Submission by

Golden Bay

to the

Ministry of Business Innovation and Employment

on the

Proposed Regulatory Regime for Carbon Capture, Utilisation, and Storage (CCUS)

6th August 2024

Contact: [redacted]

1. Golden Bay welcomes the opportunity to submit on the Ministry of Business, Innovation and Employment (MBIE) on the consultation document Proposals for a Regulatory Regime for Carbon Capture, Utilisation and Storage (CCUS).

2. As a member of the BusinessNZ Energy Council Golden Bay has contributed to their submission and generally supports the submission.

3. As a member of Concrete New Zealand Incorporated Golden Bay has contributed to their submission and generally supports the submission.

4. Golden Bay is making this additional submission to address issues specific to its business.

5. Golden Bay is New Zealand's only integrated manufacturer of cement and has been committed to reducing carbon emissions and supporting New Zealand's transition to a low-emissions economy for the past two decades. Since 2002, GBC has invested over $200 million in upgrades to its operations, including significant investments in new technology to reduce use of fossil fuels in the clinker manufacturing process – notably through use of biomass and waste tyre recycling. These investments have resulted in a 14% reduction in GBC's clinker carbon intensity over the period.

6. Golden Bay has developed a decarbonisation roadmap targeting net zero emissions by 2050.

7. CO_2 emissions from clinker production are derived from calcination of limestone, combustion of fuel and consumption of electricity. Golden Bay's decarbonisation roadmap plans to reduce fuel emissions through fuel switching to biofuels and electricity emissions by moving to renewable generation.

8. The CO_2 emissions from limestone calcination are unavoidable. Golden Bay's decarbonisation roadmap plans to use CCUS as the method for decarbonisation of this component of emissions and any residual fuel emissions.

9. **Golden Bay supports the proposal to establish a regulatory regime for CCUS.**

10. The CCUS Regulatory Regime needs to allow for all forms of storage to be considered, not just underground storage. Underground storage may not be an option for some producers due to the local geology of the area they produce within. Other proven and emerging technologies are likely to be better options for these producers and must be supported by the Regulatory Regime.

11. For example, carbon capture and storage can be achieved through mineralisation of CO_2. This occurs through re-carbonation of concrete exposed to the atmosphere. This mechanism is explained in the Concrete NZ submission. Other mineralisation carbon storage mechanisms include concrete curing with CO_2 and carbonation of naturally occurring minerals such as olivine rock.

12. **Golden Bay recommends any mechanism that converts CO_2 to a stable material should be included as valid CCS methods and be allowed for in the Regulatory Regime.**

13. Due to the biofuel component of Golden Bay's fuel mix, a significant portion of Golden Bay's CO_2 emissions are biogenic. As biogenic CO_2 can be utilised without incurring emission costs,

when it is released, it is ideal for the production of CO_2 for the food and beverage industry and use in manufacturing for the production of sustainable aviation fuels (eSAF).

14. Due to the nature of the operations, emissions streams generated at Golden Bay are a mixture of biogenic and anthropogenic CO_2 which are impossible to separate, therefore any captured CO_2 will include both components. Golden Bay's biogenic emissions however can be accurately calculated from measurement and analysis of fuel inputs.

15. **Golden Bay recommends that the CCUS Regulatory Regime should contain an accounting mechanism to calculate and recognize captured CO_2 as biogenic CO_2, provided the captured CO_2 volume does not exceed the volume of biogenic CO_2 emitted.**

16. Golden Bay operates an Emissions Intensive Trade Exposed (EITE) activity and under the current Emissions Trading Scheme (ETS) it receives an Industrial Allocation of NZU's to cover CO_2 emissions from the manufacture of clinker and cement. This allocation is essential to provide a level playing field with importers who can source from jurisdictions where there are no carbon costs. The allocation also helps to protect local manufacturing and limit carbon leakage.

17. Due to Golden Bay operating Emissions Intensive activities any CCUS investment will require very large capital investment and will add significant operating costs given the energy intensity. Given the materiality of these costs, they cannot be passed onto customers.

18. With the inability to pass these costs on to the market, domestic producers who have invested in CCUS will face significant cost disadvantage verses other suppliers who can import higher carbon products that will incur no CCUS costs.

19. **The proposed regulatory regime must consider how, in addition to the existing industrial allocations provided by the ETS, in can incentivise EITE entities to invest in CCUS. The incentive could be via changes to the ETS or via a separate non-ETS mechanism.**