Climate Justice Taranaki Submission on the Discussion Document Review of the Crown Minerals Act 1991

27th January 2020

Preamble

Climate Justice Taranaki Inc. (CJT) is a community group dedicated to environmental sustainability and social justice. This includes issues of inter-generational equity, notably in relation to climate change, which will impact future generations' inalienable rights to safe water, air and soil, crucial to sustaining livelihoods and quality of life. CJT has been incorporated under the Incorporated Societies Act 1908 since 26th February 2015. CJT welcomes the opportunity to contribute to this timely review of the Crown Mineral Act.

Our members contributed to the previous CMA review in 2012-13, and many of the concerns raised in those submissions remain valid, and increasingly urgent. Unfortunately, under the previous National Party government of the time, nothing was done to make the CMA fit for purpose in a climate-changed world. In fact, the opposite occurred, with subsequent amendments to both the CMA and EEZ-CS Acts designed to facilitate further exploration and mining of fossil fuels. Although the relevant legislative processes were deeply flawed, those amendments were understandable in the context of the National government's plan to make Aotearoa New Zealand a net exporter of fossil fuels by 2030. That policy itself was deeply flawed, and it is, therefore, heartening to finally see some progress from the present government.

One important case in point was the 2018 amendments to the CMA which prohibited the granting of new offshore petroleum exploration permits. This is a major step in the right direction, although much more needs to be done, with urgency. The present review, as welcome as it is, unfortunately still appears to be labouring under the misconception that fossil fuel 'business as usual' will continue more-or-less unabated onshore. In these respects, most of the proposed changes are 'tinkering' rather than delivering the cessation of petroleum exploration, prospecting and mining that is urgently required to address climate disruption, ocean acidification, deoxygenation and plastic pollution more generally.

Unfortunately, the four decades following the first IPCC report in 1990 that could have been used for a measured transition off fossil fuels have been wasted both here and globally, and we now are in a globally critical situation, as the 6th mass extinction, already titled End-Anthropocene, gains speed. Back in 2016, the late great Stephen Hawking wrote the following:

"The next few decades offer a brief window of opportunity to minimize large-scale and potentially catastrophic climate change that will extend longer than the entire history of human civilization thus far. Policy decisions made during this window are likely to result in changes to Earth's climate system measured in millennia rather than human lifespans, with associated socioeconomic and ecological impacts that will exacerbate the risks and damages to society and ecosystems that are projected for the twenty-first century and propagate into the future for many thousands of years." (https://www.theguardian.com/commentisfree/2016/dec/01/stephen-hawking-dangerous-time-planet-inequality).

Questions posed in the Discussion Document

Role and purpose statement

Question 1. What aspects of wellbeing (natural capital, human capital, social capital or financial capital) should the CMA consider when making decisions to allocate and manage rights to prospect for, explore for and mine Crown-owned resources?

CJT: All are important, but of the four 'capitals', three (human, social and financial) are totally reliant on the first (natural). To paraphrase economist Herman Daly, the economy is a wholly owned subsidiary of the environment, not the reverse. Despite its relatively recent appropriation (eg. 'natural capital', Costanza, R., d'Arge, R., de Groot, R. et al. The value of the world's ecosystem services and natural capital. *Nature* 387, 253–260 (1997) doi:10.1038/387253a0) use of the word 'capital' provides a potentially misleading focus of the question in respect of wellbeing. 'Capital' is defined as wealth in the form of money or other assets owned by a person or organization. It inherently focuses on wealth creation by humans, for some humans, and typically has been at the expense of other humans and the biosphere, the latter typically considered an 'externality'. The focus on capital, as in capitalism, is what got us into this global crisis in the first place. As Einstein cogently said 'we cannot solve our problems with the same thinking we used when we created them'.

In respect of costs and impacts, mining usually leaves a significant legacy of heavily altered, degraded environments, toxic waste and disrupted communities. Environmental costs are often unaccounted externalities. Tangata whenua and local communities more generally can be negatively impacted.

Thus, although 'future' is mentioned in the text (parag. 8, Discussion Document), the question would be better phrased in respect of intergenerational equity and ecological sustainability. Wales has taken a step in this direction that may provide a useful example. The Well-being of Future Generations Act 2015 (https://futuregenerations.wales/about-us/future-generations-act/) was designed to function as a bulwark against 'short-termism'. It requires public bodies in Wales to think about the long-term impact of their decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change. It demands that 44 public bodies, including Welsh Government ministers, NHS Trusts and the National Park Authority, take action to improve economic, social, environmental and cultural wellbeing.

Question 1 continued. Why should it focus on these aspects of wellbeing?

CJT: It is encouraging to see the new focus on 'wellbeing', although it is not well addressed in terms of 'capital'. See above comment. The focus must be on ecological sustainability and intergenerational equity. We must transition away from 'extractivism' of minerals, and the deeply flawed model of endless economic growth, along with a much increased focus on recycling of the minerals already mined – the so-called 'cradle-to-cradle' approach, within a 'steady state' or circular economic system along the lines proposed by Kate Raworth's 2017 book 'Doughnut Economics'. From the initial publication of *'The Limits to Growth'* in 1972 to the more recent conception and analysis of planetary boundaries in 2015 (https://www.researchgate.net/publication/270898819_%27Planetary_Boundaries_Guiding_Human_Development_on_a_Changing_Planet%27), it is abundantly clear that humanity is over-exploiting Earth's capacity to sustain us, and our biosphere (see e.g. https://www.footprintnetwork.org/).

Here, we have perhaps the best opportunity of any nation to change this direction, and demonstrate a different paradigm for the future.

Question 2. How should the purpose of the CMA be expressed through its purpose statement? Should the purpose statement be amended from promoting the prospecting for, exploration for, and mining of Crown-owned minerals for the benefit of New Zealand? If yes, why?

CJT: Yes. The Purpose statement needs to be rewritten. It must **not** have an overarching purpose to promote mining activity in Aotearoa New Zealand. At present the overarching purpose of the CMA is economic. Other considerations are applied under isolated criteria: earthworks, building, transport etc. This is an ineffective and disjointed way of managing any industry, especially one as high impact as industrial mining.

Why? Because when it has been applied to petroleum, as indeed other minerals, it fails to account for the significant economic and other costs that increasingly accrue from mining. These include those from combustion of fossil fuels, and their conversion to other products, notably synthetic fertilizers and plastics.

The revised Act should stipulate broader consideration of natural resource extraction and environmental impacts that extends beyond simple calculation of economic returns in the transition to a low carbon future. As CJT member Lyndon DeVantier, PhD explained in his 2012 CMA Review submission:

"In respect of the purported contribution to economic development, this is clearly inconsistent with the conclusions of all major economic analyses, including the Stern Report (Britain, http://webarchive.nationalarchives.gov.uk/+/http:/www.hm-treasury.gov.uk/sternreview_index.htm), the Garnaut Report (Australia, http://www.garnautreview.org.au/) and the Stockholm Environment Institute (http://www.sei-international.org/, Valuing the Ocean). The latter Valuing the Oceans report concluded that, by the end of this century, climate change driven declines in marine ecosystem services, both in respect of ocean warming and changing ocean chemistry (acidification), will cost trillions of dollars to the global economy **annually**. The analysis calculated the cost over the next 50 and 100 years respectively in terms of five categories of lost ocean value:

- Fisheries
- Tourism
- Sea-level rise
- Storms
- The ocean carbon sink.

By 2100 the annual cost of impacts from "business as usual" emissions, projected to lead to an average temperature rise of 4°C, was estimated by the report's authors, including Dr. Julie Hall of NIWA, to be US$1.98trn, …. Importantly, the study did not put a monetary value on the total projected damages, many of which involve immeasurable losses, including extinction of species.

According to Kevin Noone, director of the Swedish Secretariat for Environmental Earth System Sciences at the Royal Swedish Academy of Sciences:

“The global ocean is a major contributor to national economies, and a key player in the earth’s unfolding story of global environmental change, yet is chronically neglected in existing economic and climate change strategies at national and global levels”.

This is patently true of NZ, and the present CMA is a classic exemplar of this undeniable reality.

… the International Energy Agency, in their report ‘Tracking Clean Energy Progress’ (http://www.iea.org/papers/2012/Tracking_Clean_Energy_Progress.pdf) warn that:

"The current trend of increasing emissions is unbroken with no stabilisation of GHG [greenhouse gas] concentrations in sight …energy use will almost double in 2050, compared with 2009, and total GHG emissions will rise even more. Long-term temperature rise is likely to be at least 6C."

In media interviews (http://www.bbc.co.uk/news/science-environment-17847196), Mr. Richard Jones (Deputy Director of the IEA):

“… countries needed to be bold with their investments and policies, even during a recession to reap the benefit of plentiful clean power in later years.

'False economy'

This was not just about preventing the potential of dangerous climate change. Investment in clean energy would bring energy security, reduce dependency on oil and save money that would be needed to adapt to climate change.

… Mr. Jones also noted that:

“one bright spot had been the emergence of wind and solar photovoltaics. In both technologies, he said, costs are plummeting as firms scale up production prompted by government policy.”

The above excerpt from Dr. DeVantier’s 2012 submission is, unfortunately, just as relevant today as when it was written. In Aotearoa New Zealand and globally, humans continue to add more emissions to the atmosphere annually, with data from the Global Carbon Project reporting further annual global increases of 2.7% and 0.6% in 2018 and 2019, respectively (https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions#how-have-global-co2-emissions-changed-over-time).

Mary Robinson, chair of an independent group of global leaders called The Elders, and the former president of Ireland and former Untied Nations high commissioner of human rights, recently said that countries that don’t aim to eliminate greenhouse gas emissions heating the planet and instead exploit fossil fuels are issuing “a death sentence for humanity” (https://www.theguardian.com/world/2020/jan/23/doomsday-clock-100-seconds-to-midnight-nuclear-climate).

Given all that is documented in the peer-reviewed scientific literature of the direness of the situation, and undeniable links to petroleum and coal, to be promoting the exploration and mining of fossil fuels is clear evidence of the ‘great derangement’. This condition, coined by Amitav Ghosh in his 2017 book *The Great Derangement : Climate Change and the Unthinkable*, (http://www.amitavghosh.com/the_great_derangement.html) results from our continuing inability to address the scale and violence of climate change, despite decades of cogent, increasingly strident warnings from IPCC, the climate science community, NGOs and responsible members of the public. Reasons for this failure are well understood.

Question 2 continued: If not, why not? If the purpose statement should be amended, what alternative wording would most appropriately describe the purpose of the CMA (e.g. "administer", "manage")?

CJT: The term 'Crown-owned' should be deleted. The concept is outdated and bears no relevance to modern-day Aotearoa New Zealand. There should be no further exploration or mining of petroleum or coal. Globally there are far more known reserves than can be safely combusted, according to the International Energy Agency (IEA) and World Bank. Almost a decade ago, in their 2012 World Energy Outlook report, the IEA stated: *"No more than one-third of proven reserves of fossil fuels can be consumed prior to 2050 if the world is to achieve the 2 °C goal."*

Whatever is left here must remain in the ground.

Gas is not a 'transition fuel'. Full 'life-cycle' analyses of gas mining, production, storage and transport have consistently demonstrated that emissions have been significantly under-estimated and are comparable with other fossil fuels. The promotion of gas, or indeed of methane clathrates off the continental shelf as so-called 'transition' or 'bridge' fuels, and their potential future use in production of Hydrogen, are dangerous fallacies promoted by the petroleum industry and their enablers in politics and the media.

Useful international analyses, with alternatives, are provided by the Climate Reality Project (https://www.climaterealityproject.org/blog/natural-gas-not-bridge-fuel-got-many-alternatives) and by Oil Change International (http://priceofoil.org/2019/05/30/gas-is-not-a-bridge-fuel/), among many others.

Here in Aotearoa New Zealand, Dr. Terence Loomis provided a detailed analysis in his report *'Why Natural Gas isn't a Bridge Fuel to a Low Emissions Economy'* published May 2018 (DOI: 10.13140/RG.2.2.16783.02720) for the Project: Political economy of petroleum development and environmental conflict in Aotearoa New Zealand (https://www.researchgate.net/publication/327230654_Why_Natural_Gas_isn%27t_a_Bridge_Fuel_to_a_Low_Emissions_Economy?channel=doi&linkId=5b821e874585151fd1332cfb&showFulltext=true).

There should also be no seabed mining. This destructive practice is not compatible with ecological sustainability or intergenerational equity. The oceans and their ecosystems are already under severe stress from the combined impacts of decadal-scale heating and episodic heatwaves, ocean acidification and deoxygenation, dead zones and plastic pollution. These will all continue to intensify over coming decades. We must reduce these stresses, not add to them.

Recent research has highlighted the multi-decadal impacts of seabed mining on benthic communities, and noted that the risks may be greater than anticipated (E.g. Simon-Lledo et al. (2019) https://www.nature.com/articles/s41598-019-44492-w.pdf). In accord with the Precautionary Principle, seabed mining should be prohibited under the Act. There are, however, significant opportunities in 'urban mining' that should be pursued more vigorously.

Overseas, investment in urban mining, the process of "reclaiming compounds and elements from products, buildings and waste" is already occurring. An estimated 320 tons of gold and 7,500 tons of silver worth some $US 21 billion is used annually to make personal computers, mobile phones, tablets and other electronic products worldwide. This gold, silver, rare earths and copper resides in the waste generated by the disposal of these products. It is estimated that electronic waste contains precious metal "deposits" 40 to 50 times richer than the ores currently mined.

(http://www.deepseaminingoutofourdepth.org/urban-mining-can-save-the-deep-seabed-from-exploitation/):

"The choice for all of us, including investors, should be clear – and in fact is a 'no brainer'. On the one hand there are the financial, social and environmental risks of deep-sea mining. On the other, there is the financial, social and environmental win-win of a metal resources future which focuses on urban mining and the transition to a circular economy, in which virgin mining plays only a minor role."

Proposed wording and name of the Act: One issue that should be addressed is the name of the Act. It is an outdated reflection of an imperialist, colonial past and should be changed. We recommend, simply, 'The Minerals Act'. This is in accord with other related pieces of legislation, none of which have 'Crown' in the title. Hence:

'The purpose of The Minerals Act is to responsibly manage the prospecting for, exploration for, and mining of minerals, excluding petroleum, coal and those in the seabed, respecting intergenerational equity and ecological sustainability in Aotearoa New Zealand and globally.'

Alignment with other policy and legislation: The present CMA review should align with other legislative developments and amendments, including the RMA, Zero Carbon Act, EEZ-CS Act and Emissions Trading Scheme. It should also have regard to the Productivity Commission's recommendation 7.5 that *"the Government should align its project and programme funding so that it discourages high-emissions, path-dependent activities, and encourages low-emissions, path-dependent activities."* In this regard, MfE is developing a *Climate Implications of Policy Assessment (CIPA)* tool kit, which will support Ministers to consider the potential climate change impacts of policy proposals and investments when making decisions. As this CIPA pathway unfolds, proposed exploration, drilling or mining activities will need to be assessed for their emissions.

Balancing the rights, interests and activities of marine users

Question 3. Do you think that the current non-interference zone (NIZ) provisions fairly balance the ability of marine users (including permit holders) to undertake their lawful activities, with the ability of other individuals and groups to exercise their lawful right to protest and oppose these activities?

CJT: No. The recent court case against Greenpeace personnel demonstrated that this amendment was ill-conceived (https://www.stuff.co.nz/environment/107278117/russel-norman-discharged-without-conviction-over-oil-ship-protest).

If the NIZ provisions do not achieve this balance, which of the following aspects should the NIZ provisions prioritise?:

a) individuals and permit holders to be kept safe from injury and harm in the sea?

b) permit holders to have freedom of movement to conduct their legal activities in the sea?

c) individuals to have freedom of movement in the sea?

d) individuals to have freedom of expression and peaceful assembly?

CJT: d)

Question 3 continued. Do you think that the NIZ provisions should be removed? If so, why?

CJT: Yes, these will be unnecessary once petroleum exploration and mining, and seabed mining more generally, are prohibited activities.

Do you think that the NIZ provisions should be retained in their current form? If so, why?

CJT: No.

In the event you think these provisions should be retained, we also seek your views on the questions below.

Question 4. Whether, and if so how, these provisions should be amended to better balance the ability of marine users (including permit holders) to undertake their lawful activities with the ability of other individuals and groups to exercise their lawful right to protest and oppose these activities?

CJT: Such provisions will be unnecessary once petroleum exploration and mining, and seabed mining more generally, are prohibited activities under the CMA, EEZ-CSA and RMA.

Question 5. Do you consider the current consequences for breaching a NIZ appropriate? If not: a) should breaching a NIZ remain a criminal offence? If breaching a NIZ remains a criminal offence do you consider the current level of fines to be appropriate? b) if you consider breaching a NIZ should no longer be a criminal offence and should not have associated fines, what sanctions (if any) do you consider should be imposed in order to incentivise compliance with the law?

CJT: To date, the only such breaches have been in relation to exploration for petroleum. In CJT's view, these breaches were fully justified, for the reasons well stated by those who conducted the breaches. As above, exploration and mining for petroleum and seabed mining more generally should become prohibited activities under the relevant Acts.

Question 6. Do you think the CMA is the appropriate legislation for the NIZ provisions? If not, are these provisions more appropriately housed in alternative legislation (for example, in the Maritime Transport Act 1994)?

CJT: These provisions will become unnecessary once the Act, and other relevant legislation, are updated, as above.

Ensuring offshore petroleum permits contribute to a managed transition

Question 7. Do you think the current settings concerning offshore petroleum permits fully contribute to the Government's goals, including transitioning to a low emissions economy that is productive, sustainable and inclusive and providing secure and affordable energy?

CJT: No. Secure and affordable energy can be provided from renewable sources (https://www.forbes.com/sites/dominicdudley/2019/05/29/renewable-energy-costs-tumble/#7c25ea38e8ce). Indeed, in many cases renewables are proving to be cheaper than fossil fuels to produce, and for consumers. Much of our offshore production is not used for energy provision in any case. Rather it is used for making methanol, mainly for export, and for making fossil-fuel derived Urea for agriculture, mainly for highly polluting industrial dairying. The polluting 'flow-on' effects of urea into groundwater have been documented for more than 40 years (https://www.sciencedirect.com/science/article/pii/0304113179900225, https://www.pnas.org/content/early/2013/10/15/1305372110), while the significant release of Nitrous oxide, an extremely potent greenhouse gas, during production and application has become a serious recent concern (https://www.sciencenews.org/article/fertilizer-produces-far-more-greenhouse-gas-expected). For example, Park et al. (2012) concluded that:

"Long-term trends allow us to distinguish between natural and anthropogenic sources of nitrous oxide, and confirm that the rise in atmospheric nitrous oxide levels is largely the result of an increased reliance on nitrogen-based fertilizers." (https://www.nature.com/articles/ngeo1421).

For the specific New Zealand case, see Gibbs, J.A., 2019. Estimating national greenhouse gas emissions from fertiliser and lime. In: *Nutrient loss mitigations for compliance in agriculture*. (Eds. L. D. Currie and C.L. Christensen). http:flrc.massey.ac.nz/publications.html. Occasional Report No. 32. Fertilizer and Lime Research Centre, Massey University, Palmerston North, New Zealand. 5 pages. (http://flrc.massey.ac.nz/workshops/19/Manuscripts/Paper_Gibbs_2019.pdf).

There is no valid justification at this point for continuing the permit system for petroleum. Rather, there are many reasons for it to be prohibited. We need a substantial, rapid phase out of fossil fuel intensive activities, and increasing investments in renewable energy to support electrification of transport. Massive financial savings, up to eight billion dollars annually, can be made by rapidly reducing our dependence on oil, more than 95 percent of which is imported, and hence subject to the vagaries of international markets. We, along with the rest of the world, have wasted precious decades in failing to get off this life-threatening addiction, in large part because of the power of the dealers, negligent government policy settings, perverse subsidies, and a refusal to pay proper attention to the climate science or economic analyses, together demonstrating the gross failure of foresight by previous governments.

Back in 2006, Nicholas Stern, chair of the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and also chair of the Centre for Climate Change Economics and Policy (CCCEP) at Leeds University and LSE (Stern Review: Economics of Climate Change) had this to say:

"Mitigation - taking strong action to reduce emissions - must be viewed as an investment, a cost incurred now and in the coming few decades to avoid the risks of very severe consequences in the future. If these investments are made wisely, the costs will be manageable, and there will be a wide range of opportunities for growth and development along the way. For this to work well, policy must promote sound market signals, overcome market failures and have equity and risk mitigation at its core."

Ten years later, in 2016, Stern had this to say: *"With hindsight, I now realise that I underestimated the risks. I should have been much stronger in what I said in the report about the costs of inaction. I underplayed the dangers."* (https://www.theguardian.com/environment/2016/nov/06/nicholas-stern-climate-change-review-10-years-on-interview-decisive-years-humanity).

How many more warnings from economists and climate scientists are necessary as major climate feedbacks ramp and tipping points are reached?

Question 8. If not, how might we alter the settings to fully provide for this goal to be realised?

CJT: There should be no permit process for petroleum exploration, prospecting or mining (nor for coal). These activities should be prohibited under the Act, in accord with the urgency of reducing emissions.

Community participation

Question 9. In your view, should there be more public involvement in the decision-making process for the granting of CMA permits?

CJT: Yes. The Act should not rely on other legislation for public and tangata whenua engagement in decision-making that may permit a company to mine. Communities should be consulted promptly and fully once a mining company has expressed interest in getting a permit in their area. The public should be involved in subsequent stages of the permitting process, and MBIE should assist the community to participate. Where mining proposals are on public land, or in the EEZ, the wider community of Aotearoa New Zealand should have the opportunity to participate at an early stage, before mining companies invest in exploration.

Question 10. If so, what does that look like to you?

CJT: Major proposals should require public submissions and hearings, and for proposals to be approved, majority support.

Māori engagement and involvement in Crown minerals

Question 11. How can we improve the processes for iwi and hapū to protect land from minerals development on a long-term basis under the CMA?

CJT: Firstly, tangata whenua should be consulted comprehensively on this legislation and amendments, in accord with rights under Te Tiriti. This is particularly relevant in respect of ministerial decisions on closing an area for mining, and also in respect of iwi engagement. The Act does not presently meet obligations under Te Tiriti, in only requiring consultation to be attempted, in the early stages. However, negotiation under Te Tiriti is a binding commitment, and tangata whenua should be resourced for negotiation.

Question 12. What matters should the Minister consider when considering requests for defined areas of particular significance to iwi and hapū be excluded from the operation of a minerals programme or not be included in a permit under section 14(2)(c)?

CJT: Matters raised in submissions made by Iwi as part of the block offer process should receive proper weight (https://www.nzpam.govt.nz/assets/Uploads/block-offer/2018/block-offer-2018-annex-submission-analysis-and-recommendations.pdf). The summary of the Iwi submissions for 2018 stated:

"All the submissions express some level of objection to all or part of the block offer process and/or request exclusion of areas released. The majority of the submissions express objections to oil and gas activity noting a lack of consideration and management in respect to impacts upon customary and cultural interests. A number of submissions provide substantial information to support request for exclusions and/or conditions relating to areas of cultural significance that range from burial sites through to sites of historical interests."

In respect of the 2019 block offer (https://www.rnz.co.nz/news/te-manu-korihi/388521/maori-disappointed-ancestral-land-up-for-tender-for-oil-and-gas-drilling-in-taranaki), Taranaki Iwi continued to express deep concern across a range of cultural, heritage and biodiversity issues. There is growing consensus that this practice needs to stop. For example:

"This week's offer excluded conservation land and cultural sites like Maunga Taranaki and Parihaka. But Ngāruahine iwi leader Daisy Noble said it was still unacceptable. 'It should have been a stake in the ground: There is not going to be any more offers,' *she said.* 'They went for a bob each way and we are sick and tired of these sorts of attitudes.'*"*

And:

"Former Green Party candidate for Te Tai Hauāuru, Jack McDonald, is gutted with the offer, which covers his own tribal lands. 'It is a slap in the face that this so-called progressive government, which is meant to be taking a new approach to climate change and a new approach to Māori-Crown relations, would actually continue with this approach.'"

Question 13. Do you think iwi engagement reports should be evaluated against a set of reporting requirements? If so, what should permit holders be required to report on in regards to engaging with iwi and hapū?

CJT: Yes, providing those requirements are well founded in respect of cultural, heritage and biodiversity values and with Ti Tiriti. Tangata whenua should have the right to confirm that the text of the engagement report accurately represents the majority view of iwi and hapū.

Question 14. How can the Crown support effective engagement between Māori and permit holders?

CJT: Funding should be set aside at the initiation of any proposal to ensure that tangata whenua are adequately resourced to participate fully in the process.

Question 15. What changes could the Crown make to its processes to provide for more effective engagement with Māori?

CJT: This needs to be comprehensive in formally acknowledging and respecting Māori cultural perspectives and rights under Te Tiriti, not merely paying 'lip-service'. More significance must be given to tangata whenua and affected communities, for sustainability, for democracy, to honor Te Tiriti o Waitangi and to ensure that Aotearoa New Zealand can benefit from indigenous knowledge.

Compliance and enforcement

Question 16. Do you agree that adding each of these three new regulatory powers will achieve the desired outcome of a modern regulatory system? Why/why not?

CJT: The three new regulatory powers that are proposed, including compliance notices, enforceable undertakings and infringement fines are all well and good. However, the Discussion Document does not address one of the 'elephants in the room' in these respects, monitoring. There is no detail on how MBIE and/or auditors from other authorities / agencies actually will oversee monitoring of permit holders to assess levels of compliance.

Our experience in Taranaki, both on- and offshore, is that the industry is not well regulated. Based on review of numerous Council documents, many revealing consent breaches and repeated non-compliances by oil and gas companies, CJT concludes that the current regulatory regime of the industry in NZ, and in particular Taranaki, cannot guarantee robust and objective monitoring, transparent compliance checks or effective response and remediation should incidents occur. Dr. Jan Wright, former Parliamentary Commissioner for the Environment, in her several reports on the industry in 2012-14, also highlighted the lack of coherent management.

As one case in point, Tag Oil illegally flared for 10 months before anything was done by the regulator. There are many such instances, some of which have been near-disastrous. To date in Taranaki, monitoring and enforcement have been lax. Thankfully, spills have been relatively minor and no major incidents have occurred, although this has been more to do with good luck than management oversight and intervention.

The Regulations need to be very clear in the process and resources devoted to monitoring of compliance.

Question 17. Are the proposed offence penalties set at the right levels to deter offending and are they in keeping with the other offence penalties under the CMA and other regulatory regimes?

CJT: The penalties may be appropriate in certain circumstances, not in others, depending on the nature of the non-compliance and level of impact, and in respect of the effects of other relevant legislation. An extreme example from overseas is the Deepwater Horizon exploratory drilling disaster in 2010 in the Gulf of Mexico. That single incident cost 11 lives, caused multi-generational health impacts to humans and biota and many billions of dollars of environmental damage. What penalty does MBIE consider appropriate if such an event was to happen in our territorial waters or EEZ? This is pertinent as OMV have recently been granted all necessary permits under the EEZ-CS Act by EPA in non-notified hearings, and remain hell-bent on exploratory drilling in the Great South Basin and Taranaki. Furthermore, if / when the National Party is returned to government, it may well carry out the threat to reinstate offshore block offers more generally in the EEZ-CS and territorial sea.

Question 18. Do you think there are other changes to the CMA and/or regulations that should be considered in this review to assist in improving and enforcing compliance?

CJT: Provisions of other relevant legislation notwithstanding, CJT has consistently stated (eg. in various hearings under the EEZ Act) that there should be a requirement for a substantial bond and/or rehabilitation insurance. These should be in place to ensure that decommissioning, removal of infrastructure and/or addressing of adverse effects of operations are undertaken adequately and sites are fully remediated. Hence we were pleased to note that in 2017 the EEZ Act was amended to strengthen the regulatory framework for decommissioning, introducing a requirement for decommissioning plans. There is, nonetheless, a major developing issue with abandoned wells and infrastructure, both on- and offshore.

Question 19. Do you agree that adding this offence will achieve the desired outcome of incentivising compliance with section 99F? Why/why not?

CJT: Yes, any enforceable offence provisions should help to incentive compliance, provided there is adequate monitoring. As noted above, self-monitoring by the petroleum and associated industries (eg. 'Landfarming') has been common in Taranaki.

Question 20. Is the proposed offence penalty set at the right level to incentivise compliance and is it in keeping with the other offence penalties under the CMA and other regulatory regimes?

CJT: Yes, depending on the level of the breach, and, as an aside, it is not only the non-provision of information that is at issue. It is also the quality of the information provided to regulators. For example, monitoring reports by some companies have been plagued by failures to provide all required information. Multiple examples reside in reports to Taranaki Regional Council (TRC), in terms of air, soil and water monitoring, examples of the self-regulation and monitoring issue we raised above. TRC themselves are noteworthy for limiting monitoring inspections to occasional site visits, rather than the conduction of detailed quantitative sampling. Such sampling should always follow pilot studies to examine statistical power in respect of spatial and temporal replication.

Question 21. Do you agree with these proposed record keeping requirements? Why? Does it set the right balance between having comprehensive records and costs to industry?

CJT: Yes, other than for petroleum exploration, prospecting and mining, which as stated above, should be prohibited.

Improving petroleum sector regulation

CJT answers to these questions should be understood in context of our consistent opposition to petroleum exploration, prospecting and mining, and the increasing urgency of the need to prohibit these activities, and clean up the mess. With the growing awareness of the twilight nature of the petroleum industry and risks of stranded assets, there will be an increasing number of failed ventures increasing risks of abandonment and significant costs to government, support businesses and workers. The Discussion Document is, in places, labouring under the serious misapprehension that tinkering with regulations will somehow enable petroleum' business-as-usual' to continue for the foreseeable future. This may be a 'hang-over' from the mad 'oil and gas rush' days of the former government, hell-bent on making Aotearoa New Zealand a major exporter of fossil fuels by 2030.

Question 22. Will making decommissioning an obligation in the CMA provide greater accountability, transparency and consistency? Why/Why not?

CJT. Yes, decommissioning should always have been an obligation. As noted above, CJT has consistently warned of the risks from companies abandoning infrastructure, and requested provision of bonds or other forms of guarantee that companies will meet their obligations. This is long overdue and, as the recent Tamarind Taranaki receivership has demonstrated, poses significant economic and environmental risks to the government and people (see e.g. https://www.stuff.co.nz/business/117761955/crown-may-foot-155m-bill-to-decommission-taranaki-oil-field?rm=a

An excerpt from the story by Robin Martin on RadioNZ, reprinted in the Stuff article above:

"The $155 million bill to decommission an oil field off the coast of Taranaki may end up being covered by taxpayers. Tamarind Taranaki, which owns the Tui Field, went into voluntary receivership earlier this month, meaning the government could be responsible for plugging and abandoning its wells. Environmental group Climate Justice Taranaki said it warned regulators about such an eventuality last year. … The Crown is one of those to have lodged a claim. It is already liable for 42 percent of decommissioning costs - estimated in total between $100m and $155m - due to tax and royalty rules. Tamarind specialises in operating oil fields nearing the end of their life. But the Ministry of Business Innovation and Employment said in a statement that if the company was not able to cover the costs of abandoning the field, the entire bill may fall to the Crown. …

Climate Justice Taranaki spokesperson Catherine Cheung said it raised concerns about Tamarind's ability to decommission the field during Environmental Protection Authority consent hearings for the drilling programme. 'At the time of the hearing, we warned 'do they have the financial resources to deal with the decommissioning?' because the application itself gave us no confidence for us to believe that they have the financial [ability] to do it and now they're going.' When Tamarind bought the Tui Field from Australian company AWE in 2016, it avoided checks on its financial and technical ability to decommission the field - a loophole in the Crown Minerals Act that has since been closed.

Ms Cheung said it was essential Tui was wound down in an environment friendly way. 'If they are gone who's going to pay for the decommissioning? And what happens if it is not done properly, so that oil or gas are leaking or a ship runs into the bits of infrastructure under the sea? There's a huge amount of money and liability involved.'

Independent researcher and economic anthropologist Terrence Loomis said tax breaks, subsidies, and the government's willingness to split decommissioning costs had attracted fringe players such as Tamarind to New Zealand. 'There's a risk that companies like this do hit the wall, but it's the sort of situation that the governments over the past decade or more have got us into by providing these incentives.' *Dr Loomis said more companies could end up leaving the government to foot their*

decommissioning bill. 'Each particular situation is different but overall the implication is that having the government, previous governments in particular, having entered into these sort of contracts the situation is a kind of a ticking time bomb.' *MBIE estimated the Crown would have to pay up to $855m for decommissioning oil and gas fields in New Zealand between now and 2046."*

An excerpt from a second story, also initially filed by Robin Martin for RadioNZ and reprinted by Stuff (https://www.stuff.co.nz/national/118840725/creditor-calls-for-government-to-step-in-over-tamarind-taranaki-collapse).

"… A New Plymouth business owed hundreds of thousands of dollars by a failed oil and gas company is calling on the government to force the parent company to sell its remaining New Zealand assets to help repay creditors. Tamarind Taranaki went into receivership just before Christmas after its $300 million offshore drilling campaign at the Tui oil field failed. It owes creditors about $484m. Matt Hareb owns an excavation company which had the contract to transport drilling waste from Tamarind Taranaki's operation. The business, which employs about 10 staff, is owed more than $500,000. Hareb said it would take years for it to recover.

'It was a bit of a kick in the guts. We'd racked up a fair chunk of bills so that's something my company has to deal with now. I think it is pretty disgusting that they would go into a drilling campaign with no actual funding and were hoping on an investment company to give them money after drilling a successful well.' *Hareb Excavating is one of 82 creditors, of which 72 are unsecured, many of them small Taranaki-based firms. The unsecured creditors are owed about $380m, but might receive as little as between 0.7 cents and 4.1 cents in the dollar, according to the liquidators Borrelli Walsh's initial report. The government is owed between $100m and $155m for Tamarind's share of decommissioning costs for the Tui oil field.*

The National Party's energy spokesperson and New Plymouth MP, Jonathan Young … did not fancy creditors chances of getting back their money. 'I think it's going to be pretty tough actually for them…'"

That is a belated admission from Young, as it is fair to say that under previous National Party ministers Steven Joyce and Simon Bridges, along with Young and others, central government acted more as a 'cheer-squad' for the petroleum industry than an independent regulator. The saga of so-called 'secret meetings' between those former ministers (Joyce and Bridges) and senior industry players, after which key amendments to the CMA and EEZ Acts favouring industry and disadvantaging public protest, input and scrutiny to decision-making occurred, are just a couple of examples. The deliberate exclusion of consideration of greenhouse gas emissions on climate change in the EEZ Act was another.

Documents released to the Labour Party in June of 2013 revealed that Government Ministers Joyce and Bridges had met with oil giant Shell and industry lobby group PEPANZ on various occasions in 2012-13, while failing to provide a public record of the discussions. On 4th September 2012: Joyce met with Shell's New Zealand chair Rob Jager and business advisor Chris Kilby as well as David Robinson from PEPANZ. On 14th February 2013: Bridges met with Shell, just two weeks before he took a Cabinet Paper on changes to the CMA to criminalize protest at sea to Cabinet. On 31st March 2013: Bridges announced a crack-down on protesting at sea. On 19th April 2013: Bridges denied having any contact with oil companies over the new law changes. On 31st May 2013: Labour accused Bridges of misleading Parliament. Despite repeated efforts no minutes of the meetings were made available. This is not good or prudent governance, and the metaphor of the 'tail wagging the dog' seems appropriate.

The government and support businesses were effectively a 'patsy' of foreign firms falling into receivership, leaving significant losses and future liabilities, potentially in the billions of dollars, for tax-payers. Not that the present government are completely guiltless in these respects, the extension of OMV's permit in the Great South Basin, and subsequent issuance of permits by EPA for exploratory drilling in a non-notified consent hearing closed to public input and scrutiny, cases in point.

Question 23. Do you agree with the proposed definitions of "decommissioning" and "petroleum infrastructure"? Would they create any inconsistencies within the CMA or difficulties in working with the broader regulatory regime?

CJT: The definitions are appropriate.

However, the term 'good industry practice' is used throughout the Discussion Document, for example with reference to the CMA 33 (1) (b). An example (1 of 23 inclusions of the term) from the Discussion Document is found at parag. 295:

'With the current compliance and enforcement tools in the CMA, failure to decommission would currently allow for the permit holder to be prosecuted for a breach of 'good industry practice', or for a breach of the specific permit condition around decommissioning and for the permit to be revoked.'

CJT has been unable to find any definition of what is meant by 'good industry practice' in the document or Act. Without such a definition, how can the regulator or indeed the permit holder know precisely what is required? CJT therefore questions whether any permit holder has ever been prosecuted, successfully or unsuccessfully, for a breach of 'good industry practice'?

CJT also notes, having attended the recent Environment Court case appeal of Taranaki Energy Watch Inc. (TEW) with South Taranaki District Council in respect of set-back distances and other safety issues, that PEPANZ spokesman Cameron Madgwick struggled under cross examination by TEW barrister Rob Enright to explain or define this concept. CJT submit that the term is vague and open to interpretation and misuse, in a somewhat analogous manner to various interpretations of 'Minor' under the RMA. Given that the 'good industry practice' concept has such a key role in the CMA, and the Discussion Document, a clear definition in each context of use, including for example, requirement for standard operating procedures manuals, would provide greater assurance.

Question 24. Do you support the proposal for permit/licence holders to seek agreement from the Minister of Energy and Resources to cease petroleum production? Why/Why not?

CJT: Yes. There has been insufficient oversight and regulation of the industry both on and offshore, as evidenced by Tamarind Taranaki's receivership (outlined above).

Question 25. Outside of creating an obligation through primary legislation, do you consider there are other robust options available to ensure permit and licence holders meet their obligations in regard to decommissioning?

CJT: At present it is not clear how the proposed changes will address issues of 'sudden' or previously undisclosed bankruptcy by operators? As noted above, CJT has consistently warned about failures by petroleum companies passing liability to government. We have recommended that bonds or other forms of financial insurance must be in place. Dr. Jan Wright, then Parliamentary Commissioner for the Environment, noted that a levy was needed to help ensure operators were responsible.

CJT has also raised concerns in respect of the failure to define 'good industry practice' in respect of a raft of issues in the CMA. As petroleum becomes an increasingly 'stranded asset' and economic

viability of companies, and their social licence, fails, the risks of bankruptcy will increase, and government will presumably continue to carry the decommissioning costs of failed, mostly foreign-owned companies. This is a complex and rapidly evolving situation, compounded by increasing international legal pressure to prosecute the carbon polluters and their enablers. MBIE needs to be aware of all these potential future liabilities and act responsibly to avoid them. The proposed legislative changes may have some use, however, in that some companies may be discouraged from applying for permits in the first place.

Question 26. Do you agree that making plugging and abandonment an obligation in the CMA will provide greater accountability, transparency, clarity, consistency, and coherence? Why/Why not?

CJT: Yes, but see our answer to Q26.

Question 27. Do you agree with the proposed definition of "Plugging and abandonment"? Does it create any inconsistencies within the CMA or difficulties in working with the broader regulatory regime?

CJT: The definition is not adequate. It should be written as:

Plugging and abandonment, in relation to a well, means to seal the well in order to render it permanently inoperative **and impermeable to leakage**.

It is well documented from overseas studies that most wells ultimately leak, a major legacy issue for affected parties. This should not occur, in accord with discharge regulations under the RMA.

The Discussion Document also makes the point (parag. 324) that:

'… It is arguable that P&A would likely be considered as part of general 'good industry practice' even if it weren't explicitly included as a work programme obligation. If a permit holder was prosecuted this matter would likely be decided by the courts.'

There are two issues here. Firstly the uncertainty regarding 'good industry practice' and secondly the likely necessity to seek resolution in the judicial system. Neither are satisfactory.

Question 28. Outside of creating an obligation through the CMA, do you consider there are other robust options available to ensure permit and licence holders meet their obligations in regard to P&A?

CJT: Back in 2013, we wrote the following in a submission to the PCE:

According to a GNS study on geothermal energy (Reyes, 2007), there were 349 abandoned onshore oil and gas wells in NZ at the time, 140 in Taranaki. The study revealed, *"Abandoned wells are plugged. In most cases liners are not installed or are pulled out upon abandonment. Hence cave-ins may occur in some older wells. Permeability is apparently present in most of the wells as indicated by the discharge of water from some wells; however the water level in the wells is unknown."*

The PCE's interim report gave examples of nine wells in Moturoa alone, as having 'significant risk' of hydrocarbon leakages. The report raised the important issues of *"costs and responsibility for closing down the well, cleaning up the well site, and providing for its future safe maintenance".*

In 2014 the PCE stated (p45):

"It is the legal responsibility of the well operator to identify any failure of well integrity and to fix any leaks.[80] In considering an application for a drilling permit, New Zealand Petroleum and Minerals

assesses whether a company has the financial resources to complete the proposed drilling programme. This should include the ability to pay to fix any leaks or problems with the well. However, companies are not required to have any particular amount of public liability insurance for onshore wells, to cover the cost of any clean up needed if the well fails.[81] Nor have councils required oil and gas companies to pay bonds as conditions in consents.[82] The bigger challenge comes once a well has been abandoned. The likelihood of an abandoned well leaking increases with its age. Moreover, there is no guarantee that the company that drilled the now abandoned well will still be operating in New Zealand (see Figure 4.4). Under law, once a well has been abandoned and 'signed off' by the High Hazards Unit and the councils, any leaks from the well become the responsibility of the owner or occupier of the land.[83] But what tends to happen is that the cost of cleaning up contamination from historic economic activities falls on the public, whether it is paid by local government or from the Ministry for the Environment's Contaminated Sites Remediation Fund. The remediation of the contaminated site at Mapua near Nelson and the Tui mine at Te Aroha are expensive examples of this." (https://www.pce.parliament.nz/media/1265/fracking-report-web-may2015.pdf)

The PCE report's fourth recommendation was focused on who pays when something goes wrong. *"In particular, it is not enough to abandon wells and assume they will never leak. In Canada, well operators pay a levy into a fund that is then available for cleaning up any contamination in the future. Such a fund can also be used to pay for monitoring the environment – necessary for detecting contamination. Monitoring is a recurring theme in the report, with New Zealand clearly out of step with international 'best practice'.* ***(Drilling for oil and gas in New Zealand: Environmental oversight and regulation June 2014).***

The PCE report continued (p47):

"However, few groundwater monitoring programmes cover the entire lifetime of well activities. But the older a well is, the more likely it is to leak. And after wells are abandoned and sealed off, there appears to be little if any further monitoring.[86] The only monitoring of abandoned wells appears to be when complaints of possible leakage are received from the public. Some very old abandoned wells in Taranaki are known to leak and the council regularly undertakes visual inspections.[87] The need for monitoring abandoned wells is recognised by the Ministry of Business, Innovation and Employment, but was excluded from consideration in the recent Ministry for the Environment guidelines.[88]"

Furthermore, when discovered, councils have failed to act promptly on regulatory breaches. For example, Tag Oil flared illegally for 10 months back in 2012 (http://www.stuff.co.nz/taranaki-daily-news/7981769/Oil-firm-called-to-explain-illegal-flaring), before later vacating New Zealand. Stratford District Council spokesman, Mike Avery, compared it to the 'bowels of Mordor', a fair comment on where this is taking us.

Question 29. Do you agree that MBIE should have greater visibility over permit and licence holder's financial capabilities? What frequency of assessment do you think is appropriate and what information do you think is necessary to adequately demonstrate financial capability?

CJT: Yes. However, given most operators are not based in Aotearoa New Zealand, it may prove difficult to obtain accurate, up-to-date information. That is why we have consistently argued that the most appropriate way of addressing issues of financial security and liability is with a bond or other form of guarantee re appropriate operational procedures, including P&A. However, given the 'twilight' nature of the industry here, these proposals may well be 'too little too late'.

Question 30. Do you agree with the proposed option? Why/why not? If not, what would you propose to manage the risks identified?

CJT: What assurances and actionable remedies in respect of financial return will MBIE have in the event of sudden, unforeseen company collapses? As a recent case in point, MBIE should consider how any of the proposed options would have addressed the apparently sudden receivership of Tamarind Taranaki. We also note that OMV New Zealand's first exploratory well, drilled offshore Taranaki in December 2019, has failed (https://www.upstreamonline.com/exploration/omvs-new-zealand-wildcat-disappoints/2-1-737060), raising questions over their future financial viability. These concerns relate both to the major costs associated with decommissioning their offshore and onshore infrastructure in the years ahead, and to the increasing likelihood that the parent company, one of the 100 Carbon Majors responsible for most anthropogenic greenhouse gas emissions, (https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/002/327/original/Carbon-Majors-Report-2017.pdf?1499691240), will face prosecution. Also see our answer to Q29.

Question 31. Do you support MBIE having greater ongoing visibility of field development plans in order to maximise the economic recovery from fields, and more actively identify future decommissioning and P&A obligations?

CJT: We advocate for the cessation of petroleum exploration, prospecting and mining and its prohibition in the amended Act. The ultimate costs, financial, environmental and social, far outweigh the perceived short-term financial benefit. We agree that MBIE needs to identify and cost future decommissioning and P&A obligations.

Question 32. Do you agree with the proposal to require permit/licence holders to demonstrate appropriate financial security, using a risk-based approach? What are your concerns with this proposal?

CJT: As noted above, we have consistently advocated for operators to provide financial security. For petroleum, the risks of failures by companies are growing rapidly, as the resource here is exhausted, and as petroleum becomes an increasingly stranded asset and companies begin to face legal liability internationally. The Petroleum Act allows for bonds to be requested.

Question 33. Are there particular types of financial security that MBIE should focus on, or any particular types that MBIE should include or exclude?

CJT: The most secure type of bond or levy is needed before operations commence, and it must be transferable and secure in the event that companies continue to play 'monopoly' both on- and offshore.

Question 34. Has the issue of residual liability for onshore petroleum wells been adequately identified? Are there any issues that have not been covered that you consider are important?

CJT: No. Although the issues may bear more relevance to other legislation, issues of well leakage and contamination of ground water have not been adequately addressed to date.

Question 35. What are your views on how the residual liability for onshore petroleum wells should be managed?

CJT: In the same manner as offshore liability, with up-front bonds or levies in place to cover P&A and land-holder issues.

Technical amendments

Question 36. Does this proposal provide the right balance between the right for parties to be notified, and regulatory efficiency?

CJT: No comment.

Question 37. Are there any other methods of service that we should consider?

CJT: No comment.

Question 38. Are there any unintended effects of this proposal, what are these, and why?

CJT: No comment.

Question 39. Do you agree that the Minister should consider the environmental capability of potential new operators of Tier 1 permits? If so, what is the best option for doing this? Are there any unintended effects of doing so, what are these and why?

CJT: As noted in Question 1 above, an exclusive, short-term, economic focus is not consistent with a holistic approach to future sustainability and well-being. For mining to be effectively managed the environmental capability of a potential operator should be considered within the permitting process. However, it is not clear what is meant by 'environmental capability' or 'meeting environmental requirements'. There are massive gaps in the relevant Acts, notably RMA and EEZ Acts, in respect of the major environmental challenges of our time. There is an urgent need for government, across all relevant Acts, to better assess the environmental impacts of mining, including cumulative effects well beyond the localized footprint.

Assessment of environmental capability should not be left to ministerial discretion. Ministers come and go, have differing views, are not technical experts and are directed by their party policy. The example given above of the dealings between Steven Joyce and Simon Bridges and senior fossil fuel players in 2012-13 should provide a clear warning of the risks of this option. The responsibility presumably should reside with EPA and DoC, agencies with expertise in environmental assessment, with funding from the mining proponents.

Question 40. Do you agree with these proposed technical amendments and why? Do you think there will be any unintended consequences resulting from these proposals?

CJT: In respect of land access arrangements and arbitration thereof, there are cases in Taranaki where land owners have not been made aware of the risks and ultimate liabilities of agreeing to exploration, prospecting or mining (see quoted statements in PCE report above). In some cases, mining company operatives have misled and bullied people into signing permissions. There should be a requirement that land owners are made fully aware of all risks and their future obligations and liabilities by company representatives, in writing, prior to signing. Given the significant health and safety risks and need for considerable setback distances from petroleum operations, if landholders do not wish for companies to enter their land, then that should be the end of it. Arbitration should not be permitted.

Question 41. The Government is interested in your views on how the allocation process for new petroleum exploration permits within onshore Taranaki could be improved to: 1) make acreage within onshore Taranaki accessible via competitive methods 2) allow for more effective engagement with iwi 3) make sure applications are processed efficiently and transparently.

CJT. There should be no allocation of new petroleum exploration permits. Aotearoa New Zealand, and indeed the rest of the world, has no time left in the long-delayed transition off fossil fuels, and now we need, as a matter of the utmost urgency, to stop all forms of fossil fuel exploration and mining on- and offshore. Over the past three decades, a wealth of peer-reviewed science has highlighted the increasing direness of the situation.

Given the three wasted decades since the first IPCC report, the best case scenario that we as a global civilization now have of limiting impacts from dangerous climate change is for planetary heating to be limited to 1.5C above pre-industrial averages. Globally, and in Aotearoa New Zealand, we have already reached 1C above those pre-industrial levels. At 1.5C, heatwaves, firestorms, droughts, super-storms and floods like those of recent years will become increasingly common. But at 1.5C of heating, water and food insecurity is predicted by IPCC to affect only half the people that will be impacted at 2C. Climate refugees may be limited to 'only' 50 million, although ecosystems and the biodiversity they support will continue to degrade and disappear, as the 6th mass extinction in Earth history intensifies (eg. see Sanchez-Bayo and Wyckhuys 2019. Worldwide decline of the entomofauna: A review of its drivers. Biological Conservation 232: 8-27).

As is clearly documented in the IUCN Red List (http://www.iucnredlist.org/) Earth is currently in the initial phase of the 6th mass extinction (which, under continuing 'business as usual' will likely be titled End-Anthropocene), driven to date largely by habitat loss. Predictions for coming decades are that climate change will become an increasingly powerful driver, working synergistically with other extinction mechanisms.

This is not the greatest of best-case scenarios. Yet in order to have any chance of holding warming to 1.5C, net global emissions must be reduced to zero by 2050, **with close to half that reduction taking place over the next decade**. As the International Energy Agency and World Bank have confirmed, there are far more known reserves of fossil fuels (up to 4 times) than can be combusted for us to avoid catastrophic climate disruption. To actually meet the 1.5 C target will require the transformation of every aspect of our economies and societies **in the next few years**. Yet there is no sign of a major reduction in emissions, and the odds of this happening are vanishingly small.

Our nation, and indeed the rest of the world, must rapidly 'decarbonize'. The remaining fossil fuel reserves must be kept in the ground to avoid the worst impacts of global heating. But investment in fossil fuel exploration and extraction remains high, as does government facilitation and perversity in subsidies of various kinds, including the exclusion of assessment of effects of emissions on climate change. Acknowledging this inconvenient truth would require recognition of not just the scale of the problem and its intractability, but also our part in it. Amitav Ghosh has described this failure to grasp reality as "the great derangement". And here in Aotearoa New Zealand, the CMA, along with the EEZ-CS Act, are classic cases in point, in both intent and design. There are many reasons for this derangement. Prominent among them are the decades of very well-funded campaigns of premeditated lies and disinformation by fossil fuel companies and their enablers in politics and the media, working at the behest of vested interests and with costs (euphemistically termed 'externalities') passed to the biosphere and future generations.

The most recent IPCC assessment (https://www.ipcc.ch/sr15/) has warned that more damaging impacts will occur at lower increases in temperature than previously predicted. That is, the more that is learnt about climate change, the riskier it looks. Positive feedbacks and tipping points in the climate system mean we have no time left to deal with this overarching issue.

In any other field, people who knowingly ignored expert scientific advice would be held liable for the death and destruction that flowed from their actions. With growing global recognition that ecocide is a crime against the future of humanity and the biosphere, and with increasing international pressure to have ecocide included on the Rome Statute, those responsible will ultimately be held to account. This is not the time to be tinkering with 'business as usual'. We need rapid transformative change. It is critically important to understand that all the reports cited above are the work of highly respected, independent, science-based organizations and individuals. Given all of the above, it is clear that mining for fossil fuels, and its subsequent use as an energy source, needs to be phased out as a matter of the utmost urgency. To ignore this reality is to abrogate the solemn responsibility given by the public to government for the sustainable management of Aotearoa New Zealand now and for future generations.