

Submission from Straterra

To Ministry of Business, Innovation and Employment (MBIE)

Proposals for a Regulatory Regime for Carbon Capture, Utilisation and Storage

August 2024

Introduction

1. Straterra is the industry association representing the New Zealand minerals and mining sector. Our membership is comprised of mining companies (including coal), explorers, researchers, service providers, and support companies.
2. Straterra supports New Zealand's target of net-zero emissions by 2050. New Zealand needs to play its part in global commitments to meet the objectives of the 2015 Paris Agreement.
3. We welcome the opportunity to make this brief submission on a [proposed regulatory regime for Carbon Capture, Utilisation, and Storage \(CCUS\)](#).
4. Straterra's interests in this regulation, as set out in this submission, relates to the potential for capturing emissions from the combustion of coal and fugitive emissions at coal mines; and in mineral use in technologies to capture and store carbon dioxide.

Key points

5. We support the adoption of a regulatory framework that enables the development of carbon capture and its storage or utilisation in New Zealand.
6. Emissions reductions or removals resulting from CCUS should be recognised in the New Zealand Emissions Trading Scheme (ETS).

Submission

7. We support the Government's *net* emissions approach to reducing emissions: removing carbon from the atmosphere is just as important as reducing gross carbon emissions and so net emissions matter more than gross. Adoption of CCUS technology is a key part of that.
8. We see CCUS technology as one of many tools that should be available to New Zealand to help it achieve that net target in a cost-effective manner.
9. The technology has been fully endorsed internationally, including by the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA) which says, "reaching net-zero will

be virtually impossible without CCUS.”¹ The Climate Change Commission has also acknowledged the significant role carbon capture and storage (CCS) could play in constraining industrial emissions.

10. Given its increasing use around the world, we agree the Government needs to establish regulation in anticipation of the growing use of CCUS in New Zealand.
11. We agree that CCUS should be on a level playing field with other emissions reduction and removal mechanisms i.e. it should not be favoured over any other mechanism using government incentives (tax incentives or subsidies) to encourage its uptake. Neither should it be imposed on industry.
12. However, because of its likely increasing use as the technology improves, government barriers to its adoption should be removed, and the regulatory frameworks developed should streamline the approval and operation of CCUS.

Treatment of CCUS activities within the Emissions Trading Scheme (ETS)

13. Currently, New Zealand's Emissions Trading Scheme (ETS) does not cater well for removals and reductions of carbon. Only forestry removals and geothermal reductions are accounted for and rewarded by the ETS. Emissions reductions or removals resulting from CCUS and other CO₂ removal activities, as well as other forms of sequestration, should also be recognised in the scheme.
14. Participants would then be able to either subtract their emissions captured and stored from their ETS liability, or alternatively receive New Zealand units (NZUs) for captured and sequestered carbon. This would be similar to how owners of forestry land receive their NZUs for removals.
15. New Zealand needs to adopt the most efficient, flexible, and cost-effective pathway to net zero emissions by 2050. Allowing for more sequestration through CCUS will enhance our ability to meet that target.

Coal combustion

16. The discussion document devotes a lot of space to CCUS mechanisms for natural gas. As well as this the regulation must also cover emissions from coal combustion.
17. While coal use is not expected to increase significantly in future years, market conditions could easily change and so CCUS will need to be an option for the owners and operators of coal-fired power plants and coal boilers.

Fugitive emissions

18. Coal mines are a source of fugitive emissions of carbon dioxide equivalent (CO₂e) which escapes as coal is extracted but the level of these emissions is very low in the context of New Zealand's overall emissions.
19. Capturing and storing these emissions is difficult in New Zealand, relative to other countries, due to mine location, topography and geology. Coal mines in New Zealand are often in mountainous areas where our rock is more fractured than it is in other places, and therefore, capture and storage may not be possible.

¹ The IPCC estimates annual removals of between 5 and 16 billion tonnes of CO₂-equivalent will be needed to achieve net-zero emissions by 2050.

20. For these reasons we do not see CCUS technology as a likely way to reduce fugitive emissions from coal mines, but the regulation that is proposed needs to be cognisant of the possibility that this might change and to reward any capture that currently occurs.

Mineral use in technologies to store carbon dioxide

21. As discussed, CO₂ removal from the atmosphere will play a critical role in limiting climate change and new mechanisms for carbon sequestration are needed.
22. **Subsurface carbon mineralisation** is a developing technology that captures and permanently removes CO₂ and other greenhouse gases from the atmosphere and work is being undertaken in preparation for it to be applied in New Zealand.
23. New Zealand's unique geology includes significant ultramafic rock formations that are ideal resources for applying carbon dioxide removal (CDR) methods of carbon mineralisation. These formations are rich in minerals (dunite, olivine and basalt) essential for subsurface mineralisation.
24. It is possible that the Minerals Programme and associated mineral rights under the Crown Minerals Act (CMA) will need to be amended to accommodate subsurface carbon mineralisation.

Other examples of CCUS

25. Other examples of CCUS which should be formally recognised include the absorption of atmospheric CO₂ by exposed hardened concrete and lime.
26. Currently, carbon dioxide emitted from the manufacture of lime from limestone (which is substantial) is captured by the ETS but the regime does not recognise that when the lime is applied in industry there is significant reabsorption of the CO₂ generated during production – 100% in the case of lime applied to water treatment.
27. We refer you to the submission from the Aggregate and Quarry Association and New Zealand Lime Producers Association for more on this.