SUBMISSION

STRATERRA™
NATURAL RESOURCES OF NEW ZEALAND

Submission from Straterra
To the Ministry for the Environment
Emissions Reduction Plan
November 2021

Key points

- Many of the regulations and policies to reduce emissions are not necessary given the sinking lid Emissions Trading Scheme (ETS) and we recommend they not be imposed.
- Pending the reaching of bilateral agreements to obtain overseas carbon credits, we propose the ETS should contain a mechanism to benchmark the NZU price with that of our trading competitors.
- Policies to transition out of thermal coal for industrial process heat need to incorporate the importance of avoiding carbon leakage which would affect people's livelihoods without benefiting the global climate.
- The Climate Change Commission's demonstration path of coal fired electricity generation ending in the mid-2020s is short sighted given the useful role limited volumes of coal play as a back up to renewable sources.
- Continuing with coal (and gas) can make the increased electrification goal easier to achieve and reduce emissions / increase decarbonisation in the process.
- We agree a target of 50% of all energy consumed coming from renewable sources by 2035 more realistic and less costly than the 100% renewable electricity target.
- The goal of 95–98% renewable electricity by 2030 would be counterproductive to reducing emissions overall because decarbonising the last few per cent of the electricity mix comes at a very high marginal cost of abatement.
- We support the recommendation to develop a national energy strategy which may find coal has a future to reduce overall emissions in New Zealand.

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. The sector is proud to be part of the solution to climate change. The products of mining will play an important role in reducing global emissions.

3. We welcome the opportunity to comment on the discussion document, *Transitioning to a Low-Emissions and Climate-Resilient Future*, and having a say in shaping the government's emissions reduction plan.

4. Straterra supports the international imperative to reduce carbon emissions and New Zealand's obligations under the 2015 Paris Agreement.

5. It will be important that the government's Emissions Reduction Plan does not simply transfer emissions, along with business activity, offshore, ie not benefiting world climate but risking economic harm to New Zealand. Integral to this is maintaining the international competitiveness of affected sectors.

6. This submission focuses on two chapters of the discussion document:

   - Emissions Pricing
   - Transitioning Key Sectors – Energy and Industry

Emissions Pricing

The ETS

7. The Climate Change Commission has recommended a range of policies and interventions to achieve the net zero goal. These are intended to complement the Emissions Trading Scheme which has recently been reformed.

8. We argue many of these interventions are not necessary given the ETS reforms – specifically the introduction of a sinking lid, ie a fixed volume of NZUs in the scheme which is to be reduced annually, which means emissions cannot, as a matter of arithmetic, be reduced below this lid. The additional interventions will impose costs on the economy without having any impact on emissions. At best, they will enable the carbon price to be lower than it otherwise would be for a given amount of reductions.

9. We recommend that regulations and policies to reduce emissions should not be imposed in addition to the ETS.

International carbon trading / price

10. As the government would no doubt accept, a combined international approach including an international trading scheme is needed for New Zealand and global emissions to be reduced. Work towards this under the Paris Agreement had not progressed to date, but we are encouraged by the developments at COP26 in Glasgow earlier this month. The New Zealand Government could soon enter into bilateral agreements with other countries to obtain overseas carbon credits, we understand.

11. We argue that carbon trading needs to be open to the private sector; however, the above is a step in the right direction. We congratulate the government for its part in this achievement and hope that New Zealand works hard to develop these bilateral agreements in the near future.

12. The carbon price faced by New Zealand emitters, and the stringency of other policies to reduce emissions, need to parallel those faced by our international trade competitors and partners as much as possible, so we are not made uncompetitive and emissions leakage does not result.

13. The main flaw of the NZETS is that it does not take account of carbon prices in international markets. Consequently, it risks undermining New Zealand's international competitiveness with no benefit for the world's climate.

14. As an interim solution, pending the reaching of bilateral agreements, we propose the ETS should contain a mechanism to benchmark the NZU price with that of our trading competitors.

Energy and Industry

Preparing the electricity system for future needs

15. The Climate Change Commission has made a range of recommendations for a low-emissions electricity system. The commission's demonstration path has coal fired generation at Huntly ending in the mid-2020s.

Coal as a back up

16. We think phasing out coal so fast is short sighted given the useful role limited volumes of coal play, and will continue to play, as a back up to renewable sources and thus in providing energy security.

17. That back up occurs in dry years when the hydropower is limited; at times when the wind isn't blowing and the sun not shining; and also in times of gas outages. If coal were removed from the electricity system, New Zealand would face electricity shortages and disruptions / blackouts.

18. We recognise that coal's role in electricity generation is limited but it makes a crucial contribution in this backup role and this should continue, even, as we argue below, as part of a strategy to lower energy emissions.

The expense of new renewable generation particularly hydro

19. The commission's mid 2020s coal phase-out track is also unrealistic given the difficulties and expense of building sufficient new renewable generation capacity. These challenges need to be taken account of, when considering the speed that coal is phased out, but they do not seem to be.

20. The government's intention is that increased renewable generation capacity, and perhaps the New Zealand Battery Project (the proposed Lake Onslow pumped hydro scheme) or alternatives, will reduce the demand for coal over time. But the cost and difficulties associated with increasing enough renewable generation to meet the country's expected growth in electricity demand are large. Furthermore, it is not certain that the proposed Lake Onslow pumped hydro scheme / battery project will go ahead. This all points to the role for limited amounts of coal or gas as a backup needing to continue.

Gas vs coal

21. While the Commission accepts a role for fossil fuels as a backup, it sees gas playing this role and has given it a longer life in its path. As matters stand, there is uncertainty in future gas supply in New Zealand, partly because of government policy to greatly constrain new oil and gas exploration, and more importantly in the short term from outages at existing producing assets. Coal is a reliable and flexible energy input and should continue to play its current role to safeguard New Zealand's energy security.

Future demand for electricity to assist in decarbonisation

22. Electricity demand is likely to increase significantly in the future as increased electrification of transport and industry occurs. The commission's path has electricity generation increasing at 20% above 2018 levels by 2035 to meet industry and electric vehicles' needs. The bulk of the new generation capacity is likely to be renewable which, of course is very positive for New Zealand emissions path. However, the case for a small amount of gas and coal as a backup to this new renewable electricity is as strong as it is

for the current generation. And in fact, in volume terms – if not as a proportion – there is even a case for it to increase over that time to meet increased demand.

23. In spite of an increase in gas and coal use in electricity generation, lower emissions for New Zealand would still result through greater electrification, ie as transport and industry switches to electricity. In other words, perhaps paradoxically, continuing with coal (and gas) can make the increased electrification goal easier to achieve and reduce emissions / increase decarbonisation in the process.

24. Ironically, climate change is likely to intensify seasonal and intraday weather conditions, further testing the resilience of the national grid as the country becomes more reliant on renewable generation. This issue strengthens the case to continue using coal (and gas, if still available) to provide backup into the future.

25. The Interim Climate Change Committee estimated that achieving 100% renewables, without any dry-year reserve thermal generation, could add more than $800 million to the cost of electricity each year. It quantified the emissions abatement cost at more than $1200 per tonne of CO_2e, as the percentage of renewable generation nears 100%. That is almost 20 times the current price of CO_2 on the secondary market.

Decarbonising industry

26. Thermal coal as an industrial heat source has an important role in maintaining the international competitiveness of our agricultural sector – dairy in particular – and in domestic food production.

27. The government has announced a ban on the installation of new low and medium-temperature coal boilers used in manufacturing and production from January 2022 and has proposed a phase out of existing coal boilers by 2037.

28. It is offering financial support to businesses that transition out of coal for industrial heat and is looking to support this by developing national direction for industrial greenhouse emissions under the RMA, and also under the new legislation to replace the RMA.

29. There are a number of issues that need to be considered as the government pushes the transition out of thermal coal for process heat.

30. Firstly, as already stated, any policies to transition out of thermal coal need to incorporate the importance of avoiding carbon leakage. Any initiative to reduce coal consumption with a view to reducing emissions should be assessed in terms of its impact on global emissions as well as local emissions. Retaining New Zealand's international competitiveness is fundamental to this.

Challenges posed by alternative fuels

31. Secondly, the anticipated move away from coal to biomass and electricity as a source of industrial process heat presents challenges, physical as well financial, that are insurmountable at present even with government assistance.

32. The challenges associated with biomass have been well documented and include its limited quality (eg moisture content), the availability and reliability of supply, transport logistics, and cost. We are not aware of any evidence that supports the proposition to replace coal with biomass at the scale proposed. While we know many individual users have signalled their intentions to switch to biomass, the impact of the combined total coal usage on biomass supply is less certain.

33. In the case of electricity, challenges include the cost of arranging transmission, the capital cost of boiler conversion, electricity capacity at places, and the price of electricity for industrial consumers. It has been estimated that the cost of electricity in terms of operating costs is roughly 3-4 times that of coal per unit of heat produced.

The rising carbon price is incentivising fuel switching

34. Coal use for New Zealand industrial process heat has contracted in the last 15 years so the low-hanging fruit has already been picked. Remaining coal is used for logical reasons – often being the only available alternative for particular industries (eg steel and cement) or certain businesses in specific locations (eg South Island food processors), hence coal mining being classified as an "essential service" or a "key utility" during Covid-19 lockdowns.

35. The government's focus should be on emissions not preferred fuels. A rising carbon price in the ETS is an incentive to pursue options, where these are cheaper than NZUs. Regulations and policies to penalise coal users should not be imposed in addition to the ETS which should be allowed to run its course.

36. As the carbon price rises, it will become economic for remaining coal users to switch to an alternative source. Our view, however, is that many businesses would fail long before the carbon price reached that point because the costs are so high. The consequence is that New Zealand would export emissions and jobs, while contracting our economy, affecting people's livelihoods, and not benefiting global climate.

37. The analysis done to date, eg the Ministry for the Environment's work on marginal abatement cost curves for industries, assumes that industries remain in business regardless of the abatement cost, and seems to assume that the rest of the world shows the same commitment to carbon pricing as New Zealand does.

Setting targets for the energy system

38. We agree with the Climate Change Commission's advice that the government's goal of 100% renewable electricity by 2030 should be abandoned.

39. The Commission has recommended replacing the 100% goal with a goal of 95–98% renewable electricity by 2030. Even this is extremely ambitious. As matters stand, New Zealand ranks 4th in the world for the percentage of renewable electricity generation, behind Costa Rica, Iceland and Norway.

40. We argue 95–98% is too high and that such a target would be counterproductive to reducing emissions overall. This is because decarbonising the last few per cent of the electricity mix comes at a very high marginal cost of abatement, meaning electrification becomes increasingly expensive, thereby disincentivising the electrification of transport and industrial heat. In other words, to reiterate our earlier point, a limited amount of coal / fossil fuels used as a backup to our renewable resources is actually a step towards achieving emissions reductions overall.

41. The Commission has also recommended setting a target of 50% of all energy consumed coming from renewable sources by 2035. We agree this target for energy overall would be more realistic and less costly than the 100% renewable electricity target. There are multiple routes to achieving 50% renewable energy, and we suggest coal has an ongoing role for a period of time in many of those.

Energy strategy

42. We support the recommendation to develop a national energy strategy.

43. An energy strategy would provide the government an opportunity to explore alternatives to the Lake Onslow pumped hydro scheme as part of the New Zealand Battery Project. The government has committed to this project but there is merit in reviewing it in light of an energy strategy.

44. While it may be politically unpalatable, it is possible such a strategy would find limited coal has a future to reduce overall emissions in New Zealand.