ENVIRONMENT AND CONSERVATION ORGANISATIONS OF NZ INC.
Level 2, 126 Vivian St, Wellington, New Zealand
PO Box 11-057, Wellington
Email: eco@eco.org.nz Website: www.eco.org.nz
[redacted]

3 August 2024

CCUS team
Ministry of Business, Innovation and Employment
PO Box 1473
Wellington 6140

Email to: gasfuelpolicy@mbie.govt.nz with subject line 'CCUS consultation 2024'

ECO Submissions on the CCUS Consultation 2024

1.0 Introduction

This submission is in response to the mid 2024 MBIE paper 'CCUS consultation 2024'.

The Environment and Conservation Organisations of NZ (ECO) is the national alliance of 43 organisations with a concern for the environment, conservation and sustainability. We were established in 1971-72. Some of our member bodies are themselves federations or multiple groups. Many are area-based, some are focused on specific species or activities or impacts, some are not actually environmental groups but share our concerns. We have member groups from all around New Zealand.

ECO has followed issues of mineral and petroleum management and practice, law and policy since our formation in 1971-2, and we have closely followed both the activities of the minerals sectors and resource and environmental management laws and policies.
We support Te Tiriti o Waitangi, and ensuring that the "voice" of the environment is heard.

If you wish to discuss any element of this submission, please email eco@eco.org.nz AND Cath.Wallace10@gmail.com and use our contact details as supplied to accompany this submission.

2.0 Key Points

ECO does not support the development of a Carbon Capture Storage and Utilisation regime for New Zealand. This position is due to:

- Failure of CCS projects globally to achieve any goals despite over 20 years of talk and projects;
- Dominance of enhanced oil and gas extraction projects in CCUS regime which result in more carbon in the atmosphere and in the oceans;
- The failure to quantify leakage from any project which is essential component of any CCS consideration;
- The cost of remediating sites where there are leaks has not been considered;
- The costs of CCS regimes when compared to alternatives of reducing emissions.

For example, a review by the Institute of Energy Economics and Financial Analysis in Australia found that "CCS has a long history of failure and underperformance:

• Three projects have failed

• Five projects underperformed materially compared to their own targets

• Two projects refused to publish data

Only three projects were performing close to capacity (though two of these have faced problems)"[1]

3.0 Government Basic Proposal and Response

CCUS involves the extraction and capture of CO2 from industrial activity or directly from the air. It is most easily extracted from large point sources, such as the emissions from upstream natural gas extraction and production facilities, power generation, or industrial facilities that use fossil fuels or biomass as fuel. The captured CO2 can be used commercially (eg for dry-ice chilling meat or in greenhouses to promote plant growth) or permanently stored underground.

A regulatory regime for CCUS would allow industries to access CCUS technology on a level playing field with other emissions reduction and removal mechanisms to better enable a least cost transition towards net zero emissions.

The proposals paper seeks feedback on the Government's proposed approach to enabling CCUS. The paper seeks feedback on:

- *How CCUS activities should be treated under the Emissions Trading Scheme;*
- *What type of monitoring regime should be imposed for CCUS;*
- *How liability for CO2 storage sites should be managed;*
- *How the consenting and permitting regimes should work for CCUS;*
- *Whether there are any barriers to enabling the utilisation of carbon captured.*

[1] **https://ieefa.org/resources/fact-sheet-carbon-capture-and-storage-ccs-has-poor-track-record**

The introduction claims there isn't a level playing field but that assumes there is a product that actually works. The IEEFA review found that:

"In Australia, the Gorgon CCS project has failed to deliver, underperforming its targets for the first five years by about 50%. In FY2022-23, it injected just 34% of the 5 million tonnes of CO2 (MtCO2) it captured. The Gorgon partners have spent more than A$3 billion on the CCS facility since it started seven years ago. Globally, the maximum capture rate achieved by CCS to date appears to be 83%, well below the 90%-95% presented as feasible by the oil and gas industry."

As the discussion document notes: "Currently, the EU ETS does not reward CCUS due to lack of evidence and methodologies." ECO is not persuaded that MBIE has the answers to those problems.

The Gorgon and other CCS project globally show they are expensive and the RIS report notes that particularly offshore but also onshore the estimates of costs are double or more of the current ETS price. The costs are likely to be even higher given the history of CCS projects globally.

Carbon capture storage and Utilisation is just oil and gas industry spin:

"As the climate change movement gained momentum, the oil and gas industry wisely rebranded enhanced oil recovery as a "climate-friendly" process with a new name: carbon capture utilization and storage. Today, over 70 percent of carbon capture projects are, in fact, enhanced oil recovery projects used to produce more oil and/or gas, resulting in yet more greenhouse gas emissions."[2]

Further *"The Institute for Energy Economics and Financial Analysis has estimated that most of the total captured carbon throughout history found its use in enhanced oil recovery—approximately 80–90 percent. Only a small proportion of carbon capture projects (approximately 10–20 percent) have stored carbon in dedicated geological structures without using it for oil and gas production."*[3]

The use of CCS in enhanced oil or gas recovery, will result in more carbon emissions, negating the initial projected reduction.

The Regulatory impact statement notes:

---

[2] Bruce Robertson (2024) **Carbon capture has a long history. Of failure.** 1September, 2022 https://thebulletin.org/2022/09/plagued-by-failures-carbon-capture-is-no-climate-solution/

[3] Bruce Robertson (2024) **Carbon capture has a long history. Of failure.** 1September, 2022 https://thebulletin.org/2022/09/plagued-by-failures-carbon-capture-is-no-climate-solution/

"*We have not quantified the environmental risks of CO2 leakage from CO2 storage sites in New Zealand, and the potential costs of remediating these sites in case CO2 leakage from these sites in this interim RIS. The environmental risks and potential remediation costs would depend on a range of factors, such as the geological features or engineering design of the sites concerned, the location, and the extent of the leakage. They could be considered through the consent decision-making process and any permit regime that could be set up to keep oversight of CCUS activities and CO2 storage sites."*

A major part of the RIS is focused on getting more natural gas out current fields rather than reduce greenhouse gas emissions. The example of Huntly is rather weak as it is the action of the electricity generators combined with the failure of the electricity market and government action which has resulted in coal being burnt in a drier year.

The ban on offshore oil and gas has not been "counter-productive" in sending a message to industry and consumers the direction we need to move in. The RIS quotes 2021 figure and ignores the result from 2023. MBIE own website states: "coal-fired electricity accounted for only 2.9% of generation, down 4.1 percentage points on 2021. This meant the amount of coal imported for the year was 60.6% lower than in 2021"[4].

4.0 Questions for consultation

4.1 New Zealand Government's position on CCUS

1. **Do you agree that the government should establish an enabling regime for CCUS? Please provide any further information to support your answer.**

No ECO considers there are higher priorities to reduce greenhouse gas emissions and transition to aa low carbon economy. CCUS is just an excuse by the fossil fuel industry to resist change and recognise that they are aa sunset industry that needs to be urgently phased out.

The CCUS proposals is likely to create more stranded assets as the country needs to urgently move to reduce greenhouse gas emissions. We need to phase out fossil fuel production and use and CCUS could be a barrier to that urgently needed process.

2. **Do you agree with our objectives for the enabling regime for CCUS? Please provide any further information to support your answer.**

No. NZ needs to instead focus on reducing use of fossil fuels and promoting restoration of natural forests, wetlands, seagrass beds and mangrove areas – all areas with the high potential to absorb

[4] https://www.mbie.govt.nz/about/news/energy-in-new-zealand-2023-shows-renewable-electricity-generation-increased-to-87-percent

carbon from the atmosphere. These are nature based solutions. We also need to reduce our impact on marine bottom carbon by phasing out bottom trawling.

4.2 Treatment under the Emissions Trading Scheme

3. **Should the ETS be modified to account for the emissions reductions achieved using CCS? If so, how do you think it should be modified?**

No the ETS should be modified to remove all the current rorts and subsidies that exist in the current system including giving out heaving discounted pollution credits and the absence of a reducing emission cap.

4. **Do you agree that all CCS activities should be eligible to receive recognition for the emissions captured and stored? If not, why not?**

No CCS activities have failed to meet the industry hype. As observed in Australia and elsewhere and the EU "ETS does not reward CCUS due to lack of evidence and methodologies". We can see no reason to apply a different standard in New Zealand.

5. **Do you think there should be a separate non-ETS mechanism for providing economic incentives for CCS? If so, what would this mechanism be?**

No the focus should be on reducing emissions and transitioning to a low carbon economy.

The current ETS is clearly providing incentives for geothermal companies to reinject carbon dioxide in the case of the Ngawha example in the discussion document:

> *In the first half of 2023, about 35,000 tonnes of CO_2 equivalent (tCO_2-e) was re-injected back underground at Ngāwhā. This represents a saving about 2.5 million dollars' worth of emission units at a carbon price of $70 per tCO_2-e. Once all the power plants at Ngāwhā reinject their GHG emissions, the annual carbon credit savings could reach $10m a year at that carbon price.[9] The company has set a goal of becoming fully net zero by the end of 2025.*

This indicates that no further incentives are needed and the Resource Management Act provisions of considering greenhouse emissions will add to that incentive as consents are renewed.

4.3 Monitoring regime for CCS activities

6. **In your opinion, which overseas standards for monitoring, verification and reporting of CCUS-related information should New Zealand adopt?**

Monitoring of emissions under the Resource Management Act and the Exclusive Economic Zone and Continental Zone (Environmental Effects) Act 2012 (EEZ Act) should be sufficient tools for reporting

on emissions. The Environmental Protection Agency (EPA), the Ministry for the Environment (along with Statistics NZ) and regional council should publicly report annually on emissions.

7. **Is there any other information that CCS project operators should be required to verify and report? Please reference the relevant overseas standards where applicable.**

See answer to 6.

8. **What methods should be used to quantify CO_2 removal and storage in CCUS projects?**

See answer to 6.

9. **Are additional mechanisms required to ensure compliance with monitoring requirements?**

The EPA, MFE and regional council should monitor to ensure compliance. MBIE should not be involved given its conflict of interests over mineral activity, especially if it goes back to promoting mineral activity.

10. **What level of transparency and information sharing is required?**

Monitoring of emissions under the Resource Management Act and the Exclusive Economic Zone and Continental Zone (Environmental Effects) Act 2012 (EEZ Act) should be sufficient tools for reporting on emissions. The Environmental Protection Agency, the Ministry for the Environment (along with Statistics NZ) and regional council should publicly report annually on emissions.

11. **Do you consider there should a minimum threshold for monitoring requirements so that small-scale pilot CCS operators would not have to comply with them? If so, what should be the threshold?**

The same thresholds that exist to RMA consents and EEZ consents should apply.

12. **Should a monitoring regime extend to CCU activity?**

Like any other activity involving greenhouse gases it should be monitored.

4.4 Liability for CO2 storage sites

13. **Do you agree the proposed approach on liability for CO_2 storage sites aligns with other comparable countries (like Australia)? If not, why not and how should it be changed?**

Liability should be permanent and should be noted on titles.

14. **Is the proposed allocation of liability consistent with risks and potential benefits? Are there other participants that should share liability for CCS operations?**

Liability should be for as long as possible and 15 or 20 years is a ridiculously short time given the fast that carbon dioxide emitted today can still be warming the atmosphere after many hundreds of

years. We note that mining companies can get a mining permit for up to 40 years and that can be extended for an indefinite time period. Resource consent can last for 35 years and for land consent they can last in perpetuity.

15. **Should liability be the same for all storage sites if projects are approved? Or should liability differ, depending on the geological features and characteristics of an individual storage formation?**

Liability should be the same – the atmosphere doesn't care where the carbon came from.

16. **Do you consider there should a minimum threshold for CCUS operators being held responsible for liability for CO_2 storage sites so that small-scale pilot CCS operators would be exempt? If so, what should be the threshold?**

We don't see the reason for a threshold. Advocates of CCS have talked about pilots for decades and failed to deliver. Why should there be a threshold.

17. **Should the government indemnify the operator of a storage site once it has closed? If so, what should be the minimum time before the government chooses to indemnify the operator against liabilities for the CO_2 storage sites?**
18. **Are additional insurance mechanisms or financial instruments required to cover potential liabilities from CO_2 leakage in CCS projects?**

No to 17 – see our answer to question 14. But 18 that surely depends on what is an acceptable bond arrangement. If an operator has to pay the full ETS price at the time of any discharge then they should be able to cover that. It is important that insurance etc cannot be used to avoid contract out of fines for illegal activity.

19. **What measures should be implemented to monitor CCS projects for potential leakage and ensure early detection?**

See answer to question 6.

20. **Do you agree that trailing liability provisions are needed? How do you think they should be managed?**

Yes who-ever set up a scheme should continue to be liable or they should pay the full ETS carbon price.

4.5 Consenting and permitting for CCUS

21. **Are inconsistencies in existing legislation for consenting and permitting impacting investment?**
22. **Should the permit regime for CCUS operations be set out in bespoke legislation or be part of an existing regulatory regime (such as the RMA, EEZ Act, the CMA or the Climate Change Response Act 2002)? Please give reasons for your answer.**

Any approach should be within existing resource law including RMA, EEZ Act and Climate Change Response Act.

23. **Should CCS project proponents be required to submit evidence that proposed reinjection sites are geologically suitable for permanent storage, in order for projects to be approved? If so, what evidence should be provided to establish their suitability?**

Yes – this question seems obvious and it is one of the flaws in the whole approach. As the EU comments state: "Currently, the EU ETS does not reward CCUS due to lack of evidence and methodologies." Why should NZ take the risks on a regime of dubious value?

24. **Should there be separate permitting regime for CCU activity if there is no intention to store the CO_2?**

If they are not intending to store greenhouse gases then why should it be covered by carbon capture and storage. Use is a separate regime which should again be manage under the RMA, EEZ Act and Climate Change Response Act.

4.6 We are seeking feedback on whether there are barriers to CCU

25. **Are there regulatory or policy barriers to investment and adoption of CCU technologies?**
26. **What potential markets for CO_2 derived products do you see as most critical in New Zealand?**
27. **Are there any specific barriers to transportation of CO_2?**

ECO cannot see why utilisation being included. This should be left to the market and reporting requirements under the RMA, EEZ Act and Climate Change Response Act.

11. Conclusion

We ask MBIE to rethink this approach and consider other options in the transition to a low carbon economy.

ECO wishes to be heard in support of this submission. Please contact Barry Weeber [redacted]) or Cath Wallace [redacted]) if you are holding hearings of submissions.

Nga mihi nui

Barry Weeber
Chairperson