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Gas and Fuel Policy Branch
Ministry of Business, Innovation and Employment
Wellington 6140

Attention: Gas and Fuel Policy submissions
gasfuelpolicy@mbie.govt.nz

Submission on Proposed regulatory regime for Carbon Capture, Utilisation and Storage

1. Information

Submission from the Bioenergy Association
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[REDACTED]

This submission may be publicly released.

2. About Bioenergy Association

Thank you for the opportunity to submit on the Proposed regulatory regime for Carbon Capture, Utilisation and Storage.

The Bioenergy Association represents a significant portion of owners of biofueled heat plant, gaseous biofuel producers and suppliers, waste-to-energy investors and their consultants, gaseous biofuels users, researchers and equipment/appliance suppliers across New Zealand. It has members who have an interest in policies relating to:

- the recycling of biomass and organic residues and use of agriculture break crops for the production of energy and chemicals;
- production of biomethane to replace natural gas/LPG and biofertilizer to replace synthetic fertilisers, and
- wise use of our renewable natural biomass resources for the betterment of communities via bioenergy and biofuels.

The Association has a Gaseous Biofuels Interest Group whose members manage the Association's specific technical matters relating to the production and use of gaseous biofuels, specifically with regard to standards and best practice. The Interest Group advocates for bioenergy and biofuels, develops strategic and technical information, and disseminates this information to interested parties, including those considering investment. This submission has been prepared under the oversight of the Gaseous Biofuels Interest Group.

This submission has been prepared on the understanding that individual submissions from members may be submitted and will provide more detail on specific aspects of the discussion document.

3. Key points

Residual organic matter, often treated as waste or is sourced from an agricultural break crop, is considered to be recyclable biomass resource for the production of gaseous biofuels. To provide flexibility of use the gaseous biofuels generally require storage and CCUS technologies are often used for this activity. Underground storage in depleted natural gas reservoirs such as at Kapui is likely to be used because the reservoirs provide scale and are proven to be appropriate for gas storage.

The Bioenergy Association has estimated that to replace natural gas depletion, up to 60PJ of gaseous biofuels could be being produced by 2050 to meet the requirements for essential gas applications. A significant use of the biomethane delivered via the gas pipeline network will be to “green gas peakers” for firming fluctuating electricity supply from wind and solar generation. Such an application requires significant gas storage which realistically can only be provided from depleted underground reservoirs.

While the proposed regulations are being designed for the storage of CO₂ the same regulations should apply to the storage of manufactured gaseous biofuels so as to avoid biomethane leakage.

4. Context

Gaseous biofuels will have a pivotal role in New Zealand 's future energy mix and could replace up to 100% of natural gas for essential uses (60PJ).

The technologies required for its production and its refinement to high grade biomethane fuel, or as a chemical feedstock are mature, relatively unproblematic and easily implementable at a reasonable scale in a multitude of geographies.

The fuel can be produced from diverse feedstocks that are either readily available, underutilized or quickly established and range from organic waste to specifically cultivated crops. Apart from biogas, the process delivers further useful products such as soil conditioner or fertilizer, and there are opportunities to produce renewable CO₂ and ammonia. Thereby providing multiple opportunities to generate revenue from waste streams, land rehabilitation or otherwise underutilized organic sources.

The implementation of a gaseous biofuels industry from anaerobic digestion will form an important pillar to New Zealand 's future fuel independence and energy supply resilience while simultaneously decarbonizing the countries energy base. The establishment of such industries in smaller towns and rural New Zealand is an opportunity to encourage the establishment of more technology services in these areas.

Biomethane is now available and being sold to the gas sector and soon will be able to be injected into the national gas pipeline network. Will quantities are currently small it is envisaged that additional production of tradable biomethane will now start to increase and large storage facilities, such as underground reservoirs will soon be required

5. Recommendation

That the regulations relating to the capture, distribution and storage of CO₂ should also apply to manufactured gaseous biofuels.



Brian Cox
Executive Officer