



6 August 2024

Ministry of Business, Innovation and Employment
15 Stout Street
PO Box 1473, Wellington 6140

Attention: gasfuelpolicy@mbie.govt.nz

RE: Submission on the Proposals for a Regulatory Regime for Carbon Capture, Utilisation and Storage

Introduction

The Major Gas Users' Group Inc (MGUG) welcomes the opportunity to comment on MBIE's proposal for a new regulatory regime and supports the initiative to establish a new framework for Carbon Capture Utilisation and Storage (CCUS).

In framing our response, we start by acknowledging that what is proposed by the regulatory regime is an opportunity to enable a technology option for reducing emissions. However, as the Regulatory Impact Statement also alludes to, the benefits of this opportunity go beyond adding an option to reduce emissions at least cost. It also;

- Encourages long term access to domestic energy resources (natural gas or coal) to enhance energy security for the country.
- Keeps the cost of energy inputs competitive for New Zealand energy intensive trade exposed industries to sustain manufacturing industries in New Zealand.
- Avoids economic stranding of capital investments in fossil fuel dependent infrastructure, including downstream plant and equipment.
- Mitigates against the need for forced fuel switching, including in gas distribution networks.
- Creates further options to capitalise on future technologies and markets (for example uses of CO₂ in the chemical industry, or opportunities in maintaining an extraction energy to exploit emerging opportunities such as natural hydrogen, or technologies such as methane pyrolysis¹, and CO₂ direct air capture technology)

These are significant public benefits arising out of a regulatory regime that outstrip the relatively minor costs of introducing and overseeing the arrangements. This should greatly simplify the discussion on this topic. It is not whether New Zealand should have a regulatory regime for CCUS,

¹ This is an indirect benefit. Maintaining capability and investment in upstream exploration helps in creating stocks of energy reserves that can be utilised differently. For example, gas pyrolysis produces hydrogen and pure carbon (including nano fibres, carbon black) with no emissions

but rather what its form should be to maximise its public value. New Zealand can use the experiences and lessons from other jurisdictions to design a fit for purpose regulatory regime here.

Scope of the regulation

The documents outlining and supporting the proposal are more implicit than explicit in describing the term CCUS. The background in the proposal provides a wide definition; *Carbon capture and storage (CCS) is the process of capturing and storing CO₂ to prevent it from entering the atmosphere.* Elsewhere the language moves to “underground storage”. We think that the widest possible understanding of CCUS is a better starting point for designing regulations, before carving out specific design issues related to underground storage. In reducing New Zealand’s emission profile and seeking to balance these with energy security and affordability, the larger opportunity for industry and New Zealand is to broaden the scope of the ETS carbon credits beyond forestry planting.

Regulatory design should anticipate techno-economic evolution of complementary solutions and be adaptable to meet these changes, while remaining internally consistent to the underlying principle of preventing unmitigated emissions to the atmosphere. Current technically feasible alternatives that encompass the term “CCUS” include:

- CCUS in any suitable underground storage location (not just depleted oil and gas reservoirs)
- Mineral sequestration (such as recent work done on Olivine²)
- Blue carbon³ (kelp and seagrass)
- Biochar⁴
- Direct Air Capture

One of the issues that a focus on removing market and regulatory barriers for only underground storage brings to light, is that this technology may not offer the lowest abatement cost. Geological storage is limited in opportunities and scale, and carries a higher financial risk with large upfront costs, and long payback periods. These are not suitable investment conditions in an environment that lacks consensus across the political spectrum on its value and place within managing the energy trilemma, and where the opposing political view is that CCUS should not even be promoted if it encourages continued use of fossil energy⁵.

Role of CCUS in a smooth transition

A key perspective from MGUG on this topic comes from representing major consumers of gas⁶. Our members who make a large and central contribution to the New Zealand economy and overall wellbeing, have significant capital investment tied up in the use of this energy form. While all of our members are attentive to market signals to reduce CO₂ emissions, investments to improve their

² <https://www.canterbury.ac.nz/news-and-events/news/common-mineral-could-be-key-to-tackling-climate-change>

³ <https://bluecarbon.co.nz/>

⁴ <https://www.mdpi.com/2079-9276/13/2/31>

⁵ We are concerned that fossil energy and fossil issues have become conflated instead of separated in the political debate.

⁶ Our four members (Ballance, Fonterra, NZ Steel, and OJI FS) collectively consume around 20-25 PJ pa, or around 15% of annual consumption

environmental footprints will continue to be determined by the economics of the projects. As for all firms that compete in a global marketplace, whether export or import substitution, this includes assessment against the counterfactual position of relocating manufacture overseas, or switching to import⁷. For energy intensive trade exposed industries, the delivered cost of energy will be a key determinant of the domestic viability of their operations. Through various policy decisions over the last six years the delivered cost of gas has risen dramatically. The root cause has been a policy inimical to gas as an energy option which conflated gas demand with emissions. This has led to a spiral of reduced investment in exploration, higher gas transport fees, and falling supply. The narrative for gas can change with CCUS to restore investment confidence in continuing to use New Zealand's natural endowment.

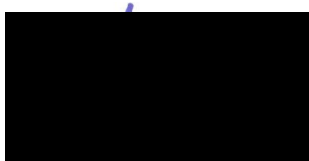
It is possible to continue to consume gas while reducing emissions. We support CCUS because it provides a solution for reducing emissions while still benefiting from a domestically available resource that would otherwise be left stranded and increase our reliance on imported energy (including coal).

Gas used in our industries falls in the "hard to abate" categories of being needed as a raw material or to generate high temperature process heat. While technologies exist to replace the use of natural gas they are not at a point where these are economic (otherwise the investments would already be sanctioned). Faced with a squeeze between increasing operating costs of gas, and high capital costs of reconfiguration operations, a broad definition of CCUS offers a potential lower cost alternative to continue domestic operation using a domestic energy source while also contributing to national emission reductions.

MGUG's view is that the enabling policy work for CCUS is important and should continue.

Our responses to specific questions in the proposal document continue below.

Yours sincerely,

A large black rectangular redaction box covering the signature area.

Len Houwers | Josh Adams
Secretariat for the Major Gas Users Group Inc

⁷ For example, any commodity product, whether steel, urea, wood products, dairy, or meat face a choice of production in New Zealand, or ceding the domain to overseas competitors with a lower cost structure.

1	<p>Do you agree that the government should establish an enabling regime for CCUS? Please provide any further information to support your answer.</p> <p>MGUG agree that the government should establish a CCUS regime. Clear reasons for doing so are provided in the consultation document and we've alluded to the wider benefits in our introductory comments. While CCUS is an obvious solution for mitigating gas emissions the much more important benefits are what this does for New Zealand's energy security and energy affordability stakes.</p> <p>Gas represented 23% of indigenous primary energy production in 2022 and 17% of total primary energy supply. If gas wasn't produced domestically New Zealand would either need to import, and/or reduce economic activity that relies on gas as an input⁸.</p> <p>Further basis for our support includes:</p> <ul style="list-style-type: none"> • Some natural gas will be needed through to and beyond 2050. The "gas" of the future may include blends of bio-gas and hydrogen. • Gas is relatively affordable (including against electricity). It has the lowest emission intensity of any fossil fuel, but current policy settings targeting eliminating its use, rather than eliminating its emissions is deterring investment in supply needed to meet the goal of "smooth transition". • We note MBIE's recent Electricity Demand and Generation Scenarios (EDGS) 2024 update. This states that the share of renewable electricity generation could reach as high as 98% by 2050, to achieve this 800-900MW of new gas capacity will be needed to manage peak loads. However, a gas industry to support only peaking operation for power generation loses critical mass to sustain domestic production, and is likely to need to rely on expensive gas import. CCUS will be an important contributor to maintaining energy security and affordability while reducing emissions. • CCUS is equally relevant to bio-gas and other gas blends as it creates an opportunity for negative emissions. • New Zealand is facing a difficult transition based on the ongoing volatility in New Zealand's energy markets - despite growing investment in renewables. For example, we note that the investment contemplated in an "electrification strategy" emphasises energy security rather than affordability. A consequence of an environmental strategy that seeks to eliminate fossil fuel use is that it creates an energy policy where one in four households are already experiencing energy poverty and hardship, and businesses face both rising electricity and gas costs testing their viability to operate in New Zealand. • We agree with the Intergovernmental Panel on Climate Change (IPCC) and IEA's view that CCUS has an important role to play in the pathway to net zero.
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⁸ For example, without gas, 250,000 tonnes of urea would need to be imported, methanol and hydrogen peroxide production would shift overseas. Other operations may also downsize or cease, including steel production, glass recycling, and any number of other industrials who face international competition and where capital for plant conversions is uneconomic.

	<ul style="list-style-type: none"> • In relation to depleted oil and gas fields, separation and reinjection of gases and fluids is well understood and has been done in New Zealand for decades. CCUS projects have also been undertaken globally for decades. • In terms of capital investment, New Zealand has an advantage due to the existence of producing oil and gas fields in Taranaki and the availability of many terabytes of publicly available seismic, petrophysical, geological and geophysical, and engineering data. This data and existing wells could provide a capital cost reduction advantage worth hundreds of millions of dollars. <p>We caveat our support on having a robust and sensible regulatory regime that reflects the unique characteristics of the different CCUS opportunities available in New Zealand (e.g. depleted oil and gas fields vs geothermal fields vs wider options discussed in our introduction).</p>
2	<p>Do you agree with our objectives for the enabling regime for CCUS? Please provide any further information to support your answer.</p> <p>We agree with the objectives proposed. We also see CCUS as an important opportunity to avoid a volatile transition to 2050, i.e. one that leaves New Zealand worse-off without reducing emissions to the desired levels, by giving businesses and households time to adapt.</p> <p>To the list of objectives and assessment criteria, we would submit that a further outcome, or objective, is that CCUS gives a time option on economic opportunities for CO₂ use. For example, a store of CO₂ creates an option on future economic value in addition to the immediate benefits of using storage to reduce emissions. The proposal lists some of these. CO₂ is already used in the food industry (beverage carbonation); horticulture (CO₂ enrichment in greenhouses); supercritical fluid extraction in pharmaceuticals; polycarbonate production; methanol and urea production (with hydrogen); carbon curing in concrete (injecting CO₂ into concrete to increase its compressed strength).</p> <p>Potential future uses for CO₂ include; synthetic fuels; biofuels (e.g. algae food source to produce lipids for conversion into biodiesel), enhanced agricultural technologies (CO₂ fertilisation beyond greenhouses); carbon sequestering concrete; CO₂ based aggregates in building materials; advanced photocatalysis (using sunlight to convert CO₂ into valuable chemicals).</p>
3	<p>Should the ETS be modified to account for the emissions reductions achieved using CCS? If so, how do you think it should be modified?</p> <p>Modifying the ETS scheme is a necessary but not sufficient condition for encouraging investment in CCUS/CCS projects – particularly those that target fossil energy emissions.</p> <p>There is a structural impediment in the ETS not incentivising emission reduction for businesses looking to undertake removal activities that are well laid out in the Regulatory Impact Statement (RIS). For example, amongst our members, Ballance has an opportunity to consider CCS of combustion flue gases. The Ammonia Urea Plant is adjacent to the</p>

	<p>Kapuni Field infrastructure, which could be used to store captured CO₂. Under the current ETS scheme Ballance would receive no credits for investing in this, and would not logically seek to advance it. Companies also have no economically viable alternative offset projects beyond investing forestry planting because the ETS scheme doesn't recognise or reward equivalent technologies for achieving carbon credits.</p> <p>MGUG supports different concepts proposed by MBIE. A combination of options 2 and 3 would seem the least distorting but we would caveat that, to argue that more might be needed to incentivise earlier investment in carbon sequestration schemes. These include considering a wider range of CCS technologies that are eligible for carbon credits. It also includes addressing the political risk for investment that characterises the current environment.</p> <p>The Wood Beca report⁹ to the GIC reviewing CCUS/CCS potential in New Zealand suggested that the expected ETS price might be viable for an onshore CCS development but the margins are quite fine and wouldn't necessarily stimulate a rapid expansion of the industry, particularly because developing geological CCS is similar to oil and gas developments; high upfront expenditure, and long economic payback periods. The ETS market risk sits on top of a wider political risk that CCS that target natural gas emission capture could itself be undermined by uncertainty around acceptance of natural gas in the wider energy mix beyond just being a backstop fuel for electricity generation. The political consensus that existed before 2018 on the value of natural gas in New Zealand's energy mix has largely disappeared and continues to be undermined by conflicting statements on what the role of gas in New Zealand might be. This ambivalence is evidenced by the lack of interest by the previous government to be seen to do anything that might encourage its continued use, including progressing removal of regulatory barriers.</p> <p>Hence while creating more regulatory certainty for CCS projects, and including CCS in the ETS scheme is an important step in the right direction, the market and particularly, the political risks, may still prove to be substantial barriers to investment.</p>
4	<p>Do you agree that all CCS activities should be eligible to receive recognition for the emissions captured and stored? If not, why not?</p> <p>Yes, we agree that all activities should be eligible for emissions captured and stored. The design needs to avoid "double accounting", and as outlined in our response to Q3, needs to be economically efficient.</p>
5	<p>Do you think there should be a separate non-ETS mechanism for providing economic incentives for CCS? If so, what would this mechanism be?</p>

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<https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.gasindustry.co.nz/assets/CoverDocument/Review-of-CCUS-CCS-Potential-in-New-Zealand-March-2023.pdf&ved=2ahUKewjA2tnU5tyHAXV7sIYBHXWeKAUQFnoECCEQAQ&usg=AOvVaw3llgnrdZx26wRuKoWnaCBf>

	<p>With respect to geological storage opportunities, most of the gas fields in Taranaki have permit expiry dates in the late 2020's and 2030's. While some permit extensions are possible, planning for decommissioning for most fields will have already commenced. One mechanism that could be explored to encourage CCS at depleted fields would be to consider how the royalty arrangements under the Crown Minerals Act (CMA) could be adjusted to reflect investment in CCS – particularly where the intention is to receive third party CO₂ for injection. Further to this, the CMA decommissioning regime (at a minimum) should require a discussion about the potential for re-use of field infrastructure for CCS before commitments are made to plug and abandon wells and sites decommissioned and rehabilitated.</p> <p>Geothermal fields aren't regulated under the CMA, but the same opportunity exists to repurpose wells for CCS.</p> <p>In terms of more novel CCS opportunities, research and development tax credits may already exist, and opening the ETS up to a wider range of CCS opportunities may be enough to encourage new investment.</p>
6	<p>In your opinion, which overseas standards for monitoring, verification and reporting of CCUS-related information should New Zealand adopt?</p> <p>We have no experience to offer an informed opinion, but would offer that CCS at depleted oil and gas fields is well understood in Australia and should be examined as a potential model for New Zealand. However, the standards will be different depending on the type and characteristics of CCS. While Australia is very familiar with depleted oil and gas field CCS, it may not be as familiar with geothermal, aquifer or other novel types of CCS.</p>
7	<p>Is there any other information that CCS project operators should be required to verify and report? Please reference the relevant overseas standards where applicable.</p> <p>In the case of depleted oil and gas field CCS, due to previous investment, it should be possible to provide a robust pre-CCS baseline for the volume of CO₂ that can be stored, the reservoirs, well integrity, reservoir pressure regime, fracture gradients and other risk factors. Verification of this information before CO₂ injection would provide a much higher probability that any injected CO₂ will remain in place and that CCS equipment and practices are fit for purpose. Monitoring and reporting would need to be undertaken by suitably qualified people, for example, reservoir engineers and geoscientists and could include pressure monitoring across several wells to track migration of CO₂ in a reservoir. The benefit of depleted oil and gas field CCS is that the location of injected CO₂ should be known with a high level of confidence, especially if the “trapping” mechanism is well defined on seismic and matched with reservoir engineering data.</p> <p>Other modes of CCS would have different requirements e.g. geothermal may have similar information available to oil and gas fields, but there may be a higher level of uncertainty about the size and extent of the reservoirs and the integrity of any trapping mechanisms. In this case a pre-CCS baselining exercise would be different than for depleted oil and gas</p>

	<p>fields and the monitoring regime could also be different and may also require ground and ground water monitoring of CO₂ migration.</p> <p>Other sequestration technologies will have different requirements. For example, permanent sequestration via sinking of kelp below 1000 m will need to confirm that the biomass hasn't migrated to above the zone.</p> <p>Our thoughts are that a one-shoe-fits-all approach will not be appropriate.</p>
8	<p>What methods should be used to quantify CO₂ removal and storage in CCUS projects?</p> <p>We would expect that if carbon is being captured, transported and injected into and from geological formations that fiscal metering arrangements currently used for gas are suitable.</p> <p>Other methods might rely on robust scientific evidence (such as applies to forestry credits)</p>
9	<p>Are additional mechanisms required to ensure compliance with monitoring requirements?</p> <p>We assume that a monitoring regime would need standards under an approved (and existing) ISO scheme that includes appropriate internal and external auditing to ensure compliance</p>
10	<p>What level of transparency and information sharing is required?</p> <p>For the public to have confidence in CCS, annual reporting on volumes injected versus remaining available storage capacity should be published. Annual reviews by a regulator should be undertaken to ensure there are no looming technical issues that could result in loss of containment while injection is ongoing. The annual reporting by Regional Councils for consented industrial sites is a good example of how this could be done.</p> <p>For publicly listed companies we would expect that this information is also reported (and audited) through annual reports and other compliance statements.</p>
11	<p>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?</p> <p>A pilot suggests a scale up approach and therefore there is already a focus on gathering data and measurements during the trial stage. The data might be made available to the regulator or assessed independently and reported to the regulator.</p> <p>Further monitoring should be proportionate to the risk of loss of containment integrity. This should be reflected in monitoring frequency as well as methods.</p>

	<p>We don't offer any thoughts on specific thresholds. We suggest that a tier principle is recognised and that the separate provisions are refined based on informed submissions.</p>
12	<p>Should a monitoring regime extend to CCU activity?</p> <p>The life cycle of stored CO₂ needs to be understood and have rules applied to the accounting of permanent vs temporary capture of CO₂.</p> <p>If the CCU activity is associated with an emission reduction project that earns a NZU credit, then it will be important to understand the further lifecycle of that credit bearing in mind that a use activity could rerelease captured carbon into the atmosphere. Equally some use activities (for example carbon curing in concrete) may keep the carbon sequestered.</p> <p>A monitoring regime would need to keep track of whether credits remain permanent or not in the same way as is applied to forestry.</p>
13	<p>Do you agree the proposed approach on liability for CO₂ storage sites aligns with other comparable countries (like Australia)? If not, why not and how should it be changed?</p> <p>The principle of risk transfer after a suitable assurance period appears sensible in striking a balance in accountability between private and public interest. How this should be financed by both parties can be explored further (self-financed through annual levies, or insured)</p>
14	<p>Is the proposed allocation of liability consistent with risks and potential benefits? Are there other participants that should share liability for CCS operations?</p> <p>The proposed allocation of liability appears sensible.</p> <p>To clarify, we assume that operators and permit holders for geological CCS face the same criteria as to technical competence and financial strength as is required for petroleum permits.</p>
15	<p>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?</p> <p>Given the consequences of failure are the same, liability should also be the same for all geological storage sites to avoid moral hazard issues. This is on the basis that the regulator has already approved CCS development plans and operator capability.</p>
16	<p>Do you consider there should a minimum threshold for CCUS operators being held responsible for liability for CO₂ storage sites so that small-scale pilot CCS operators would be exempt? If so, what should be the threshold?</p>

	<p>Small scale CCS operators should not be exempt. The scale of penalties would obviously reflect the size of the risk.</p>
17	<p>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 CO2 storage sites?</p> <p>Yes. We assume that this question is the same as Q13 and we can follow practice from other jurisdictions (Australia and EU). The difference between 15 and 20 years between these jurisdictions needs to be better understood.</p> <p>We support a risk-based approach to decommissioning and legacy liability.</p> <p>The length of time for indemnity will vary depending on the type of CCS project. For geological sequestration, oil and gas fields already have a proven track record of retaining gas and fluids over millions of years – that’s why the field exists in the first place. If good industry practices are applied any residual risks should be very small. Modern plugging and abandonment techniques also have a strong track record for very few legacy issues. The same level of confidence may not apply to other less tried approaches to CCS.</p>
18	<p>Are additional insurance mechanisms or financial instruments required to cover potential liabilities from CO2 leakage in CCS projects?</p> <p>The finance sector, including insurance, are creative enough to develop suitable products where there is a perceived need. The market will decide on the best finance and risk product that operators or governments might wish to take on.</p> <p>Note that modern Environmental and Social Governance guidelines at some financial institutions may prohibit their involvement in CCUS projects.</p>
19	<p>What measures should be implemented to monitor CCS projects for potential leakage and ensure early detection?</p> <p>This depends on the type of (geological) CCS project. For old oil and gas fields, changes in reservoir pressure are important and can be measured daily or monthly. Realtime CO₂ sensors located around key risk areas may provide early warning, and some of the new satellite sensors could also make a contribution. For monitoring to be effective, a strong environmental baseline is needed prior to injection. This would include understanding any naturally occurring seepage around faults that often bound oil and gas fields.</p> <p>Detecting leakage at geothermal fields may be more difficult, especially in the Taupo Volcanic Zone, where gases and steam vent naturally almost everywhere. It may also be very difficult where CO₂ is injected into basalt or olivine based rocks, that’s a relatively new concept i.e. the fracture pattern in the rock would need to be well understood and the volume quantified before CCS was permitted.</p>

20	<p>Do you agree that trailing liability provisions are needed? How do you think they should be managed?</p> <p>We assume that trailing liabilities will be less important if proper vetting of ownership that includes both technical and financial capability by the regulator under a permit management system is carried out. If a risk-based approach is applied, and the standards and regulations for CCUS are robust and well managed, then trailing liability may not be needed.</p>
21	<p>Are inconsistencies in existing legislation for consenting and permitting impacting investment?</p> <p>We can't comment specifically but the Barry Barton report published on MBIE's website¹⁰ provides a comprehensive review of the current uncertainties. These need to be addressed before investment</p>
22	<p>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.</p> <p>Given the many parallels, the natural home for a permit regime for geological storage would be the CMA. This is due to the need for subsurface specialists. Approval/decline of CCS projects would be very similar to the current process for approving or declining Field Development Plans for existing petroleum permits, which already considers re-injection of gas and fluids as part of late life field optimisation.</p> <p>We also envisage that the permit regime should be able to cover exploration permits for underground storage. While existing identified petroleum reservoirs are an obvious start for a CCS project, any geological formation that has reservoir rock, trapping formation, and seal is a potential storage facility. The award of these permits would be under a PIT regime, provide exclusivity, and be awarded under a work programme bid.</p> <p>Other forms of CCS, particularly those more analogous to biological sequestration may fall more easily under the CCRA 2002.</p> <p>Other legislation (RMA, EEZ, CCRA) will presumably be checked to ensure alignment and avoid conflict between them.</p>
23	<p>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?</p>

¹⁰ <https://www.mbie.govt.nz/dmsdocument/27265-carbon-capture-and-storage-taking-action-under-the-present-law-pdf>

	<p>Yes, they should. A baseline study should be provided for all new CCS projects. This would require the developer/operator to demonstrate that it understands the mechanisms for potential failure (leakage) and steps to mitigate risks.</p> <p>The regulator will need to have the skills and experience to form a view on what an appropriate proposal CCS looks like.</p>
24	<p>Should there be separate permitting regime for CCU activity if there is no intention to store the CO₂?</p> <p>The question is unclear as to whether it is meant to reference a CCU activity that temporarily stores CO₂, or whether it refers to a CCU activity that eventually releases CO₂ (for example CO₂ captured and used in Urea or methanol that eventually gets released back into the environment when the product is used).</p>
25	<p>Are there regulatory or policy barriers to investment and adoption of CCU technologies?</p> <p>The scope of the ETS and allocations of NZU credits appears to be an obvious policy barrier.</p> <p>Further to that, it is obviously important that in the drafting of regulation that barriers that don't exist now, aren't being unintentionally drafted into new rules.</p>
26	<p>What potential markets for CO₂ derived products do you see as most critical in New Zealand?</p> <p>We've provided a list in response to Q2. There is a question of scale. The obvious choices are utilisation in manufacture of Urea and methanol (either as a carbon balancing component in feed gas, or as a complete replacement of gas in conjunction with hydrogen). Equally replacing CO₂ imports are low hanging fruit.</p> <p>Further to these, linking in with our agricultural sector (CO₂ fertilisation beyond greenhouses) would be interesting.</p>
27	<p>Are there any specific barriers to transportation of CO₂?</p> <p>We don't see any. The transport technology is generally mature.</p>