MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

COVERSHEET

Minister	Hon Simeon Brown	**Portfolio**	Energy
Title of Cabinet paper	Proposals for a Regulatory Regime for Carbon Capture, Utilisation and Storage	**Date to be published**	5 September 2024

List of documents that have been proactively released		
Date	**Title**	**Author**
1 July 2024	*Proposals for Regulatory Regime for Carbon Capture, Utilisation and Storage*	*Office of the Minister for Energy*
1 July 2024	*CBC-24-MIN-0061 Minute*	*Cabinet Office*
26 June 2024	*Interim Regulatory Impact Statement: Policies for Carbon Capture, Utilisation and Storage*	*MBIE*
26 June 2024	*Interim Climate Implications of Policy Assessment Disclosure Sheet*	*MBIE*

Information redacted **YES / NO** *(please select)*

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Some information has been withheld for the reasons of Confidential advice to Government and Confidentiality

In Confidence

Office of the Minister for Energy

Cabinet Economic Policy Committee

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

Proposal

1 I am seeking Cabinet's agreement to release a paper for public consultation: Proposals for a Regulatory Regime for Carbon Capture, Utilisation and Storage (**proposals paper**).

Relation to government priorities

2 Enabling carbon capture, utilisation and storage (**CCUS**) in New Zealand relates to the Government priorities for future proofing the natural gas industry. CCUS has the potential to improve the investment environment for gas production.

Executive Summary

3 I am seeking Cabinet agreement to publicly release a proposals paper on enabling CCUS in New Zealand by providing clarity on its regulatory treatment. Enabling CCUS would improve the investment environment for natural gas and reduce emissions from gas production and use. Enabling utilisation could improve the resilience of New Zealand's domestic CO_2 supply chain.

4 The proposals paper describes the Government's proposed approach to enabling CCUS. This consists of proposals for:

4.1 Treatment of CCUS activities under the Emissions Trading Scheme (**ETS**);

4.2 A CCUS monitoring regime;

4.3 Liability for CO_2 storage sites;

4.4 Consenting and permitting for CCUS;

4.5 Understanding any barriers to carbon capture and utilisation

5 This work is being progressed alongside development of the second Emissions Reduction Plan. This will allow acknowledgement of the role CCUS could play in delivering emissions reductions.

Background

What is carbon capture, utilisation and storage?

6 Carbon capture, utilisation and storage (**CCUS**) involves the extraction and capture of CO_2 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. If the captured CO_2 is not used (eg as a chemical feedstock or purified and sold for uses such as dry ice manufacture), it is injected into deep geological formations (including depleted oil and gas reservoirs) for permanent storage.

7 There is growing international momentum for CCUS. Both the Intergovernmental Panel on Climate Change[1] and the International Energy Agency[2] consider CCUS an important technology for reducing global emissions.

8 Carbon capture and utilisation provides an opportunity to use captured CO_2 for industrial and commercial uses. CO_2 is an essential input for industrial and commercial products and is critical to some primary industry exports. The economic importance of CO_2 was demonstrated in the 2022/23 shortage caused by an outage at the Kapuni plant, New Zealand's single domestic producer. Enabling development of CO_2 utilisation projects may help build resilience in New Zealand's CO_2 supply chain.

9 Around the world, successful CCUS projects have been supported by clear and enabling regulation. In developing the proposals paper, examples were drawn from jurisdictions such as Australia, the European Union, Norway and Canada.

CCUS in New Zealand is in its early stages of development

10 The CCUS sector in New Zealand is in its very early stages of development, with pilots at geothermal fields the only operational examples. Confidentiality [redacted] There may also be opportunities to use CCUS to produce natural gas with high CO_2 content that would otherwise not be viable to produce.

11 In 2023, a Gas Transition Plan Issues Paper[3] was released for public consultation. This paper asked for views on CCUS. There were mixed opinions on its importance for reducing emissions. Proponents saw it as important for hard to abate industries, including gas production. Critics argued the technology behind it was unproven outside of gas production, and that our focus should be to reduce the need for gas.

12 CCUS is likely to be controversial as some critics argue it will encourage the continuation of fossil fuels production, which could be counterproductive to efforts to

[1] The Intergovernmental Panel on Climate Change is a United Nations body responsible for assessing the science related to climate change.
[2] The International Energy Agency is an intergovernmental organisation that provides data, analysis, and policy recommendations on global energy issues.
[3] https://www.mbie.govt.nz/dmsdocument/27255-gas-transition-plan-issues-paper-pdf

reduce emissions. However, provisional estimates suggest that CCUS could achieve a net emissions reduction overall (see paragraph 39 below).

CCUS can support security of gas supply by reducing the cost of gas production

13 On 6 May 2024, the Minister for Resources and I informed Cabinet of an immediate issue with gas security of supply. Cabinet agreed that the Ministry for Business, Innovation and Employment (**MBIE**) would set up the Gas Security Response Group to identify and respond to any issues around gas security of supply.

14 We reported back to the Cabinet Economic Policy Committee on 29 May 2024. This report back included proposed actions to deal with the issue, including actions to improve the investment environment for upstream gas production.

15 CCUS is one component of the policy response to improve the investment environment for natural gas. CCUS technology can reduce the cost of gas production, especially for higher CO_2 content gas fields. This could promote investment, leading to reversal in the current sharp decline in gas production.

CCUS technology has potential to deliver benefits for New Zealand

16 CCUS has the potential to deliver two main benefits for New Zealand:

16.1 Allowing industries to access CCUS technology on a level playing field with other emissions reduction and removal mechanisms will better enable a least cost transition. Businesses will be able to choose the technology that is right for them and that provides the best 'bang for buck' emissions reduction approach to suit their needs.

16.2 CCUS technology can reduce the cost of gas production, especially for higher CO_2 content gas fields. This could promote investment, which could assist in reversing the current sharp decline in gas production.[4] The natural gas sector plays a critical role in the New Zealand economy and natural gas will be a key energy source during our transition to a low emissions economy. This includes using it as a source of electricity generation when renewable generation is not able to meet demand.

17 I propose the consultation paper set out the Government's position on CCUS, that it should be available to industry as a means of reducing and removing emissions.

18 Enabling carbon capture and utilisation has the additional benefit of improving the resilience of New Zealand's CO_2 supply chain.

Proposals paper

19 We need to create a clear regulatory landscape for CCUS that provides a level playing field for this technology.

[4] Natural gas production in New Zealand is currently declining more quickly than expected leading to concerns about security of energy supply.

20 The following objectives were used in the development of the proposals:

20.1 **Efficient emissions abatement** — creating a level playing field for emission reduction/removal technologies to enable businesses to reduce/remove emissions at least cost.

20.2 **Environmental integrity** — ensuring that the CO_2 storage sites and the emissions sequestered in those sites are monitored and accurately reported, the risk of CO_2 leakage from these sites is mitigated, and the liability for the storage sites is appropriately assigned.

20.3 **Energy security** — supporting security of energy supplies as we transition to a low-emissions economy.

21 I seek Cabinet agreement to release a proposals paper seeking feedback on the proposals described in the following sections of this paper for enabling CCUS in New Zealand. Further background information on CCUS will be published by MBIE on its website to support consultation.

Treatment of CCUS activities under the Emissions Trading Scheme

22 The ETS does not include mechanisms to recognise (and therefore reward) emission reductions or removals resulting from CCUS activities, apart from forestry removals and geothermal reductions. The inability of businesses investigating CCUS activities to either receive emissions units or otherwise reduce their ETS liability is affecting commercial interest in CCUS.

23 I propose consulting on the following changes to the ETS to recognise emission reductions or removals resulting from CCUS activities:

23.1 ETS participants carrying out CCUS activities would be able to subtract emissions captured and stored from its own activity through CCUS projects, for the purpose of estimating its ETS liability.

23.2 Alternatively, businesses deploying CCUS technologies could choose to capture CO_2 to earn New Zealand emissions units (**NZUs**) (as is currently the case for forestry). These businesses would need to have a clear mechanism for sequestering the CO_2. This could enable the development of direct air capture technologies or enable a market for storage of CO_2 from third-party emitters.

Monitoring regime for CCUS activities

24 Businesses carrying out CCUS activities (outside of the geothermal[5] and forestry sectors) are not subject to regulations for monitoring and reporting emissions removal/sequestration associated with CCUS activities.

[5] Under the *Resource Management Act 1991* geothermal CCUS projects are subject to monitoring requirements to ensure environmental protection. Geothermal projects are required to develop and implement environmental monitoring plans as part of their resource consent conditions.

25 The paper seeks feedback on a proposal to create regulations to require a CCUS operator to monitor CO_2 sites, and collect the following information:

25.1 CO_2 captured by CCUS activities at point sources (eg power plants or factories)

25.2 Emissions during transportation of CO_2 to storage sites and during CO_2 injection

25.3 CO_2 sequestered in the storage sites

25.4 Migration and leakage of CO_2 from the storage sites.

26 The paper also proposes regulations that set out the relevant accounting and reporting rules, as well as the regime for inspection of CO_2 storage sites for verification purposes.

Liability for CO_2 storage sites

27 There is no bespoke regime that establishes liability for CO_2 storage sites. I propose consulting on a permitting framework for keeping records of CCUS operations and CO_2 storage sites.

28 The paper proposes a CCUS operator be responsible for any issues at its CO_2 storage site for a set period after the site's closure. The government could then opt to indemnify the operator against any liability after that period if the responsible Minister were satisfied that there is no significant risk of leakage and adverse environmental impacts. The IPCC has expressed high confidence that permanent underground storage of CO_2 can be achieved. It has stated that "…the fraction retained in appropriately selected and managed geological reservoirs is very likely to exceed 99% over 100 years."[6]

Consenting and permitting for CCUS in New Zealand

29 Consenting for CCUS is currently covered under the *Resource Management Act 1991* (**RMA**) and the *Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012* (**EEZ Act**), dependent on where the site is located.

30 We currently have a neutral policy environment for consenting, so I am not proposing any changes to legislation in the proposals paper. However, it will seek feedback on whether any inconsistencies in existing legislation is impacting investment.

Carbon capture and utilisation

31 As there are existing commercial utilisation projects in New Zealand, I am not proposing any changes to how utilisation operates in the proposals paper. Rather, it will seek feedback on whether there are any regulatory or policy barriers to investment and adoption of utilisation technologies.

[6] https://www.ipcc.ch/site/assets/uploads/2018/03/srccs_wholereport-1.pdf

Indicative timeline

32 Subject to Cabinet's decision, I propose to release the proposals paper in early July 2024. Stakeholders will be given four weeks to submit on the proposals.

33 Following the consultation period, it will be necessary to allow time to analyse submitters' responses and develop final policy options. [redacted] Confidential information entrusted to the Government.

Cost-of-living Implications

34 There are no cost-of-living implications for releasing this proposals paper. I will provide further analysis on the direct cost-of-living implications when I seek final policy decisions.

Financial Implications

35 There are no financial implications for releasing this proposals paper. There may be financial implications involved with any future legislative changes. I will provide further analysis on these financial implications when I seek final policy decisions.

Legislative Implications

36 There are no legislative implications for releasing this proposals paper. I will provide information on legislative implications when I report back with policy proposals.

Impact Analysis

Regulatory Impact Statement

37 A Quality Assurance panel with representatives from the Ministry of Business, Innovation and Employment has reviewed the Interim Regulatory Impact Statement (RIS) for Policies for Carbon Capture, Utilisation and Storage. The panel has determined that the RIS partially meets the quality assurance criteria. The panel appreciated the document was an interim RIS prior to consultation, and as such some aspects are by necessity partially complete, but considers that there is more than enough to generate meaningful discussion during consultation.

Climate Implications of Policy Assessment

38 A draft Climate Implications of Policy Assessment (**CIPA**) indicates that CCUS will likely lead to a cumulative reduction in the emissions of greenhouse gasses. Given this modelling is still in draft form, the Ministry for the Environment (**MfE)** CIPA team will conduct a full assessment on the final modelling and emissions estimates once the results are available later in the year. MBIE will work with the CIPA team to disclose the emissions impacts of proposals in advance of final decisions as appropriate.

39 A summary of the interim figures is provided in the table below:

Table 1 - Emissions impact from CCUS

Sector & source	Changes in greenhouse gas emissions of carbon dioxide equivalent ($ktCO_2e$)		
	2026–30	2031–35	Cumulative impact
Gas			
Gas production	-750	-560	-1310
Additional gas availability	472	975	1447
Electricity			
Geothermal	-526	-659	-1185
Industry			
Petrochemical	-543	-2714	-3257
Other industrial (e.g. cement)	-59	-289	-348
Total	-1406	-3247	-4653

40 I will include a final CIPA when I seek final policy decisions and indicate whether these figures have significantly changed.

Consultation

Departmental consultation

41 MfE and the Environmental Protection Authority were consulted in the development of the CCUS policy proposals. The Department of Prime Minister and Cabinet has been informed.

42 MfE noted the risk of the CCUS policy package in encouraging the continuation of fossil fuels production, which could be counterproductive to efforts to reduce emissions. I do not consider this risk to be significant, as MBIE's provisional estimates suggest that CCUS could achieve a net emissions reduction overall.

43 Confidential information entrusted to the Government [redacted]

44 MfE noted that the proposals paper does not discuss the consenting barriers under the RMA and the EEZ Act. However, as the Government's resource management work programme is underway and it is not clear that the consenting regime would be a significant impediment to CCUS, I do not propose specific policy options for amending the RMA and the EEZ Act at this stage. During public consultation, MBIE will seek stakeholders' feedback on consenting issues that could affect CCUS development.

Iwi engagement

45 Ngā Iwi o Taranaki will have interests relevant to these proposals, and the wider conversation to be had around CCUS technology. Taranaki is where much of New Zealand's oil and gas infrastructure is located. Should Cabinet agree to the release of the CCUS consultation document, MBIE officials will inform Taranaki iwi before the consultation document is released to the public and engage with them on the proposals.

Communications

46 Subject to Cabinet's agreement, I intend to release a media statement announcing public consultation on CCUS.

Proactive Release

47 I propose to proactively release this Cabinet paper subject to any necessary redactions. This will be done within 30 business days following confirmation of Cabinet's decisions.

Recommendations

The Minister for Energy recommends that the Committee:

1. **Agree** that Carbon Capture, Utilisation and Storage should be available to industry as a means of reducing and removing emissions.

2. **Approve** the release for public consultation: Proposals for a Regulatory Regime for Carbon Capture, Utilisation and Storage.

3. **Agree** the Minister for Energy may approve minor and technical changes to the consultation document prior to publication.

4. **Agree** that public consultation on Proposals for a Regulatory Regime for Carbon Capture, Utilisation and Storage begin in early July 2024 and run for a period of 4 weeks.

5. **Invite** the Minister for Energy to report back to the Cabinet Economic Policy Committee on the outcome of the consultation and provide final policy proposals in mid-September 2024.

Hon Simeon Brown

Minister for Energy