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## Genesis Energy Submission on the Proposed Regulatory Regime for Carbon Capture, Utilisation and Storage

### Introduction

Genesis Energy welcomes the opportunity to provide feedback on the Government's proposed regulatory regime for Carbon Capture, Utilisation, and Storage (CCUS) outlined in the June 2024 consultation document.

As a leading energy company committed to powering a sustainable and thriving Aotearoa New Zealand, Genesis recognises the important role that CCUS technology can play in achieving national emissions reduction targets and supporting energy security for New Zealanders. We see the potential for this technology to reduce the emissions profile of Genesis' Rankine coal- and gas-fired generation units. Recent collaboration with a New Zealand company to test new technology at Huntly proved that their technology was technically feasible. The proposed regulatory framework is timely and would assist the further work required to verify its scalability and commercial feasibility.

Beyond its direct application in reducing emissions from fossil fuel production and power generation, and leveraging New Zealand's depleted oil and gas fields for storage, CCUS also holds the potential to enable the production of low-carbon and carbon negative fuels, including biofuels and sustainable aviation fuels (SAF), critical for decarbonising hard-to-abate sectors.

We also acknowledge the potential for CCUS to deliver broader benefits to New Zealand's economy, including improving CO<sub>2</sub> supply resilience for core primary sector activities. While broader benefits such as these are not the primary focus of our submission, they underscore the importance of developing a robust and enabling regulatory framework for CCUS in New Zealand.

We note the Climate Change Commission's (CCC) July 2024 emissions monitoring report which identified:

- (1) significant risks to meeting New Zealand's second and third emissions budgets;
- and

- (2) an urgent need to strengthen policies and strategies to put Aotearoa New Zealand on track to meet future emissions budgets and the 2050 net zero target.<sup>1</sup>

The CCC identified two CCUS opportunities. These were applying CCUS:

- (1) At existing and new geothermal power stations, potentially reducing emissions by 2 MtCO<sub>2</sub>e over the second emissions budget and 2.5 MtCO<sub>2</sub>e over the third emissions budget.<sup>2</sup>
- (2) To upstream oil and gas production facilities to reduce fugitive emissions.<sup>3</sup>

Implementing the proposed regulatory framework would represent a concrete example of Government action in response to the CCC's report and help unlock these opportunities.

### **Enabling regulatory environment for CCUS key to unlocking benefits**

Genesis strongly advocates for a clear and robust regulatory framework for CCUS in New Zealand. This would attract investment in CCUS and represent a significant step towards unlocking its benefits. CCUS projects are capital-intensive and require long-term commitments from investors. Clear and stable regulations, that are consistent with international best practice, are crucial for attracting investment in this capital-intensive technology and ensuring its successful deployment. Accordingly, we support the alignment of regulations with Australia, Canada, Norway and the EU, where appropriate. Acting as a "fast follower" and applying the learnings from other jurisdictions is an effective, efficient and prudent approach given New Zealand's resources and competing priorities.

Key learnings from these international examples relevant to New Zealand's regulatory framework include:<sup>4</sup>

- (a) Importance of CCUS hubs and a cluster approach: CCUS hubs benefit from a cluster approach, where multiple capture sources, transportation infrastructure, and storage sites are located in close proximity. This enables economies of scale, reduces transportation costs, and facilitates the development of a shared CO<sub>2</sub> infrastructure network.
- (b) Supportive policy environment: A supportive policy environment is crucial for attracting investment in CCUS hubs. This includes clear regulations and incentives.
- (c) Collaboration and partnerships: Successful CCUS hubs require collaboration between government, industry, and research institutions. Public-private partnerships can play a key role in sharing risks, leveraging expertise, and accelerating project development.

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<sup>1</sup> He Pou a Rangī Climate Change Commission report monitoring progress towards meeting emissions budgets and the 2050 target, July 2024.

<sup>2</sup> Ibid., page 61.

<sup>3</sup> Ibid., page 179.

<sup>4</sup> See <https://ccushub.ogci.com/ccus-basics/state-of-play/>

As discussed further below, we ask that the Government take a holistic approach to CCUS in New Zealand's framework.

### **Additional objectives supporting investor/participant confidence and utilisation pathways**

Genesis agrees with the Government's proposed objectives of: efficient emissions abatement, environmental integrity and energy security. Perhaps it is implicit in these objectives, but we recommend adding the express objectives of supporting investor and CCUS participant confidence, and utilisation pathways.

CCUS projects are capital-intensive and require long-term commitments from investors. Regulatory clarity and certainty are essential for attracting the necessary investment and ensuring the successful deployment of this technology. These objectives underline the need to ensure that capital allocators and other CCUS participants have the clarity they need to reach key project milestones (e.g. final investment decision). For example, clarity on property rights, extent and timing of liability regime, and the allocation of risk. It would also drive a more holistic approach. For example, thinking through CO<sub>2</sub> transport, transmission and other infrastructure planning and the conditions required to establish and scale CCUS hubs.

In this regard, we note that the consultation paper is principally focussed on capture and storage. More emphasis should be placed on developing markets and regulations for CO<sub>2</sub> utilisation given the emerging opportunities. For example, in bio energy, synthetic fuels and building materials. Opening pathways to other CCUS applications, for example, with bio energy (**BECCS**) is important. BECCS applications are expanding beyond power generation to include fuel transformation and industrial sectors like cement production, with the International Energy Agency reporting that projects in early and advanced stages of development globally, will potentially capture around 60 MtCO<sub>2</sub>e per year by 2030.<sup>5</sup> This objective would promote careful consideration of the interaction with other regulations, such as fuel and transport regulations.

In summary, these objectives should help drive an outcome where a potential investor or participant in any part of the CCUS chain of activities is able to make informed decisions – whether in relation to investment or how they interact - with each element in the chain.

### **Specific Comments**

Against the context of the general principles and comments, we have the following specific comments:

- (a) **Integration with the Emissions Trading Scheme (ETS):** We strongly endorse the proposed integration of CCUS activities into the ETS. This is essential for:

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<sup>5</sup> See <https://www.iea.org/energy-system/carbon-capture-utilisation-and-storage/bioenergy-with-carbon-capture-and-storage>.

- creating a level playing field for emission reduction technologies so that businesses and consumers can choose the option that best suits their needs and objectives; and
- incentivising CCUS adoption.

Further, it aligns with global practice and ensures that CCUS can compete fairly with other emissions reduction activities.

- (b) **Technology neutral:** We agree with a technology-neutral framework that allows the market to determine the most cost-effective CCUS solutions. This also allows for innovation and fair competition between different CCUS applications.
- (c) **Robust monitoring regime:** We also agree that a comprehensive monitoring, verification, and reporting regime for CCUS activities is vital for ensuring environmental integrity and maintaining investor and public confidence in the technology. A robust monitoring system, drawing on best practices from leading CCUS projects like the Sleipner project in Norway, should enable accurate accounting of emissions reductions and provide assurance that CO<sub>2</sub> storage is secure and reliable.
- (d) **Permit and liability framework:** The proposed permit regime, coupled with the long-term liability framework, strikes a balanced approach. Requiring permits for exploring and injecting CO<sub>2</sub> into storage sites, along with provisions for monitoring, closure plans, and financial capability assessments, should ensure responsible development and operation of CCUS projects.

The option for government indemnification after a set period, subject to satisfactory site performance and risk assessment, provides certainty for investors and operators as demonstrated by successful implementations in Australia and the European Union. We recommend aligning with the Australian approach and adopting a 15 year closure assurance period before Government indemnification applies. A time cap, supported by appropriate monitoring, provides clarity on risk allocation and long term certainty for investors and operator, while ensuring rigorous oversight during the critical early years of storage.

While Genesis supports the overall approach to liability in the proposal, we strongly oppose trailing liability for previous owners/operators of CCUS infrastructure. This creates undue risk for investors and would hinder CCUS development. We ask that the liability regime be designed to provide clarity and finality once government indemnification is granted. We also caution against imposing additional insurance or other financial assurance requirements to underpin liability obligations. Such measures could materially increase project costs and make some CCUS projects economically unviable. The long closure assurance period, coupled with a robust monitoring and reporting regime, provides sufficient safeguards.

- (e) **Public awareness and education:** It is important that the regulatory framework and related Government policies are supported by public awareness and education campaigns to ensure an informed debate on the opportunities and risks that the technology presents. In addition to the emission reduction and fuels opportunities it is important, for example, that the wider benefits such as mitigating CO2 supply risks for key industries are understood. We would expect this to resonate with many New Zealanders given the current gas supply constraints faced by the country.

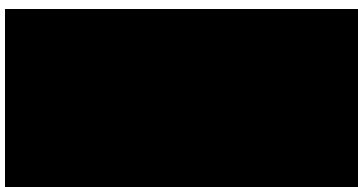
## Summary

Genesis believes that an enabling CCUS regulatory regime that is clear, robust and consistent with global best practice is foundational to unlocking the benefits of CCUS technology. It is important however that greater emphasis is given to utilisation pathways to realise its full potential. This will require, amongst other things, adaptations to fuel regulations and adopting a holistic approach, such as fostering CCUS hubs, supported by public awareness and education campaigns on the rationale and benefits of CCUS.

We look forward to collaborating with the Government and other stakeholders on the CCUS regulatory framework.

Please don't hesitate to contact me should you wish to discuss further.

Yours sincerely



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