



NZ Climate & Health Council

www.orataiao.org.nz

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ETS Review Consultation

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Ministry for the Environment

PO Box 10362

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Submission on “Updating the New Zealand Emissions Trading Scheme: A consultation document”

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1. This submission to ETS review¹ has been prepared by Dr Scott Metcalfe and Liz Springford (General aspects, Conclusion) and Dr Nicholas Jones (reporting of fugitive emissions in mining for liquid hydrocarbons) on behalf of OraTaiao: New Zealand Climate and Health Council.
2. The Council (OraTaiao) is an incorporated society comprising more than 140 senior doctors and other health professionals in New Zealand highly concerned about the impact of climate change on health and health services. Climate change is widely recognised by world health authorities and leading medical journals to be the leading global health threat of the 21st century.²
3. This submission comprises two main parts:
 - A. General commentary on the entire scheme, including our responses to the consultation questions
 - B. Detail on a specific anomaly, unaddressed in the consultation phase, that needs rectifying, viz the non-reporting of fugitive emissions in mining for liquid hydrocarbons.

¹ Ministry for the Environment. Updating the New Zealand Emissions Trading Scheme: A consultation document, April 2012. <http://www.climatechange.govt.nz/consultation/ets/consultation-ets-changes.pdf>

² Costello A, Abbas M, Allen A, et al. Managing the health effects of climate change: Lancet and University College London Institute for Global Health Commission. Lancet 2009,373:1693–1733. [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(09\)60935-1/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)60935-1/fulltext)

Part A: General

4. This submission is not comprehensive, and we reiterate the recommendations made by the Council (OraTaiao) alongside other NGOs during the NGO consultation by the ETS 2011 Review Panel on 7 March 2011, that New Zealand's ETS must:
- provide clearer emissions reduction quantity targets
 - take the price cap off and remove the 2 for 1 rule to let the price signal rise
 - extend coverage to all sectors and remove concessions, particularly for farming
 - let alternative abatement methods blossom
 - place limit on credits bought and sold in the system internationally
 - change from an intensity based allocation to a capped absolute system.

Emerging science

5. By way of context, the most comprehensive assessment of climate change science to date was completed by the Intergovernmental Panel on Climate Change (IPCC) in 2007. This Fourth Assessment Report (AR4) drew the strongest conclusions yet on the high probability that human actions are causing climate change, on the catastrophic consequences of run-away climate change and consequently on the need for action to mitigate, and adapt to, climate change. The scenarios presented in AR4 point to the need for emissions to peak by around 2015³ and be reduced by at least 80% by 2050⁴ if the world is to have a reasonable chance of avoiding 'dangerous climate change'.⁵ Since then, further evidence has been published demonstrating that we are closer to the IPCC's 'worst case' rather than 'best case' scenarios.⁶

An ineffective ETS

6. Although the Government has reconfirmed the objectives of the ETS as being to:
- *help New Zealand to deliver its "fair share" of international action to reduce emissions, including meeting any international obligations*
 - *deliver emission reductions in the most cost-effective manner*
 - *support efforts to maximise the long-term resilience of the New Zealand economy at least cost,*

we consider that New Zealand's ETS does not meet any of these objectives, and the proposed changes to the ETS will make it worse.

A true emissions trading scheme would apply to all gases and sectors, have an overall cap on New Zealand's total gross emissions which reduces over time, auction allocations as a transparent process, and not cap 'market' prices nor give '2 for 1' allocations.

7. The Council (OraTaiao) urges the New Zealand Government to care about the future of New Zealanders and use this term of office to leave a legacy of prosperous low emissions economy, where New Zealand embraces our fair share of emission reductions and gives generous international support to help other nations follow their own low emissions development pathway. 'Doing our bit' might not be a fail-safe strategy, but it's

³ See Table 5.1 of IPCC Assessment Report 4: Synthesis Report. http://www.ipcc.ch/publications_and_data/ar4/syr/en/mains5-4.html

⁴ See Box 13.7 on page 776 of IPCC Assessment Report 4, Working Group 3: Mitigation of Climate Change. Chapter 13: Policies, Instruments and Co-operative Arrangements. <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter13.pdf>

⁵ 'Dangerous climate change' is often used as short-hand for a rise in average global temperature above pre-industrial levels of more than 2°C.

⁶ McMullen CP, Jabbour J. Climate Change Science Compendium 2009. United Nations Environment Programme, Nairobi, EarthPrint, 2009. http://www.unep.org/compendium2009/PDF/Compendium2009_fullreport.pdf

the best hope we have. Certainly, if New Zealand with all our natural resources and renewable energy infrastructure won't choose a prosperous low emissions economic future, we can not expect any other nation to do so.

8. It must be said that New Zealand's ETS is not actually a trading scheme, but rather a heavily taxpayer subsidised scheme with looming fiscal liabilities that encourages large emitters to continue to emit and locks New Zealand into a high emissions economy. The question needs to be asked as to whether New Zealand would be better not to have an ETS at all, and the proposed changes make this question more urgent. The risk is that New Zealanders think that the Government is managing emissions because we have an ETS, but the reality is that the independent UNFCCC review team reported in 2011 (re NZ's 5th National Communication) that we do not have measures in place to meet most of our emissions commitments. The proposed changes to the ETS do not appear to respond to or even acknowledge that UNFCCC review⁷.

Future NZ generations

9. Most New Zealanders alive today and their families will experience the adverse effects of a destabilising climate. The adverse effects are both the direct impacts of more extreme weather events, increasing ocean acidification and rising sea levels, and the indirect impacts of destabilising global security as access to adequate food and water becomes even more difficult for increasing numbers of people. Climate change is often painted by some vested interests as simply an environmental concern to deal with once there is enough wealth (leaving how much is 'enough' undefined). There is considerable research to suggest that climate change is arguably the biggest challenge we all face in securing a hopeful future. Climate change has social policy, health, education, defence, transport, agriculture, energy and environmental dimensions that cannot be ignored.
10. There is a time lag between emissions released into the atmosphere and climate impact. But almost two-thirds of the climate impact of emissions created from today onwards from inadequate ETS controls will be experienced by most New Zealanders living today. A paper by prominent climate scientist Dr James Hanson and others⁸ estimates the time required for 60% of global warming to take place in response to increased emissions to be in the range of 25 to 50 years⁹. When combined with New Zealand life expectancy data¹⁰, this means that some 2.1 million New Zealanders now in their early thirties and younger will experience around two-thirds of the adverse climate effects in their lifetimes, exacerbated by the New Zealand Government choosing not to take steps to adequately reduce New Zealand's emissions, and probably the size of the New Zealand population adversely impacted will include at least all 3.7 million currently aged in their late fifties and younger.

Slow uptake

11. Although new technology may eventually help us respond to the climate challenge, we still have to move now with existing technology as there is usually a lagtime of decades

⁷ United Nations Framework Convention on Climate Change. Report of the in-depth review of the fifth national communication of New Zealand. FCCC/IDR.5/NZL. UNFCCC, 18 February 2011. <http://unfccc.int/resource/docs/2011/idr/nzl05.pdf>.

⁸ Science AAAS, "Earth's Energy Imbalance: Confirmation and Implications", available (after free registration) at www.scienceonline.org/cgi/reprint/1110252v1.pdf p.1

⁹ Alan Marshall, 22 September 2010 <http://www.skepticalscience.com/climate-change-the-40-year-delay-between-cause-and-effect.html>

¹⁰ New Zealand Abridged Life Table, 2009–11 Provisional, using resident births, deaths and mean Estimated Resident Population (2006-base) <http://www.stats.govt.nz/searchresults.aspx?sort=d&q=life%20expectancy&mp=0&sp=0>

for widespread take-up of new technology. Moreover, taking steps to rapidly reduce our emissions creates an environment that encourages the development of that new technology.

12. Yet the ETS is shielding our most important export industry, agriculture, from developing. The farming sector already has the capacity to reduce emissions, and to pretend otherwise is to slow the spread of lower emissions agriculture.
13. Encouraging our agricultural sector to make changes now encourages both innovation and the take-up of that innovation as it emerges.
14. We also have to confront the problem that there are atmospheric limits that are just as real as the other natural challenges our farmers deal with on a daily basis. It is not just about agricultural emissions efficiency¹¹; we will probably have to diversify our farming and overall exports strategy to safeguard our economy's resilience.

NZ's stance

15. The threat of the changing global climate is urgent. The release in March this year of the IPCC's Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)¹² highlights that we are dealing with a crisis that is getting worse with delays like New Zealand's inadequate ETS. New Zealand's stance appears to be in bad faith and ambivalent to or inadequate understanding of physical atmospheric limits.
16. We are concerned that New Zealand's position in international treaty negotiations appears to have, for the most part, weakened efforts to work together to secure a global future – including New Zealand's refusal to draw up a low carbon development plan despite earlier undertakings.^{13 14}
17. On the domestic front, New Zealand's energy strategy now focuses on escalating fossil fuel extraction on land and offshore. Complaining about other nations' use of coal when we are expanding our coal exports seems akin to a dealer in illicit drugs criticising the drug addict for their habit that the dealer supplies – or perhaps worse, as New Zealand also relies heavily on imports from coal-powered industries in those countries. Yet the implications of New Zealand's escalation of emissions through fossil fuel extraction expansion are not even addressed in the ETS changes.
18. Logically given natural limits for atmospheric emissions, the ETS needs to be even stronger on reducing emissions to compensate for each extra tonne we add through our choice to export fossil fuels. Although not counted in a Kyoto-style ledger, emissions generated elsewhere through burning our exported fossil fuels decrease the capacity of our global atmosphere for further emissions.

¹¹ Jevon's efficiency paradox is that more efficiency is not sufficient to reduce emissions – efficiency often encourages greater consumption so that overall caps are needed. A useful analogy is the latest fuel-efficient car which may create more emissions overall with greater use than the old gas guzzler used infrequently.

¹² <http://ipcc-wg2.gov/SREX/>

¹³ Where paragraph 45 of the UNFCCC Cancun Decision states that “[the conference of the Parties] Further decides that developed countries should develop low-carbon development strategies or plans.”

¹⁴ Open letter to Prime Minister on Providing a Low Carbon Development Plan, from concerned business leaders, NGOs and academics, 7 June 2011.

http://www.orataiao.org.nz/file/view/Letter+to+John+Key+on+Low+Carbon+Development+Plan_07June2011_final.pdf

Economic risks and benefits

19. We are concerned the decisions in these ETS changes will lock New Zealand's economy into a high emissions pathway – which is ultimately a dead end in multiple senses. This approach is very reminiscent of both the Think Big projects and farmer subsidies, which ended abruptly and painfully for the rural sector in the mid-1980s. Learning from history can be useful. Many New Zealanders would also agree that if changes can be made via market mechanisms, this is preferable to more direct intervention (for example, car-less days of an earlier time in New Zealand's history). Yet failure to develop the ETS as a real market mechanism to reduce emissions may well force in future the Government to have to act very abruptly and with a heavy hand to reduce New Zealand's emissions fast enough – as well as spawning much white elephant high emissions infrastructure in the meantime.
20. The other even more serious possibility is that the 2011 ETS Review may have been the last opportunity to change the ETS, if the Trans Pacific Partnership free trade agreement proceeds with an investor state clause. An investor state clause gives companies whose countries are free trade agreement partners, the ability to sue governments if any new regulation could impact on that company's ability to make a profit. If for example, a New Zealand state energy asset like Solid Energy is partly sold to a United States based company, that company would be able to sue New Zealand's government if future changes to the ETS appeared to reduce the company's profits.
21. Both the Stern Report¹⁵, and closer to home, Australia's Garnaut review¹⁶, have demonstrated that the economic costs of mitigation (reducing emissions) are far outweighed by the costs of adapting to a global climate that risks destabilising beyond human control.
22. We are also concerned by Hon Tim Groser's media statement (11 May 2012) that 'These proposed changes will enable New Zealand to do its fair share while ensuring that the NZ ETS does not impact unreasonably on business and households. Precisely that, an effectual ETS is supposed to impact on business and households – where its role is to impose significant costs on emissions so that people make the changes necessary to rapidly reduce emissions. Pricing emissions unattractively is the ETS tool. Of course, businesses and households are tempted to lobby to reduce the size of those costs, but what is preferable is that support is provided separately to encourage businesses (including farms) and households to make the investment in low emissions infrastructure – whether that be insulation or equipment to reduce run-off from animal excreta and urine.

OraTaiao's view on the changes proposed for the ETS

23. Hence in response to the first consultation question, '*What do you think of the overall package of amendments the Government is proposing to make to the ETS*' as outlined in the consultation document, the Council (OraTaiao) remains disappointed by the dilution and delays proposed to what is already a relatively ineffectual ETS at substantial taxpayer cost and risk.

¹⁵ Stern N. The economics of climate change: the Stern review. Cambridge: Cambridge University Press, 2007. http://www.hm-treasury.gov.uk/stern_review_report.htm

¹⁶ Garnaut, R. The Garnaut climate change review, final report. Melbourne: Cambridge University Press, 2009. <http://www.garnautreview.org.au/index.htm>

24. We would like to see the '2 for 1' transition and the \$25 cap removed immediately, not subject to yet more delays.
25. At face value, we support more explicit powers to enable auctioning of NZUs within an overall cap. However, that cap should match commitments made on emissions reductions, and they should reduce over time in accordance with emerging climate science and the urgent need to transform New Zealand's high emissions economy to a low emissions economy.
26. Similarly, at face value, we support appropriate quantitative restrictions on the use of international units, but consider these may be better as a legislative amendment for transparency.

Agriculture

27. We firmly **oppose** any powers to delay the entry of emissions from animal livestock and fertiliser use for up to three years if certain criteria are not met, following a review in 2014.
28. Agriculture emissions comprise half New Zealand's gross emissions and the sector is the most important source of export emissions. We cannot afford to continue shielding agriculture from necessary low emissions development.
29. Giving power to a Minister is not transparent and risks intense lobbying from the sector.
30. The criteria are inappropriate – as we consider the agricultural sector is already capable of reducing emissions, and the fact that it is not already moving quickly to do so is deeply concerning for the potential adoption of any subsequent emissions reduction technology.

(We consider there are a number of possibilities for reducing emissions in Agriculture.¹⁷ Immediate action can include diet modification (low methane forage crops, charcoal feed, supplementary maize feed, monensin to improve rumen fermentation); soil carbon sequestration, and nitrogen management through grass pasture and other active land management, nutrient budgeting, no-till crop production, crop rotation, fallow periods, new grasses, improving soil drainage, wintering barns, feed pads and standoff pads; changes in management practices and reduced intensity e.g. lower dairy stocking rates; reduced fertiliser use, nitrification inhibitors for crop growth and N₂O reductions; carbon sequestration through biochar; converting marginal agricultural land back to shrubland and/or forest; measuring and monitoring (use of DNDC). Other potential action can be subjected to accelerated research (e.g. dairy genetic selection (including low methane stock); methane vaccine; biofilters).¹⁸)

¹⁷ Metcalfe S, Woodward A, Macmillan A, Baker M, Howden-Chapman P, et al; New Zealand Climate and Health. Why New Zealand must rapidly halve its greenhouse gas emissions [Special Article]. N Z Med J. 2009 Oct 9;122(1304):72-95. <http://journal.nzma.org.nz/journal/122-1304/3827/>

¹⁸ Bertram G, Terry S. The Carbon Challenge: response, responsibility, and the emissions trading scheme. Sustainability Council of New Zealand, 2008. <http://www.sustainabilitynz.org/docs/thecarbonchallenge.pdf> Agricultural emissions can be cut 13%— at a profit today. Sustainability Council, media statement 2 April 2009. http://www.sustainabilitynz.org/news_item.asp?slD=192

ICF International. Analysis of the potential and costs of greenhouse gas emissions reductions within the New Zealand agricultural sector. Submitted to Ministry of Agriculture and Forestry, 2008.

31. We **oppose** providing a power to extend, if necessary, the fixed price option beyond 2015 and align it with any price ceiling in Australia if we link with the Australian scheme. Transparency has to be an important component in any ETS – ministerial powers subvert this.

Forestry

32. In response to the second set of questions relating to pre-1990 forest owners: *Should the Government adjust the level of compensation to pre-1990 forest landowners in light of the introduction of offsetting?*

If the Government was to adjust the level of compensation, which of the three options for adjusting the second tranche of allocation, as outlined in this document, do you prefer and why?

1. *a full removal of the second tranche of pre-1990 compensation for all eligible landowners*
2. *a reduction of the second tranche of pre-1990 compensation for all eligible landowners*
3. *a removal of the second tranche of pre-1990 compensation only for those landowners who take up offsetting.*

If a reduction of the second tranche is your preferred option (option 3b) what do you consider the most desirable way to do this and why?

We emphasise that the bottom line is carbon absorption, and policies must be designed to do this effectively and efficiently at minimal cost to taxpayers. This may include incentives that are broader than current Kyoto rules to ensure rapid and diverse reforestation in appropriate areas and protection and regeneration of our native forests.

Part B: Reporting of fugitive emissions in mining for liquid hydrocarbons

33. **We consider the current ETS has an anomaly that needs correction, where the ETS apparently treats mining for liquid hydrocarbons differently to mining for natural gas and coal.** In particular liquid fossil fuel provisions do not currently account for greenhouse gas (GHG) emissions arising from upstream production. This may be because most liquid fossil fuels in New Zealand have historically been imported.

34. Mining for gas condensate and oil use similar methods to natural gas mining and can lead to large emissions of greenhouse gases such as CO₂ and methane (CH₄). The 2006 US Green House Gas Inventory estimated that crude oil production operations accounted for 97% of total CH₄ emissions from the petroleum industry in that country¹⁹. Sources include venting, flaring and other fugitive sources associated with exploration, production and downstream processes. Enhanced Oil Recovery (EOR) techniques, used when natural pressure or pumping are no longer sufficient to recover oil from a

Big affordable climate change: Getting there. Green Party Aotearoa NZ, 2009. <http://www.greens.org.nz/node/21593> , http://www.greens.org.nz/sites/default/files/BigAffordableClimateChange_1.pdf

O'Hara P, Freney J, Ulyatt M. Abatement of agricultural non-carbon dioxide greenhouse gas emissions: a study of research requirements. Report prepared for the Ministry of Agriculture and Forestry on behalf of the Convenor, Ministerial Group on Climate Change, the Minister of Agriculture and the Primary Industries Council. Wellington, 2003. <http://www.maf.govt.nz/mafnet/rural-nz/sustainable-resource-use/climate/abatement-of-agricultural-greenhouse-gas-emissions/>

¹⁹ Greenhouse Gas Emissions Reporting From The Petroleum and Natural Gas Industry. Background Technical Support Document. US EPA. Climate Change Division. http://www.epa.gov/climatechange/emissions/downloads10/Subpart-W_TSD.pdf (accessed 10/05/2012)

reservoir, may include injection of CO₂ or natural gas into wells. This in turn may lead to large GHG emissions if these gases are not captured. The Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories (2006) Chapter 4 recognised these sources and defines methods for determining fugitive emissions from crude oil production²⁰.

35. Crude oil and condensate mining is already underway in New Zealand and is expected to dramatically increase. Existing New Zealand oil fields include McKee, Maari-Manaia and Tui oil fields within the Taranaki Basin²¹. In addition Crown Minerals report that many gas fields such as Maui produce a combination of gas, gas condensate and oil and that it is only a matter of time until a large oil field is discovered³.
36. It is unclear whether current mining operations that produce hydrocarbon condensate or oil as well as natural gas are required to report fugitive emissions arising from the production of the condensate and oil.
37. Mining processes that lead to fugitive emission of greenhouse gases are also associated with local and regional air quality pollution. Mitigation measures such as “green well completions” are likely to not only reduce GHG emissions but also prevent the release of volatile organic compounds and other air pollutants that have been associated with drilling operations.^{22,23} By creating an incentive to minimize fugitive GHG emissions the ETS would have an additional benefit in terms of reducing health risk due to air pollution.
38. The current anomaly does not provide a level playing field in terms of hydrocarbon mining and may create an incentive for exploration and mining companies to pursue oil rather than natural gas fields.

Conclusion

39. The OECD has just released its report: ‘OECD Environmental Outlook to 2050: The Consequences of Inaction’²⁴ which warns of the dangers of continuing down the fossil fuels pathway. The irony for New Zealand is that, of any nation, we are probably one of the best able to chart a prosperous low emissions pathway to create hope for our future. If New Zealand can’t do this, who can? We are at a crossroads²⁵ and we are each responsible for the decisions we all make whether as individuals or communities, businesses or local councils, and central government.
40. The review of the ETS could have been a chance to create a real ETS that substantially and quickly reduces New Zealand’s emissions. Sadly the proposed changes make an

²⁰ <http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol2.html> (accessed 9/05/2012)

²¹ Crown Minerals. New Zealand Petroleum Basins. Crown Minerals, Ministry of Economic Development. Wellington. 2010. available at www.crownminerals.govt.nz

²² McKenzie, LM, Witter RZ, Newman LS, Adgate JL. Human health risk assessment of air emissions from development of natural gas resources. *Science of the Total Environment*. 424. 1 May 2012. p 79-87.

²³ Kemball-Cook S, Bar-Ilan A, Grant J, Parker L, Jung J, Santamaria W, Mathews J, Yarwood G. Ozone Impacts of Natural Gas Development in the Haynesville Shale. *Environmental Science and Technology*. Vol 44 (24), 2010. p 9357-9363.

²⁴ http://www.oecd.org/document/11/0,3746,en_2649_37465_49036555_1_1_1_37465,00.html,
<http://www.stuff.co.nz/environment/6584939/OECD-warns-of-huge-greenhouse-gas-rise>

²⁵ Montgomery H. Climate change: the health consequences of inactivity [editorial]. *NZ Med J*. 2009 Oct 9;122(1304):6-8.
<http://journal.nzma.org.nz/journal/122-1304/3817/>

inadequate ETS even worse, which we consider will damage the lives of most New Zealanders alive today and lock our country into a dead end high emissions economy.

41. We are grateful for the opportunity to submit to this review, and would welcome any feedback on both our general and specific (Reporting of fugitive emissions in mining for liquid hydrocarbons) points or other contact with the Government.

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