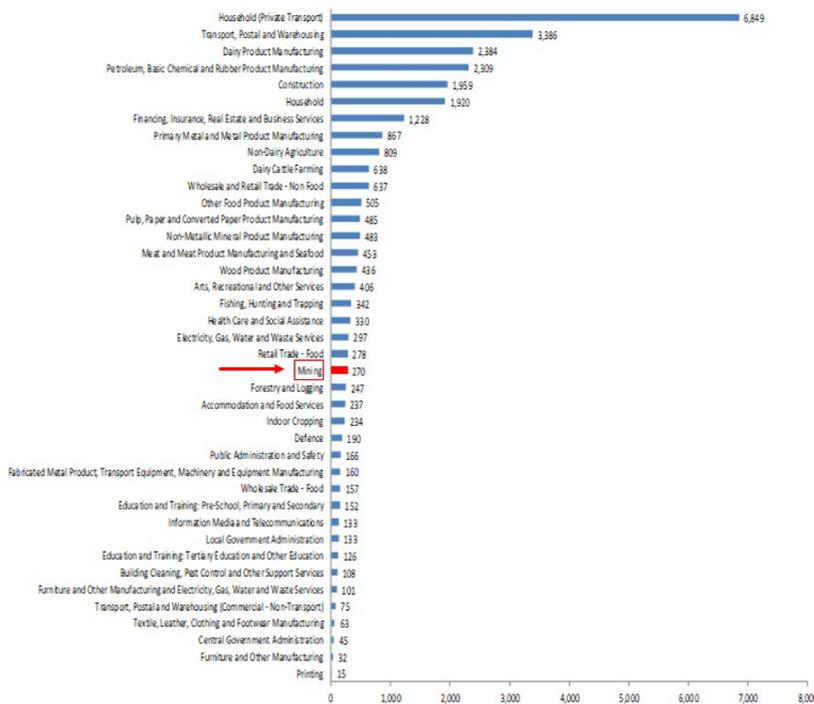
Minerals and climate change

7. There is a lot of focus, and some misinformation, on the minerals industry in relation to climate change and the contribution reform of the sector might make to emissions budgets. We trust this brief submission will provide evidence and information that is useful for the Commission.
8. The products of mining do and will play an important role as we move to a lower carbon economy, e.g. wind turbines, solar panels, batteries etc. Demand for many minerals is likely to

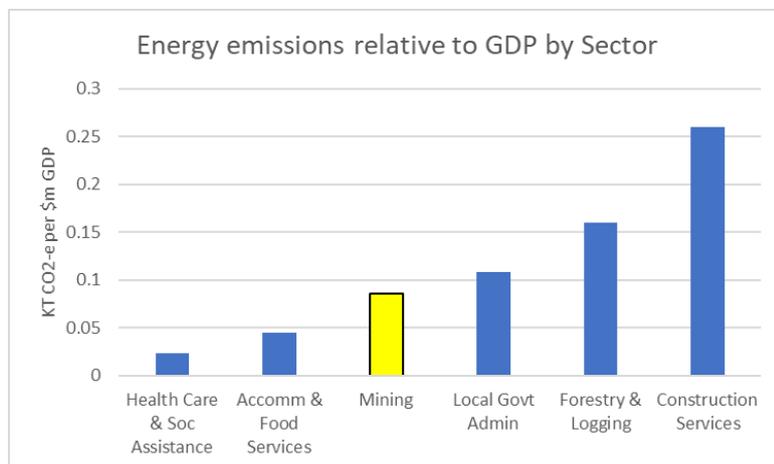
increase according to a recent [report by the World Bank](#). New Zealand has the potential to supply some of these.

- Mining industry emissions come mostly from the diesel used to extract and process minerals. These processes are relatively energy intensive with wide variation across mining operations. The mining sector in aggregate is in the middle of the pack in terms of total emissions, as indicated in the graph below provided by EECA.

Energy Emissions by Sector in 2016 (kt CO₂ equivalent)



- Even adjusting for the relative size of the sector, mining’s emissions are not as high as many other industries. Emissions per unit of output are shown in the table below.



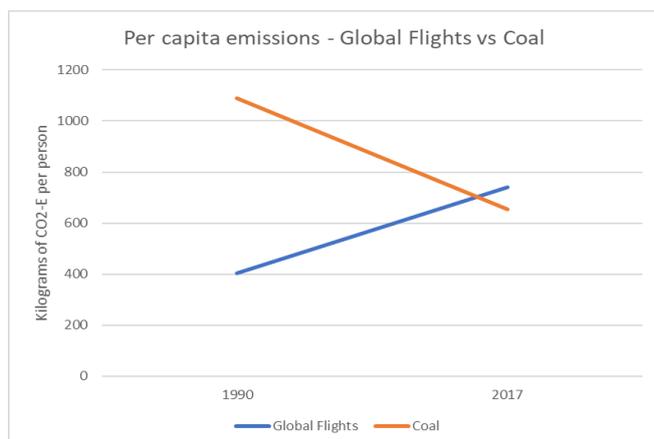
11. The purpose of providing these figures is to give an indication of the scale of the mining sector's impact on emissions. We make the point below that irrespective of the energy intensity of mining, or any other industry for that matter, the evidence is that penalising energy-intensive trade exposed (EITE) sectors relative to overseas counterparts is likely to reduce emissions in New Zealand but not reduce global emissions.

Coal and Climate Change in New Zealand

12. Coal, which is only one of many mineral resources in New Zealand, produces emissions when it is burned, and it is a fossil fuel with high emissions intensity.
13. Coal is a focus internationally because of this high emissions intensity and the fact that it is responsible for [40% of global emissions](#). Coal use in New Zealand contributes around 4% of our gross CO₂-e emissions. Coal might be the single biggest source of emissions internationally, but it is not here. The appendix outlines the role of coal in New Zealand and in the economy.
14. In summary, domestic demand for coal comes from the agricultural sector, steel manufacture, generation of electricity at Huntly (as a back up to our renewable resources to maintain security of generation), and to a minor extent to heat schools and hospitals mostly in the South Island where reticulated natural gas is not available. New Zealand also mines premium grade coking coal to meet demand from international steel manufacturers. Coal for steel making is a mineral input, not just a thermal input, and, as this coal is exported, it does not count towards New Zealand's emissions account.
15. Coal producers mine coal to meet demand from New Zealand and abroad. The key to reducing emissions from the use of coal, and fossil fuels generally, is to change (reduce) demand. This will happen as regulations require, and competitiveness and cost burdens allow. There is too much focus on the supply side and not enough on the demand side in this debate.

Consumer, Individual and Household Behaviour

16. Question 3 of the questionnaire explores potential changes in consumer, individual and household behaviour to deliver emissions reductions. There is a lot of scope for this. Whilst obvious to those working in the area of climate change, there seems to be a genuine lack of knowledge amongst the general public, and even the activist movement, that emissions occur when fossil fuels are burned and not when they are extracted. Increased public awareness of where emissions are generated would be beneficial.
17. For example, many people would not know that emissions from private motor vehicles in New Zealand are almost three times as much as emissions from coal and that transport emissions per person are the fifth highest in the OECD. New Zealand emissions from international flights have risen significantly from 1332.9 kt CO₂-e in 1990, to 3702.7 kt CO₂-e in 2017 and now exceed those from coal burned in New Zealand, as shown in the graph below.



18. So, while the coal sector’s emissions are decreasing, consumer emissions in these discretionary areas are growing. We do not necessarily have an issue with this consumer behaviour but it does provide a small illustration of where the problem lies.

Energy-Intensive Trade Exposed Businesses

19. In general, companies are using coal to maintain their competitiveness, and it is rational to do so. They would convert to alternative fuels if and when it makes economic as well as environmental sense for them to do so. This will occur progressively as alternative technologies become more competitive in terms of capital and operating costs, as competitors make similar progress, and as demand dictates.
20. Most coal users are open and upfront about the challenges they face switching out of coal. Fonterra, for example, has said that to replace its coal-fired boilers with wood biomass, it would need access to a forest the size of Belgium every year to keep them running. It has also said that converting Fonterra’s Edendale operations to electricity would require an initial capital investment of \$160 million, and annual operating costs would increase by at least 50 percent. Switching all its coal-fired boilers to electricity would also require significant grid infrastructure and generation upgrades to meet its energy demand.
21. The dairy sector is dependent on New Zealand’s competitive advantage in energy and this illustrates the risk that if energy-intensive, trade-exposed (EITE) sectors are made less competitive in the international markets in which we compete, investment and production may re-locate from this country and increase in jurisdictions that do not have comparable climate change policies. The New Zealand economy would then suffer as jobs and investment are transferred offshore, for no environmental benefit.
22. There needs to be a robust analysis done, including the marginal cost of abatement across sectors and activities, to inform how we should focus our efforts to reduce emissions. Such an analysis would show that coal is integral to the economy’s competitiveness without having a major impact on New Zealand’s emissions.

Offshore Mitigation

23. Question 5 raises the issue of offshore mitigation. It is essential that this be permitted for meeting emissions budgets to achieve most efficient emissions reduction. Allowing offshore mitigation would enable some sectors to meet targets by using emissions reduction from overseas and others, where we have a competitive advantage, to increase production and emit more efficiently. The offshore mitigation must, of course, meet accepted criteria for environmental integrity.

24. It should not be seen as a cop out if New Zealand users purchase emissions from offshore, provided they have strong environmental safeguards, as climate change is, after all, a global issue.

Appendix – The role of coal in New Zealand and its impact on climate change

Industrial use coal

There are two types of coal in New Zealand, thermal coal and coking coal. Thermal coal in New Zealand has an important role in maintaining the international competitiveness of our agriculture sector – dairy in particular – and in domestic food production. This will change as technology advances allow and as competitors take on the cost of reducing emissions.

New Zealand's export economy is relatively energy intensive and much of it is dependent on coal as a cost-effective fuel particularly in the South Island where there are fewer viable alternatives. High levels of energy are used to produce heat for industrial processes. The dairy and steel sectors for example are dependent on New Zealand's competitive advantage in energy.

If these energy-intensive, trade-exposed (EITE) sectors are disadvantaged by New Zealand's policy response to climate change making them less competitive in the international markets in which we compete, production may re-locate from this country and increase in jurisdictions that do not have robust climate change policies – i.e. the carbon emissions would 'leak' to another country. While New Zealand emissions would fall, the net impact is *global* emissions will stay the same - or even increase if production in other countries is more emissions intensive than the lost New Zealand production.

At the same time the New Zealand economy will suffer as jobs and investment are transferred offshore, for no environmental benefit. It is crucial New Zealand's policies take account of the problem of emissions leakage. It is clear that it would not exist in the presence of a uniform global emissions price but this does not currently exist.

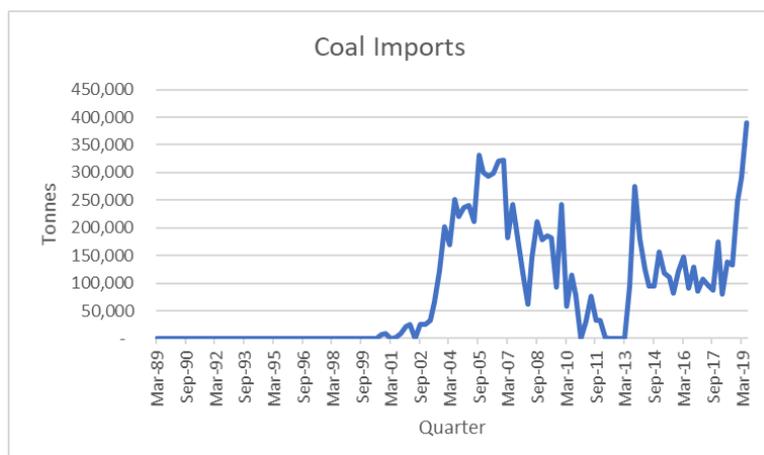
Energy Security

Thermal coal also plays an essential role in providing energy security in New Zealand – in dry years, when gas shortages occur and as a result of adverse weather events.

Currently around 85% of electricity in New Zealand is generated from renewable sources with coal and gas playing an important role as a backup.

The technology does not exist to completely shift to 100% renewable or eliminate greenhouse gas emissions from electricity generation, without greatly increasing wholesale electricity prices and so the role of fossil fuels as a backup is likely to continue for the foreseeable future. In fact, as electricity demand increases greatly in New Zealand (as it is expected to with the advent of electric vehicles etc.), coal's importance is likely to increase.

For a short period at the end of 2018, driven by numerous unplanned and unprecedented gas outages and low inflows into the hydro catchments, Genesis relied on coal to maintain national electricity supplies and much of that had to be imported. The highest quarterly imports in at least 30 years, 390,000 tonnes, were recorded in June Quarter 2019 to maintain its stockpile for its Huntly plant.



Exports of Coking Coal

New Zealand mines premium grade coking coal to meet demand from international steel manufacturers. At present, there are no commercially viable technologies to make steel, at scale, without coking coal. This demand will reduce, over decades, as new technologies and new materials allow.

If New Zealand reduces its coal exports, customers will purchase elsewhere. That means the steel will still be produced by overseas manufacturers and the coal will still be burned. So, in other words New Zealand reducing its coal exports has no impact on New Zealand emissions (as Coal exports are not counted in terms of New Zealand’s emissions account), and more importantly will not reduce global carbon emissions either. In fact, global emissions could rise if the coal is replaced by inferior coal sourced from producers with lower environmental standards as is likely the case.

This isn’t technically emissions leakage, but it illustrates the futility of curtailing New Zealand’s export coal production as it would have a detrimental impact on the New Zealand economy. Our export receipts would suffer, and New Zealand workers, regions and government would lose out in terms of employment and revenues – as well as the global environment.