

Submission from Weora Limited

To Ministry of Business, Innovation and Employment (MBIE)

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

Introduction

1. Weora Limited is a private New Zealand company dedicated to developing Carbon Dioxide Removal (CDR) technologies and exploring geological hydrogen potential in New Zealand.
2. Our primary focus is on a process called carbon mineralisation, a form of CCS, which involves reacting CO₂ with rocks to form stable carbonate minerals, ensuring permanent storage/removal of CO₂.
3. Weora holds a series mineral exploration licenses targeting ultramafic rocks, which are high in magnesium (Mg) and iron (Fe) and suitable for carbon mineralisation. We are evaluating the potential of sites across the length of New Zealand
4. As part of our broader Carbon Dioxide Removal project, Weora Limited is exploring the potential for in situ or subsurface carbon mineralisation in New Zealand. This technology, pioneered in Iceland over the past 15 years, involves injecting CO₂ (either dissolved in water or as a supercritical fluid) into suitable rock formations, where it reacts to form stable carbonate minerals and becomes permanently stored.
5. Weora is conducting a feasibility study for carbon mineralisation in New Zealand to capture and permanently remove CO₂. Preparatory work is underway to apply this technology in New Zealand.

Submission

6. Weora supports New Zealand’s goal of net-zero emissions by 2050. New Zealand must contribute to global commitments to meet the objectives of the 2015 Paris Agreement. We believe New Zealand has the potential to be a world leader in Carbon Removal.
7. The IPCC indicates that tens of gigatonnes of negative emissions and carbon storage are required globally to meet 2050 climate targets.
8. Carbon Capture and Storage (CCS), coupled with carbon mineralisation, offers the safest and most permanent form of carbon storage, eliminating any ongoing liability. The permanence offered by carbon mineralisation, compared to conventional CCS, should be considered and promoted in the proposed regulatory framework.
9. Weora believes that CCUS technology should be one of the many tools available to New Zealand to help achieve the net-zero target cost-effectively, particularly for hard-to-abate sectors such as smelting, steel, and cement.
10. We think CCS should be deployed in conjunction with all efforts to reduce gross emissions.
11. New Zealand’s unique geology, with significant ultramafic rock formations, provides ideal resources for applying CCS methods with permanent storage through carbon mineralisation. Weora is investigating the potential of these geological formations as carbon storage sites.
12. The theoretical storage capacity of New Zealand’s ultramafic rocks is hundreds of gigatonnes, enough to store all current and historical emissions.
13. Given the increasing global use of CCUS, we agree that the government needs to establish regulations in anticipation of its growing application in New Zealand.
14. It is likely that the Minerals Programme and associated mineral rights under the Crown Minerals Act (CMA) will need to be amended to accommodate subsurface carbon mineralisation.