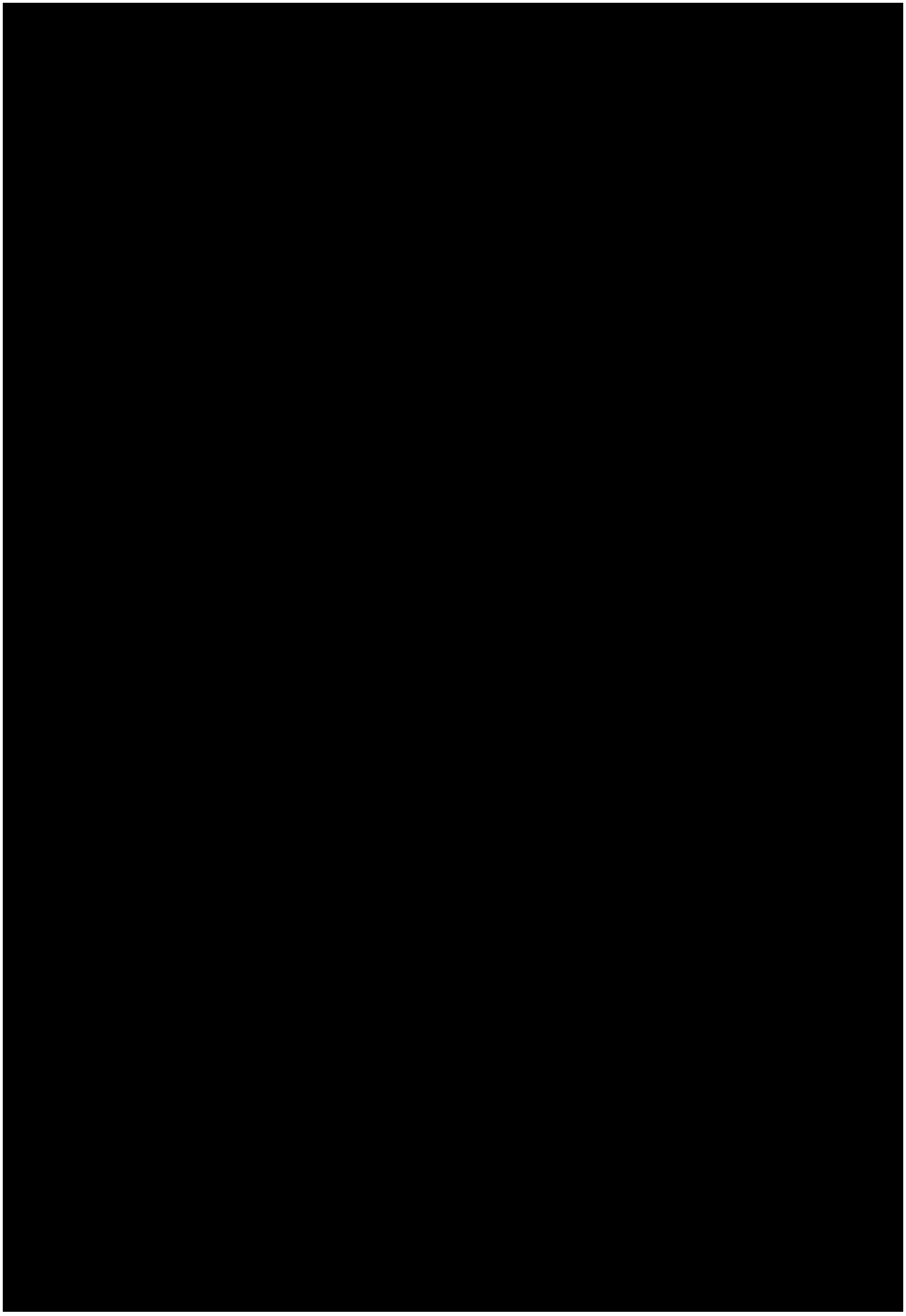

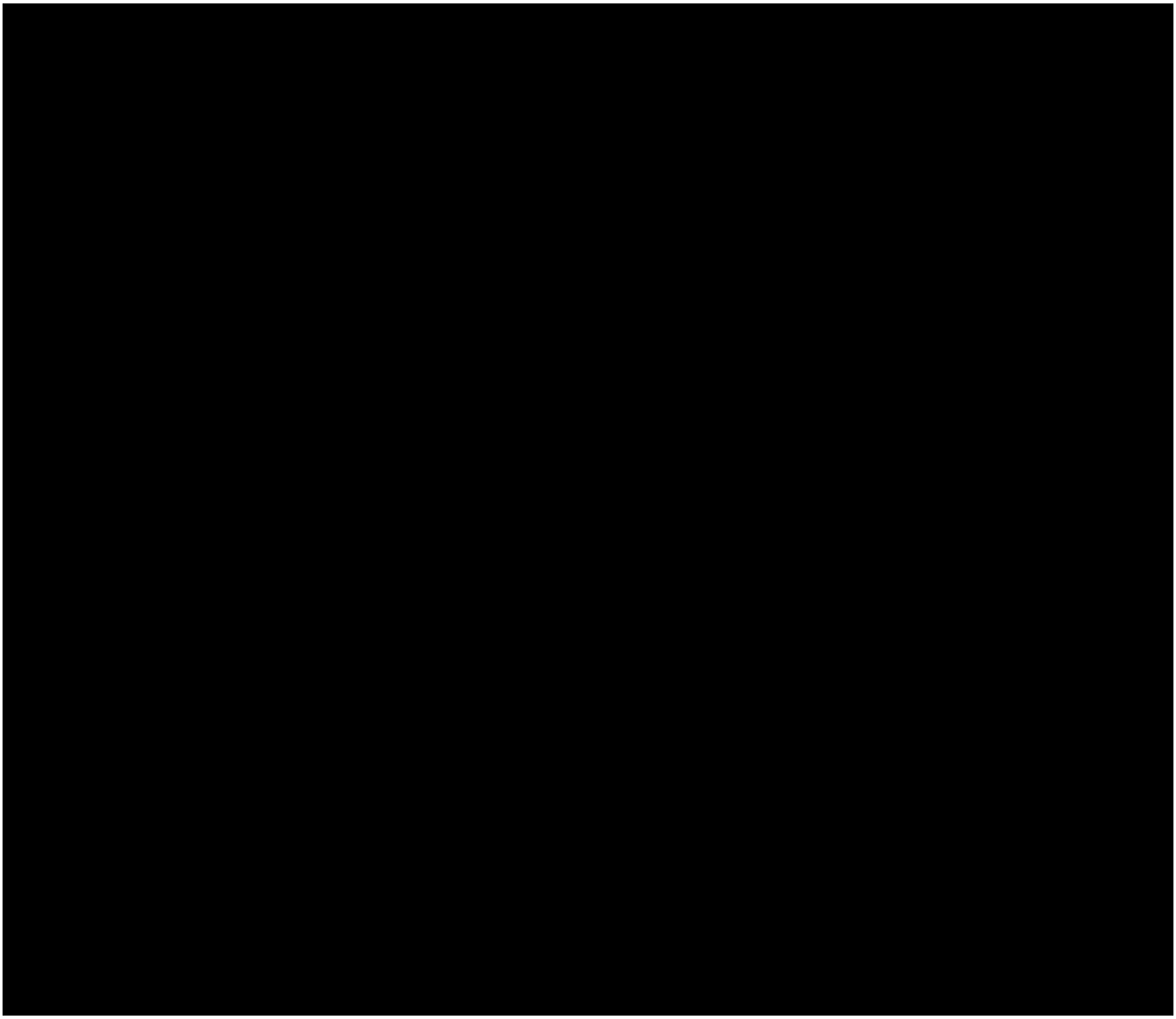

Proposals for a regulatory regime for Carbon Capture, Utilisation and Storage

Climate Justice Taranaki submission, 6 August 2024

Introduction

1. Climate Justice Taranaki (CJT)[1] is a community group dedicated to environmental sustainability and social justice, notably inter-generational equity in relation to climate change. Based in Taranaki 'Gasland', our members, especially tangata whenua and long-term residents living next to oil and gas wells and petrochemical facilities, have generations of experience dealing with the impacts of mining. Using this lived experience and careful research, we have submitted on many consultation papers and Bills in relation to mining, energy and resource management over the past decade.

Todd Energy Mangahewa-C wellsite, 2013 (photo by Fiona Clark).

2. Of relevance to the current Ministry for Business, Innovation and Employment (MBIE) Proposals for a regulatory regime for Carbon Capture, Utilisation and Storage (CCUS)[2] are our submissions on MBIE's consultation on Advancing New Zealand's Energy Transition[3], the Climate Change Commission's 2023 Draft Advice for the Government's Second Emissions Reduction Plan[4] and the Climate Change Response (Late Payment, Penalties and Industrial Allocation) Amendment Bill[5].

Keep fossil fuels in the ground

3. MBIE proposes to use CCUS to attract investment for the fossil gas industry and support security of gas supply. This is in contradiction with the United Nations and other credible international organizations' clear warnings that there should be no new fossil fuel development, if we are to avoid the worst of climate catastrophes. The warning is despite intense lobbying from Saudi Arabia, China, Australia, Japan and the Organization of the Petroleum Exporting Countries (OPEC), to tone down the warning and to give favour to CCS[6].

4. Supporting further gas exploration and extraction does not ensure energy security for our transition to a low-emissions economy, because fossil fuels are a finite resource and the time we have left to mitigate climate impacts is even more limited. The sooner we acknowledge these 'inconvenient truths' and begin to wean ourselves off fossil fuels and reduce frivolous energy demands, the easier and less costly the transition will be.

5. Aotearoa New Zealand owes it to our Pacific whānau to do our fair share in climate mitigation. Former Prime Minister of Tuvalu, Enele Sopoaga[7], made it clear that it is "*a completely stupid idea*" for NZ to lift the oil and gas ban, "*It's just logical – the more you open up new gases and the more release of greenhouse gases into the atmosphere will simply cause the early demise and rising of sea levels that will affect the islands of Tuvalu*." The right thing for NZ to do is to end fossil fuel exploration and extraction, and substantially reduce our greenhouse gas (GHG) emissions by lowering our energy demand and reducing animal agriculture. The shift to more localised renewable energy systems, active and public transport, and diverse mostly plant-based agriculture, will deliver multiple co-benefits for people and biodiversity.

A dangerous smokescreen

6. Carbon capture and storage (CCS) and CCUS are dangerous smokescreens, obscuring and delaying[8] efforts needed for real emissions reduction and other climate action. To date, there is little evidence that existing CCS and CCUS projects are effective in locking away meaningful quantities of CO_2 successfully for the long haul. The Institute for Energy Economics and Financial Analysis found that CCS has a long history of failure and underperformance[9].

7. The utilisation part of CCUS is an obfuscation of the supposed role of CCS i.e. to avoid CO_2 emission. Nearly all CO_2 usage is short-term, meaning that the captured CO_2, such as to chill meat and seafood for export or make beer, is released into the atmosphere afterwards. Worse still, three quarters of all CO_2 captured globally is reinjected into the ground for enhanced oil recovery to force more oil and gas out, to be burnt, increasing emissions[10]. The Gas Industry Company review (2023)[11] indicates a similar motive, "*Extension of field life through remaining 2P reserves and 2C resource upgrades using capture of CO_2 will provide energy security during the transition to electrification*." This ignores the need to keep fossil fuels in the ground[12], the role of demand management and cultural shift to using less, and the growing capacity of cost-competitive renewable energy generation and storage solutions in providing energy security and resilience.

8. The push for CCUS is dangerous because climate chaos, extreme heat[13], unprecedented weather events and sea level rise are already costing tens to hundreds of thousands of lives, impacting on people's health and enabling the spread of diseases globally and in Aotearoa. Any delay in climate mitigation and adaptation will result in even more dangerous and catastrophic consequences.

9. CCS is a dangerous technology. Aotearoa sits on the seismically active Ring of Fire. There is also the danger of earthquakes induced or triggered by CO_2 injection during CCS[14], especially in Taranaki where hydraulic fracturing (fracking) deep-well injection of drilling wastes and produced water are frequently conducted[15]. Either natural or induced seismicity can weaken CCS infrastructure and cause failure. Just because there is "*sufficient reservoir void space exists to receive injected CO_2 at the Maui and Kapuni fields*" (The Gas Industry Company, 2023)[16] does not mean that it is safe to do so. The leakage of CO_2, an asphyxiant and intoxicant, can cause serious injury or death to workers and nearby communities. A recent leakage from a CO_2 pipeline in Mississippi served to reveal the inadequate health and safety regulations for CCS operations[17].

10. The risks and danger of allowing CCS and CCUS are made worse by the coalition government's brutal cuts to budget and staff across scientific, research and regulatory institutions and agencies[18], notably WorkSafe[19]. How is the government going to ensure that site characterisation[20],

development and operation of such technologies will be safe at all stages, including post-closure of injection and storage sites?

An expensive 'trojan horse'

11. The fossil fuel industry has spruiked CCS and CCUS for decades, a 'trojan horse' for them to continue business as usual despite the lack of demonstrable successes and an abundance of failures. CCUS faces numerous technological, economic, institutional and ecological-environmental and socio-cultural challenges[21]. One might ask, if the world's biggest CCS plant run by oil and gas giant Chevron, with all its resources and expertise, can only deliver a third of its target[22] across the Tasman Sea in Australia, who could possibly do better?

12. The International Energy Agency (IEA, 2023)[23] stated, "*Methane abatement in the oil and gas industry is one of the cheapest options to reduce GHG emissions anywhere in the economy… Oil and gas companies carry primary responsibility for abatement. The spending required to cut methane emissions in the NZE* [Net Zero Emission] *Scenario is less than 2% of the net income received by the industry in 2022."*

13. The IEA[24] elaborated, "*Tackling methane emissions is the single most important measure that contributes to the overall fall in emissions from oil and gas operations, followed by eliminating flaring and electrification…*"

14. So why is the NZ government pushing for CCUS while ignoring "*the cheapest*" and "*single most important measure*" in reducing GHG emissions from the oil and gas industry? Afterall, NZ has committed to the Global Methane Pledge since 2021[25].

15. Based in Taranaki, we witness the continuous flaring of 'excess' gas from numerous oil and gas facilities for months or longer, emitting CO_2, other GHG and particulates, with potential impacts on neighbours' health and wellbeing[26]. While flaring removes over 90% of the methane[27], lower than previous assumptions[28], the resulting CO_2 is a long-lived GHG. The flare and smoke are what we can see. Fugitive emissions from wellheads, pipelines, storage tanks and venting are largely invisible to the naked eye and in NZ, accounted for 4.5 per cent of emissions from the energy sector in 2022[29].

Left: OMV Maui production station, 26 Feb 2019 (photo by Emre Turek).
Right: OMV Pohokura production station, 14 June 2024 (photo by Abbie Jury).

Monitoring and liability

16. As mentioned above, there are real dangers to people and the environment should a CCS operation fail. Leakages and other issues, like water ingress as observed at the Ahuroa Gas Storage[30], while not posing immediate harm to people, could compromise the system in terms of emission reduction and economics.

17. Our experience in Taranaki tells us that the fossil fuel industry is largely self-regulated and self-monitored while local councils struggle to deal with more public facing issues like water, roads and waste, etc. This must ring an alarm bell given that there is no incentive for the industry to report a CO_2 leakage in a CCS scheme which would lessen the emission reduction compensation a company could get under the Emissions Trading Scheme (ETS) if amended. The involvement of multiple actors in capturing, transporting, utilising and storing CO_2 would further complicate the accounting and verification system and makes it prone to rorting, beyond double counting.

18. Again, experiences from Taranaki do not offer any assurance in terms of holding companies liable should something goes wrong, especially at the end of life of a facility; notably the $443 million bill on the government to decommission the Tui oil field following the liquidation of Tamarind Taranaki Limited[31], and the ongoing leaky gas well at Kupe gas field[32].

19. In terms of decommissioning regulations, the 2024 proposal by MBIE to amend the Crown Minerals Act 1991 would (a) weaken the requirements for financial securities from permit holders, (b) limit trailing liability to the most recent permit transferor and (c) remove the requirement to make payments or provide a financial security for post-decommissioning liability[33]. This is made worse in the current proposal by the possibility of the Minister granting an exemption to free a CCUS operator from the CMA or EEZ Act requirements. The 15 to 20 years of liability on CCUS operators showcased from Canada and the EU do not reflect the need for permanency of keeping a long-lived GHG underground. None of these offer any confidence or assurance that taxpayers and the environment would not bear the brunt of a failed CCUS operation in the medium to longterm.

Conclusion

20. Climate Justice Taranaki considers that the objectives of the CCUS proposal: 1) Efficient emissions abatement, 2) Environmental integrity, and 3) Energy security, are fatally flawed and wholly inappropriate in the New Zealand context. Therefore, there is no need for the proposed regulatory regime for CCUS.

21. Instead CJT urges MBIE to invest in innovative energy demand management and distributed renewable energy development, integrated with electric transport, to support community energy security and resilience. The electricity market also needs transformation to make it fairer and more equitable, thus ending energy poverty and hardship.

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