



20-D-01209

s 9(2)(a)

Dear s 9(2)(a)

Thank you for your email of 30 June 2020 requesting the following under the Official Information Act 1982 (the Act):

Individual written submissions from the following organisations on the 2011 ETS Consultation
(<https://www.mfe.govt.nz/publications/climate-change/ets-review-2011-summary-submissions>)

- Ballance Agri-Nutrients
- Beef + Lamb NZ
- Dairy NZ
- Federated Farmers
- Fertiliser Association NZ
- Fonterra
- Forest & Bird
- Greenpeace NZ
- Horticulture NZ
- Local Government NZ
- NZ Steel
- Transpower

Individual written submissions from the following organisations on the 'Gazetting New Zealand's 2050 Emissions Target Minister's Position Paper'

(<https://www.mfe.govt.nz/publications/rma/gazetting-new-zealands-2050-emissions-target-ministers-position-paper/gazetting-new#:~:text=A%2050%20per%20cent%20reduction%20of%20net%20greenhouse%20gases%20from,can%20plan%20and%20invest%20accordingly.>)

- Beef + Lamb NZ
- Dairy NZ
- Federated Farmers
- Fonterra
- Greenhouse Policy Coalition
- Greenpeace Aotearoa New Zealand Inc
- NZ Steel

The Ministry for the Environment (the Ministry) has identified these documents, as listed in the attached table. Some information within these documents has been withheld under the following sections of the Act:

- 9(2)(a) to protect the privacy of natural persons, including that of deceased natural persons
- 9(2)(b)(ii) to protect information where the making available of the information would likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information

In terms of section 9(1) of the Act, I am satisfied that, in the circumstances, the withholding of this information is not outweighed by other considerations that render it desirable to make the information available in the public interest.

You have the right to seek an investigation and review by the Office of the Ombudsman of my decision to withhold information relating to this request, in accordance with section 28(3) of the Act. The relevant details can be found on their website at: www.ombudsman.parliament.nz.

Please note that, due to the public interest in our work, the Ministry will publish responses to most of our requests for official information on our website [OIA responses page](#) shortly after the response has been sent to you.

If you have any queries about this, please feel free to contact our Executive Relations team.

Yours sincerely



Matthew Cowie
Acting Director, Climate Change

Released under the provision of
the Official Information Act 1982

List of documents

Document no.	Document date	Title & document type	Decisions	OIA sections applied
1	2011	Submission: Ballance Agri-nutrients on 2011 ETS review	Released in part	S 9(2)(b)(ii) 9(2)(a)
2	2011	Submission: Beef + Lamb NZ on 2011 ETS review	Released in full	
3	2011	Submission: Dairy NZ on 2011 ETS review	Released in full	
4	2011	Submission: Federated Farmers on 2011 ETS review	Released in full	
5	2011	Submission: NZ Fertiliser Manufacturers' Research Association Inc on 2011 ETS review	Released in part	S 9(2)(a)
6	2011	Submission: Fonterra on 2011 ETS review	Released in full	
7	2011	Submission: Forest & Bird on 2011 ETS review	Released in full	
8	2011	Submission: Greenpeace NZ on 2011 ETS review	Released in full	
9	2011	Submission: Horticulture NZ on 2011 ETS review	Released in full	
10	2011	Submission: Local Government NZ on 2011 ETS review	Released in full	
11	2011	Submission: NZ Steel on 2011 ETS review	Released in part	S 9(2)(b)(ii)
12	2011	Submission: Transpower on 2011 ETS review	Released in full	
13	2011	Submission: Beef + Lamb NZ on Gazetting New	Released in full	

		Zealand's 2050 Emissions Target Minister's Position Paper		
14	2011	Submission: Dairy NZ on Gazetting New Zealand's 2050 Emissions Target Minister's Position Paper	Released in full	S 9(2)(a)
15	2011	Submission: Federated Farmers on Gazetting New Zealand's 2050 Emissions Target Minister's Position Paper	Released in full	
16	2011	Submission: Fonterra on Gazetting New Zealand's 2050 Emissions Target Minister's Position Paper	Released in full	
17	2011	Submission: Greenhouse Policy Coalition on Gazetting New Zealand's 2050 Emissions Target Minister's Position Paper	Released in full	
18	2011	Submission: Greenpeace NZ on Gazetting New Zealand's 2050 Emissions Target Minister's Position Paper	Released in full	
19	2011	Submission: NZ Steel on Gazetting New Zealand's 2050 Emissions Target Minister's Position Paper	Released in full	

Submission Form

This form should be read in conjunction with the *ETS Review 2011: Issues statement and call for written submissions* (the Issues statement).

This form contains fields to allow you to directly enter your answers to all of the Panel's consultation questions that you wish to answer. The fields will expand as you type. If you wish to submit data and other supporting information please send these as separate attachments to this form and clearly label them with your name.

The use of this form is optional. However, if you do use it, it will enable the Panel to more quickly and easily analyse the issues raised in your submission.

Please email your completed submission to **etsreview2011@climatechange.govt.nz**.

Submissions must be received by 5.00pm Wednesday 6 April 2011

Things to consider when making your submission

Request for evidence-based submissions

As far as possible, the Panel intends to base its conclusions and recommendations on the evidence available to it. Please provide evidence, analysis or data to support the points made in your submission. The Panel is likely to attach more weight to those submissions which have provided evidence than those which have not.

Publication of submissions

The Ministry for the Environment may publish all or parts of any written submission on the Government's climate change website at <http://www.climatechange.govt.nz>. We will consider you to have consented to such publishing by making a submission, unless you clearly specify otherwise in your submission.

Requests for official information

The content of submissions is subject to the Official Information Act 1982. Copies of submissions sent to us will normally be released in response to an Official Information Act request from a member of the public.

If you object to the release of any information contained in your submission, please clearly state this in your submission, including which part(s) you consider should be withheld, together with the reason(s) for withholding the information. We will take into account all such objections when responding to requests for copies of, and information on, submissions to this document.

Privacy

If you do not wish your name and any identifying details in your submission to be recorded in the summary of submissions or released in response to a request, please clearly state this in your submission. At your request, we will make your submission anonymous in the summary of submissions and remove your name from the list of submitters before they are published on the ETS Review 2011 website. However, please note that the Ministry for the Environment will not be able to withhold any information if doing so would contravene the requirements of the Official Information Act.

Submitter details

Title: Mr (Please type the appropriate title(s))

My/our full name(s): Nigel Sadlier

Name of organisation/company (if relevant): Ballance Agri-Nutrients Limited

Email: s 9(2)(a)

Postal address: Private Bag 12-503, Tauranga Mail Centre, Tauranga

Postcode: 3143

Physical address: Hewletts Road, Mount Maunganui

Postcode:

Work phone: (s 9(2)(a))

Home phone:

Mobile phone: s 9(2)(a)

Work fax: s 9(2)(a)

Home fax:

Before answering the Consultation questions on the next page please take a moment to answer the questions below.

Publishing your name and details

	Yes	No
Do you agree to your name (and your organisation's name) and contact details being included in the summary of submissions?	X	☐

Comment

Do you agree to your name (and your organisation's name) being included in the list of submitters on the website?	X	☐
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Comment

Do you agree to your name (and your organisation's name) and contact details being released in response to an official request?	X	☐
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Comment

Please withhold e-mail address and phone numbers

Panel meetings with stakeholders

The Panel intends to meet with a selection of stakeholders after the deadline for written submissions. However, given the number of submissions, it is unlikely the Panel will be able to meet with all submitters. Please indicate below if you would like meet with the Panel if possible and which date would be most suitable.

	Yes	No
Do you wish to meet with the Review Panel in Wellington?	X	☐

Ballance's CEO Larry Bilodeau and Head of Research & Environment Warwick Catto will attend with a focus on Agricultural Mitigations

Which of these three dates would suit you best – 13, 15 or 20 April? **20 April**

The Panel will notify directly those stakeholders it determines are most appropriate to meet.

Submitter name: Ballance Agri-Nutrients Limited

Released under the Official Information Act 1982

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Consultation Questions

Q1 Do you agree/disagree with the Panel's assessment of the current impact of the ETS? If not, why not?

s 9(2)(b)(ii)

[Redacted]

Q2 What impacts of the ETS have you experienced to date?

In your response we would be interested in:

- a. financial impacts you have experienced and how you have managed these (eg, passed them on to consumers)
- b. how significant the impact of the ETS has been relative to other changes, such as GST increase, consumer demand changes and oil price increases
- c. whether the ETS has yet influenced your investment decisions (eg, on low-carbon technologies, and land development)
- d. whether the ETS has yet influenced your operating decisions (eg, input sourcing, supply chain, choice of energy supply)
- e. other impacts of the ETS (eg, social, environmental).

Response:

s 9(2)(b)(ii)

[Redacted]

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[Redacted]

Submitter name: Ballance Agri-Nutrients Limited

- s 9(2)(b)(ii) [REDACTED]
- As Ballance-Kapuni manufactured urea is a trade exposed commodity in competition with imports, it is not possible to recover these costs through increased pricing.

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- | [REDACTED]
- | [REDACTED]
- | [REDACTED]

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Additional Comments

- The impact of the ETS is significantly greater than the GST rise as GST only impacts cash flow and does not impact on the profitability of the company.
- While other costs are variable and may be significant, the ETS definitively adds a further significant cost to business.
- Ballance is factoring in ETS costs on its assessment of projects and commercial agreements.
- Within Ballance the ETS has added impetus to already existing energy efficiency activities with resultant emissions reduction benefits.

Q3 What are your views on the administrative efficiency of the ETS?

In your response we would be interested in comments on:

- a. compliance costs associated with the ETS (including brokerage fees)
- b. complexities of ETS reporting requirements (such as accounting methodologies)
- c. penalties for breaching ETS obligations
- d. the organisation of this administration across government, including the role of the Environmental Protection Authority.

Response:

- a) Compliance costs are significant:
 - Substantive resources (internal and external advisory) were required in relation to the establishment of urea manufacture as an eligible industrial activity.
 - On-going compliance costs are approximately one FTE senior staff member, part of which is assigned to on-going policy tracking and development.
 - Project resources for internal greenhouse gas and ETS reporting system improvements are additional to this.
- b) ETS reporting requirements are well defined and appropriate.

Submitter name: Ballance Agri-Nutrients Limited

- c) Penalties are excessive for what is a self-assessment based system where there is a significant learning curve for both government officials and ETS affected parties.
- d) We commend The Ministry for the Environment for its efficient management of the industrial allocation process.

Q4 In your opinion, are the modelling results in paragraph 62 of the Issues statement (page 21) likely to reflect the actual macroeconomic impacts of the ETS? If not, in your opinion, how will the ETS affect New Zealand in overall economic terms?

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Q5 Do you agree/disagree with the Panel's assessment of the impact of the ETS after 2012? If not, why not?

Response:

Ballance fully agrees with the Panel's assessment that the impact of the ETS is likely to be more significant in the post-2012 period than in the period up to 2012, as cost controls are to be removed and international benchmark prices are expected to increase.

Q6 What impacts do you expect to experience after 2012 (given the current design settings of the ETS)?

In your response we would be interested in:

- a. how impacts will change once the transitional phase ends
- b. whether any significant business risks are created by uncertain carbon prices, and if so, how these risks could be mitigated
- c. any competitiveness risks and therefore risks of carbon leakage
- d. any business opportunities and benefits that may arise
- e. how you expect abatement technologies to develop by 2015 and beyond
- f. comparison between carbon prices and abatement costs
- g. how you expect the ETS to affect New Zealand socially and environmentally in the long term.

Response:

a) The post 2012 impact on Ballance is:

- A doubling of the exposure to carbon pricing through the removal of the 1 unit for 2tCO₂e surrender ratio.
- Exposure to potentially higher and volatile carbon prices with the removal of the fixed price option.
- For urea manufacturing the level of assistance is reduced as allocation phase out commences.
- From 2015, Ballance, as an importer and manufacturer of nitrogen fertilisers, has unit surrender obligations associated with agriculture sector N₂O emissions (c. 800,000 tCO₂e per annum with a free allocation covering 90% of this).

- b) Uncertain carbon prices are a significant challenge to Ballance. As an end user of energy, the carbon price and a premium for uncertainty will be factored into energy supply prices.
- The on-going uncertain international agreement status and fragmented introduction of emissions trading is likely to maintain or increase carbon price uncertainty. As carbon is a Euro denominated and dominated market, exchange rate variation adds additional uncertainty.
 - While Ballance is already exposed to uncertainty in other price inputs such as oil/gas prices and exchange rates, these are typically common to alternative supply routes or there is a mature hedging option. The ETS is distinct from these as it is not a cost borne by international or domestic (for urea manufacture step) competitors, nor is it a mature enough market to get certainty through financial instruments.
 - The existing fixed price option sets an upper benchmark as to what those additional ETS costs should be and provides business certainty for budgeting and business planning.
 - Ballance strongly recommends that the fixed price option should be retained post 2012 to mitigate upper bound price uncertainty.
- c) Increased ETS costs on the manufacture of urea that are not borne on imports will undermine continued investment (for upgrading or maintenance capital) at the Kapuni site. As significant capital expenditure is normally assessed on a 10+ year NPV basis, uncertainty in carbon price, ETS policy design and the resultant cost structure of the business may undermine investment decisions.
- d) As stated in our response to Q2, the ETS has added impetus to energy efficiency activities with resultant emissions reduction benefits. This increased level of focus is likely to yield some energy cost savings but are very unlikely to offset the impost of the ETS on the business.
- e) Ballance is proactive in seeking out emissions reduction solutions:
- In urea manufacturing Ballance continually seeks out incremental improvements through process control, catalyst selection and other means. There are however no abatement technologies on the horizon that would materially reduce greenhouse gas emissions from urea manufacture.
 - In the application of nitrogen fertilisers, Ballance has been pro-active in developing nitrogen inhibitor technologies; however there remains uncertainty regarding the quantification of benefits and whether these benefits will be recognised by the IPCC. Ballance is working with the Ministry for Agriculture and Forestry (MAF) and other agriculture sector parties on these matters. Certainty is not expected until well beyond 2015.
 - In the interim, a commercial driver/incentive is required to incentivise the ongoing development and investment by commercial entities in nitrogen inhibitor mitigation technologies. Commercial certainty (revenue streams) will drive uptake at a farm level as business begins to price mitigation technologies accordingly within the market-place.
 - By way of example, such commercial drivers/incentives may include Government co-investment with commercial entities in the Agriculture R&D Space, and/or availability of a pool of NZU's in a manner that enables ongoing development of mitigations by business.
 - The benefits of incentivising Agriculture Sector mitigations to enable farm-level uptake include reduction of the agricultural impact on the NZ GHG inventory. Furthermore, indirect benefits arise such as improved water quality outcomes, and nutrient use efficiency gains on farm.
 - An absence of Government provision of commercial incentives to business for mitigation technologies leads to the potential for perverse environmental (water quality) and economic (efficiency) outcomes.

- f) The carbon price is increasingly unrelated to the true least cost of abatement.
- A core principle of emissions trading is the facilitation of least cost abatement i.e. the carbon price will reflect the lowest cost mitigation option, with an upward price curve as the “low hanging fruit” options are used up.
 - Instead the international carbon market is increasingly driven by the dominant EU ETS with decisions on Kyoto unit eligibility and volume restrictions, allocation, scheme cap and most recently floor prices in the case of the UK, affecting future carbon prices.
 - A mismatch in unit eligibility rules between those for countries to meet international agreements and those for domestic ETS participants further exaggerates the price differential between true least cost of abatement and ETS prices.
- g) The ETS is already benefiting New Zealand environmentally, however unilateral reduction of emissions does not have a long term benefit – global action is required. Socially, imposing costs on New Zealand which are not matched by trade competitors risks placing New Zealanders at a standard of living disadvantage.

Q7 As forestry is New Zealand’s largest source of carbon credits and has a significant influence on emissions reduction in New Zealand, do you think the ETS provides enough incentive for forestry investments? If not, why not.

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Q8 Do you agree with the Panel’s assessment of the impacts of the ETS on Māori? If not, why not?

-

Q9 In your opinion, what impacts of the ETS have Māori experienced to date?

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Q10 In your opinion, how will the ETS affect Māori in the longer term?

-

Q11 Do the scenarios in table 4.1 in the Issues statement (page 28) capture the most likely outcomes for the international framework after 2012? If you answered no, what other scenario(s) do you suggest the Panel should consider?

Response:

Yes, however based on reports from New Zealand officials, European Commission representatives and recent analysis in Australia¹ it is clear that Scenario 3 is very likely in the short to medium term.

Q12 How might the objective(s) of the ETS change under each of these scenarios? In particular:

- a. what do the different scenarios imply about the costs New Zealand should be imposing on its economy through the ETS in the short term?

¹ MFAT, EC’s Jill Duggan, Australia – Professor Garnaut.

- b. what considerations should influence how the costs of any international obligation New Zealand faces should be shared between different sectors of the economy such as the split between emitters and taxpayers and the relative abilities of different sectors to reduce emissions?
- c. what is the role of the ETS in preparing New Zealand for the international obligations and other drivers for action it may face in the long term?
- d. should the ETS design be changed in order to strengthen the incentives for domestic abatement? If so, how?
- e. how important is continuing access to international carbon markets?
- f. how do you see domestic and international carbon markets developing beyond 2012?

Response:

- a) New Zealand as a nation only has a direct cost if it has a “responsibility target” in place. As a principle Ballance believes that any costs imposed through a NZ ETS should be commensurate with NZ’s responsibility target and no greater. The Government has set preconditions for accepting a future responsibility target, including:
- comparable efforts by developed countries;
 - actions by advanced and major emitting developing countries fully commensurate with their respective capabilities;
 - effective rules governing land use, land-use change, and forestry (LULUCF);
 - full recourse to a broad and efficient international carbon market.

There is no sign of these conditions being met in the short term and it is probable that no new responsibility target will be agreed to for some time. Ballance recommends that the ETS be continued in its current “transition phase” form pending progress on international negotiations with all preconditions being met.

- b) In respect of sectoral inclusion, ability to reduce emissions is an important parameter. This is reflected in the Government’s preconditions for a responsibility target where the specific challenges of agricultural emissions are recognised.² If the responsibility target takes account of sectoral challenges, then it is appropriate that the ETS for that sector should reflect this as well.
- c) The ETS has provided an important architecture for emissions reduction in New Zealand. The moderate price signals have already produced recognisable benefits in the electricity generation and forestry sectors. On the international stage, Ballance recognises that New Zealand has been seen to take credible action.
- d) In respect of agricultural emissions, complementary measures are warranted to increase the rate of uptake of on-farm mitigation [refer response to Q6 e)]
- e) Continuing access to the international markets is only important when international unit prices reflect a lower cost of abatement than that which can be achieved within New Zealand.
- f) The future of the carbon markets are highly uncertain:
- The current Kyoto market is in doubt in the absence of a second commitment period.

² “New Zealand has low mitigation potential, especially in relation to agriculture” para 60
<http://www.mfe.govt.nz/issues/climate/emissions-target-2020/cab-paper-2020.html>.

Submitter name: Ballance Agri-Nutrients Limited

- It is notable that (in part) because of market uncertainty, Australia's Professor Garnaut³ and Gillard led government⁴ are advocating an extended fixed price period to July 2015 at the earliest (later if conditions for variable pricing are not met) for their domestic policy.

Q13 Under what conditions should the ETS scale up to a full obligation? In particular:

- a. Should the fixed price option of \$25 continue beyond the current transition phase (ie, after 2012)?**
- b. Should the one-for-two obligation continue beyond the current transition phase?**

Response:

- a) Ballance recommends that both the fixed price option and one-for-two obligation be continued beyond 2012.
- b) It is clear that since the amended ETS was legislated in early December 2008, progress on both an international agreement and other nations' domestic action (e.g. Australia, USA) has slowed markedly.
- c) For urea manufacture the Kapuni plant production meets less than one half of New Zealand's demand for urea. Remaining demand is met through imports sourced primarily from the Middle East, Far East and China. Introduction of carbon-pricing on industry in these countries is still some way off.
- d) The Australian Framework for a Carbon Price Mechanism provides useful criteria for the transition from a fixed price to variable price cap and trade scheme – refer Box 1:

Box 1: AUSTRALIA MULTI-PARTY CLIMATE CHANGE COMMITTEE - CARBON PRICE MECHANISM

In making a decision about whether to exercise the option to defer the transition to a cap-and-trade emissions trading scheme, the following issues could be considered:

- the state of the international carbon market including the availability, integrity and price of international units;
- developments in carbon pricing in key competitor economies, including carbon price forms and levels;
- Australia's internationally agreed targets and progress towards meeting them, including whether they have been incorporated into a binding legal agreement;
- the fiscal implications of any on-budget purchases of internationally accepted emissions units that may be required for Australia to comply with any internationally agreed emissions target;
- potential impacts on the Australian economy including impacts on households, workers, regions and communities, and the competitiveness of Australian industry; and
- the implications for investment certainty in clean technologies, energy efficiency and carbon markets.

³ Garnaut Climate Change Review Update 2011, paper 6 - Carbon Pricing and Reducing Australia's Emissions.

⁴ Australia Multi-Party Climate Change Committee - Carbon Price Mechanism

<http://www.climatechange.gov.au/government/initiatives/~media/publications/mpccc/mpccc-carbon-price-mechanism.pdf>

Q14 To what extent, if any, should abatement options be relevant in determining the extent of a sector's participation in the ETS?

Response:

- a) Ballance believes the availability of abatement options should be a pre-condition for a sectors participation in the ETS.
- b) Furthermore these abatement options must be internationally recognised and reflected in the National Inventory.
- c) For agricultural emissions in general and specifically those emissions from nitrogen fertilisers, these preconditions are not yet met.

Q15 Under what conditions should new sectors enter the scheme and incur surrender obligations?

Response:

- a) Ballance believes the following conditions are appropriate:
 - Measurement, reporting and verification (MRV) methodologies should be available, relate to actual emissions as opposed to a proxy, be internationally recognised, and have a level of accuracy commensurate with a price based policy.
 - Abatement options should be available on a widespread basis, suitably incentivised, and not just available for use in a narrow range of conditions.
 - The abatement options must be internationally recognised and reflected in the National Inventory.
 - The surrender obligation should lie where mitigation technology uptake is applied.
- b) In the case of the agricultural sector and specifically nitrogen fertilisers, these conditions have not yet been met and without change there is no likelihood of them being met by the current surrender obligation start date of 2015.
- c) Ballance is working proactively on these matters but in light of the current level of progress Ballance strongly recommends that the surrender obligation for agriculture be deferred.

Q16 Should allocation of NZUs continue as planned under current design settings after 2012?

In your response we would be particularly interested in:

- a. the effectiveness of allocation in reducing competitiveness risks
- b. the impact of allocation on incentives to reduce emissions
- c. whether the allocation thresholds should be amended
- d. whether the process to determine allocative baselines should be changed
- e. whether the allocation of units to small and medium sized enterprises (SMEs) is the most administratively efficient way for protecting impacted sectors either for SMEs or government.

Response:

- a) Allocation is an effective mechanism to reduce competitiveness risks, however it is important that the level of allocation and any phase out be appropriately set.
 - The existing level of assistance of 90% already leaves the urea manufacturing operation facing significant additional costs (refer response to Q2).
 - In the absence of significant progress on international agreements and adoption of carbon pricing by industry competitors, Ballance recommends that any phase out of allocation be deferred.

- b) The incentive to reduce emissions remains regardless of whether an allocation is granted, as should emissions be reduced the same opportunity cost of that abatement remains.
- c) The tiered allocation thresholds were adopted (with an adjustment for exchange rate) from the proposed Australian Carbon Pollution Reduction Scheme (Au CPRS). Default activity definitions were also adopted. For urea manufacture the New Zealand industry structure differed from that in Australia leading to the development of an integrated ammonia-urea activity definition. Ballance recommends that future legislation focuses on what is appropriate for New Zealand and not rely on precedents from Australia where industry characteristics differ.
- d) The process to determine allocative baselines was pragmatic and appropriate. It should be retained.
- e) -

Q17 Should the ETS cover synthetic greenhouse gases (SGG) from 2013, as currently legislated?

- a. if no, what other policy tools or what combination of policy tools should be used to encourage reduction in SGG emissions?
- b. if yes, are there supporting measures or amendments to the ETS that could support implementation and reduce administrative and compliance costs?
- c. if the ETS should be amended to cover only some SGG-using sectors: which ones, why, and what policies should be developed for the others?

In your response we would be interested in

- d. estimated impacts of the ETS coverage of SGGs (such as compliance costs for direct participants, on rates of gas recovery and recycling or destruction, and on management of leakage)
- e. arguments for or against alternative policy tools
- f. estimated impacts, including behavioural impacts in terms of incentives to reduce emissions, of alternative policy tools.

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Q18 Are there are any other issues, in particular any related to the matters set out in section 160(5) of the Act as summarised in Chapter 1, you think the Panel should consider? If so, please provide details of your view on them.

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SUBMISSION TO

The Emissions Trading Review Panel

on

***Emissions trading scheme review
2011 – issues statement***

Beef + Lamb New Zealand Ltd
Meat Industry Association of New Zealand
Deer Industry New Zealand

6 April 2011

Introduction

- 0.1 Beef + Lamb New Zealand Ltd, Meat Industry Association of New Zealand Incorporated and Deer Industry New Zealand (together, and hereafter 'The Parties') welcome the opportunity to make a submission to the Emissions Trading Scheme Review Panel (The Panel) in response to the document *Emissions trading scheme review 2011 – issues statement* (henceforth 'the Statement').
- 0.2 Beef + Lamb New Zealand Ltd (B+LNZ) is an industry-good body funded under the Commodity Levies Act through a levy paid by producers on all cattle and sheep slaughtered in New Zealand. B+LNZ's activities aim to increase preference for New Zealand beef and sheep meat internationally and domestically; to maintain and extend trade access for New Zealand red meat; and to fund research and development to help improve the profitability of New Zealand farmers.
- 0.3 B+LNZ represents the 12,880 New Zealand sheep and beef farmers responsible for approximately \$5.9 billion in export receipts for 2010.
- 0.4 B+LNZ continues to be actively engaged in climate change and other environmental issues that affect the pastoral production sector.
- 0.5 The Meat Industry Association of New Zealand Incorporated (MIA) is a voluntary trade association representing New Zealand meat processors, marketers and exporters. It is an Incorporated Society (owned by members) that represents companies supplying virtually all of New Zealand sheepmeat exports and all beef exports, consigning 15 percent of our nation's exports by value (26 percent of New Zealand's primary sector export revenue). The New Zealand meat industry earned \$5.9 billion in export revenue in the year ended September 2010.
- 0.6 Deer Industry New Zealand (DINZ) is an industry-good body representing the interests of approximately 3,000 farmers with deer and processors and exporters of venison and associated deer derived products valued at approximately \$300 million per annum. DINZ is responsible for promoting and assisting the development of the New Zealand deer industry. DINZ has a worldwide co-ordination role through research and promotion of quality products derived from deer - especially venison, velvet and co-products.
- 0.7 Sheep, beef and deer producers (hereafter 'Red Meat' producers) have reduced their absolute GHG emissions by 14% from 1990 to 2008 through productivity gains. This corresponds to a reduction of 3.12 million tonnes of carbon equivalent per year while total meat and

fibre production has increased 15% over the same period. These gains translate into a 1.4% per year gain in average emissions efficiency over this period. These gains have resulted in the equivalent of \$414 million worth of Kyoto credits (at \$25 per tonne) for the Crown.

- 0.8 In previous submissions to government, the Parties have stated that they accept a market based approach as New Zealand's most appropriate policy for management of greenhouse gas emissions. The Parties are not opposed to the implementation of an ETS, provided it does not place the New Zealand economy at risk by undermining the competitiveness of New Zealand industries competing globally.
- 0.9 The Parties believe though that the introduction of a price on agricultural emissions while no international competitor is contemplating such a price and there are few tools to reduce emissions, places the competitiveness of the New Zealand agricultural sector at risk.
- 0.10 The Parties submit that, given the importance of the impending introduction of agriculture into the ETS to the sector overall, the complexity of the emissions trading legislation and the need to consult with a wide membership, allowing for a consultation period of under four weeks is unacceptable.
- 0.11 Contacts for this submission are:

Ben O'Brien Beef + Lamb New Zealand Ltd P O Box 121 Wellington Phone: 04 4740839 Email: ben.obrien@beeflambnz.com	Dan Coup Meat Industry Association P O Box 345 Wellington Phone 04 495 8374 Email: dan.coup@mia.co.nz	Innes Moffat Deer Industry New Zealand PO Box 10702 Wellington Phone 04 4716111 Email: innes.moffat@deernz.org
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- 0.12 The Parties would be pleased to discuss any aspect of this submission with the Panel.

Q1: Do you agree/disagree with the Panel's assessment of the current impact of the ETS? If not, why not?

1. Current impact of the ETS

Current financial impacts of the ETS on sheep and beef farmers

- 1.1 The Parties are concerned that the full impacts of the proposed introduction of the ETS as presented, have not been adequately assessed or presented by the Ministries for the Environment or Agriculture and Forestry.
- 1.2 The Parties note with concern that the current financial impact of the ETS on the average sheep and beef farm has been calculated as \$1200 per annum.
- 1.3 Our analysis suggests that this figure seriously underestimates the total financial impact on farms and we are disappointed that this figure has not previously been discussed with The Parties or accompanied with any supporting information. Our analysis suggests an average sheep beef and deer farm impact in the region of \$2,000. Without any supporting information, it is difficult to understand the basis for the error in the document's cost estimate, but it may be that the figure includes only on-farm energy usage and emissions costs, and not the costs that will be passed-on by agricultural product processors. These additional processing costs are currently estimated by MIA at about \$12.5 million per annum for all meat processing, or equivalent to about \$970 per farm.
- 1.4 We are also concerned to see that the farm cost has been presented in the context of total farm operating costs, rather than being appropriately framed relative to business profits. Whilst this presentation might serve to minimise the perceived magnitude of the impost, in reality 'impact' can only usefully be assessed in relation to farm surpluses, so to this extent, this section of the Statement does not address 'impact' at all.

2. Experience of ETS to date

Q2: What impacts of the ETS have you experienced to date?

In your response we would be interested in:

a. financial impacts you have experienced and how you have managed these (eg, passed them on to consumers)

- 2.1 As described above, The Parties estimate of this is in the region of \$2,000 for the average farm, which represents 3% of the annual, pre-

tax profit¹ of the average sheep, beef and deer farm and will contribute significantly to on-farm inflation, which has risen by 41% in the ten years to 2010².

- 2.2 When considering the impact of the cost impost, it is important to bear in mind that there is no such thing as an average farm. Half of all farms will have a lower profit performance than the average. We note that the cost impost is equivalent to 100% or more of the farm profit of the bottom 23% of farms or approximately 2,950 farmers³ (see Figure 1).
- 2.3 Accordingly, it is likely that ETS liabilities will represent the 'straw that broke the camel's back' for a number of farmers who have been unable to retain their businesses over the last 9 months.

b. how significant the impact of the ETS has been relative to other changes, such as GST increase, consumer demand changes and oil price increases

- 2.4 Recent spikes in commodity prices have acted to mitigate the full impacts of the ETS on sheep and beef farmers to date. However, current increases in export revenues can be expected to be transitory, whereas increased input costs brought about by the ETS will be present indefinitely and will present a serious challenge to farm profitability in 'lean' future years.
- 2.5 Regarding the ability to pass-on additional charges to consumers; sheep, beef and deer farmers are largely price takers rather than price setters, reliant upon global commodity prices. For this reason, there is virtually no opportunity to pass-on any incremental increase in operating costs to consumers overseas, particularly when global competitors are not subject to the same regulatory burden, but rather, are recipients of numerous government subsidies – New Zealand already has the least 'supported' agriculture industry in the world⁴.

c. whether the ETS has yet influenced your investment decisions (eg, on low-carbon technologies, and land development)

d. whether the ETS has yet influenced your operating decisions (eg, input sourcing, supply chain, choice of energy supply)

- 2.6 The Parties understand that many farmers are being encouraged to invest in forestry as a means of offsetting ETS liabilities. We are not

¹ \$64,200 before tax – average annual profit for average sheep and beef farm– 2000 – 2010 decade average. Beef + Lamb New Zealand Economic Service.

² Movements in Sheep and Beef Farm Input Prices 2009 to 2010. Meat & Wool New Zealand Paper No. P10025

³ 2008-09 Sheep and Beef Farm Survey New Zealand. *Percentage Distribution of Farm Profit Before Tax per Farm*. Beef + Lamb Economic Service – Latest year for which full data is available.

⁴ See, for example; Dimaranan, Hertel and Keeney, *OECD Domestic Support and the Developing Countries*, 2003 or OECD Producer Support Estimates database.

aware, however, of data suggesting that afforestation rates amongst Red Meat farmers have yet accelerated.

- 2.7 The Parties have no knowledge of sector members taking other investment decisions as a result of the ETS.

Other impacts of the ETS currently experienced in the Red Meat sector

e. other impacts of the ETS (eg, social, environmental).

- 2.8 *Uncertainty* – what the future holds for Red Meat farmers vis-à-vis emissions trading appears far from certain. Failure to reach binding international agreements, uncertain future carbon prices, speculation in the media that agriculture may not be included in 2015 and even the ETS Review processes itself all contribute to the uncertainty that is the cause of significant farmer anxiety and acts to constrain investment decision making.
- 2.9 *Confusion* – by any standards the ETS is complicated. Leaving aside the science of climate change, which appears contentious to laymen, the ETS contains many definitions, concepts and processes that are impenetrable to the majority of non-specialists. The public, including farmers, are becoming dislocated from the legislation that will directly affect them. This issue seriously compounds the problem of uncertainty described above, further contributing to anxiety associated with the ETS.
- 2.10 *Reduced confidence* – among those farmers who do have a basic understanding of ETS and its implications (and also among those who do not), the ETS is almost universally regarded as a bad thing. Sheep and beef farmers accurately perceive that the ETS, as currently prescribed in legislation and regulation, will seriously threaten the viability of their entire industry. The effect of this has been to exacerbate longstanding lack of confidence in the industry with concomitant ramifications for business development and investment.
- 2.11 *Lack of Equity* – Red meat sector participants are also keenly aware that they alone out of the primary production industries have been steadily reducing their emissions. Sheepmeat production has remained relatively stable since 1990 but this has been accompanied by a 21% reduction in emissions. Combined with the beef industry the sector has reduced emissions 17% since 1990. Sheep and beef farmers rightly perceive that under the current legislation, none of this reduction in emissions has been taken into account. In effect, the sheep and beef sector has been responsible for a \$400 million⁵

⁵ At \$25 per tonne CO₂

reduction in the Government's liability under the Kyoto agreement and has received not a cent or any consideration from Government.

- 2.12 *Frustration* – Red Meat sector participants' near-universally pessimistic view of the effect of the ETS on their sector is compounded by the expectation that their sacrifice will not deliver any clear benefits for the economy, New Zealand's society or the global environment. The lack of support from any significant political direction has helped engender a sense of disillusionment with the Government and the political process.

3. Administrative efficiency

Q3: What are your views on the administrative efficiency of the ETS?

In your response we would be interested in comments on:

a. compliance costs associated with the ETS (including brokerage fees)

- 3.1 As farmers and meat processors are not participants in the scheme at present, compliance costs have been low to date.
- 3.2 By far the most significant resource demand has been associated with the process to apply for recognition of Rendering⁶ as an activity eligible for industrial allocations. This process required the investment of several hundred person-days for data collection and preparation by MIA members along with capital investment in measurement equipment on some sites.
- 3.3 Ongoing processes to establish Emissions Unit Registry holding accounts and apply for industrial allocations are expected to require a small annual resource input.

b. complexities of ETS reporting requirements (such as accounting methodologies)

- 3.4 Current legislation requires reporting of agricultural emissions from 1 January 2012. Current regulated requirements for this reporting have been described by one member as "farcical in their simplicity".
- 3.5 The regulated approach for reporting 'agricultural emissions' for meat farming involves meat processors recording and reporting their tallies of stock killed, by class, and also total kilos of carcass weight processed. This data is already publicly available on an aggregate basis, and known by government on an individual processor basis.
- 3.6 The parties believe that far too much weight has been given to the consideration of 'reporting simplicity' in the design of the ETS in respect

⁶ "Production of Protein Meal" – the cooking and processing of meat processing by-products.

of agriculture, and this simplicity has been delivered at the expense of any ability to actually influence on-farm behaviours.

- 3.7 In particular, the persistent choice of a processor-level point of obligation for agricultural emissions so over-simplifies the accounting of agricultural emissions that there will be no possibilities for farmers to mitigate their ETS liabilities other than to get out of the agriculture business.

c. penalties for breaching ETS obligations

- 3.8 No view.

d. the organisation of this administration across government, including the role of the Environmental Protection Authority.

- 3.9 No view.

4. Impact modelling accuracy

Q4: In your opinion, are the modelling results in paragraph 62 (page 21) likely to reflect the actual macroeconomic impacts of the ETS? If not, in your opinion, how will the ETS affect New Zealand in overall economic terms?

- 4.1 The Parties have no particular basis to dispute the Computed General Equilibrium (CGE) modelling work undertaken by NZIER and Infometrics but note that such modelling is massively dependent on the assumptions fed into the model. The workings of such models and the assumptions applied are generally somewhat opaque.
- 4.2 It is unclear, for instance, whether the modelling work takes account of, not just an expected average price of carbon units (\$25, \$50 scenarios described) but also the inevitable variability and volatility around that expected (mean or median?) price. It is also questionable whether the \$25 and \$50 dollar price scenarios presented realistically represent the possible range of carbon prices that the New Zealand economy could be exposed to if prices were linked to international markets.
- 4.3 The Parties' key criticism of the modelling work presented is that it considers only a 15 year period of New Zealand's economy. It is the strong view of the Parties that any economic consideration of current climate change policy should consider the full lifecycle of the forestry that is being incentivised today.
- 4.4 One of the most concerning aspects of current climate change policy (and the commercial sector's response) is a seemingly deliberately myopic perspective of the gains available from 'carbon farming'. As

the Panel is aware, when forests are harvested, the credits earned through carbon sequestration need to be repaid. Assessing the economic impact of current policy must therefore include the full lifecycle of the large increase in aforestation that is likely to be encouraged by the ETS in its current form. In accounting terms, assessment of the 'Present Value' of current policy should include the large negative terminal value of carbon in forests between 25 and 30 years from now. The 15 year assessment presented in paragraph 62 does not achieve this.

- 4.5 Inclusion of the 'terminal value' of forests in 25-30 years' time requires assessments of both the carbon price at that time and also the price of logs. It is not unreasonable to expect that, if the world becomes more 'carbon constrained', the price of carbon credits will be higher than it is today, and if aforestation becomes a common policy response, then the price of logs will be lower than it is today. This combination would clearly create a massive liability for New Zealand. Economists will likely shy away from forecasting prices over such a period of time, given the uncertainties. It is astonishing to the Parties that government should be providing short-term incentives for land owners to ignore the uncertainties and plant anyway.

5. Panel's assessment of post-2012 impact

Q5: Do you agree/disagree with the Panel's assessment of the impact of the ETS after 2012? If not, why not?

- 5.1 The Parties do not agree that the very brief summary of post-2012 impacts described in the Statement adequately explore the economic, social and environmental impacts of the currently legislated ETS. Some of those areas that we consider should be given greater consideration are described under Question 6, below.

6. Expected impact of the ETS after 2012

Q6: What impacts do you expect to experience after 2012 (given the current design settings of the ETS)?

In your response we would be interested in:

- a. how impacts will change once the transitional phase ends**

Expected financial impacts of the ETS on sheep and beef farmers

- 6.1 The Parties reiterate earlier concerns that the estimate of future costs (paragraph 63) is presented in the context of operating costs, rather than being appropriately framed in the context of farm profit.

- 6.2 The initial impact, cited as \$5,500 for the average sheep and beef farm represents a staggering 8.6%⁷ of the annual before tax profit, rising to \$8,000 or over 12.5% by 2020. The magnitude of these impacts on farm profitability is unsustainable.
- 6.3 The Statement does not provide an estimate of cost for deer farms. On the assumption that farms would be levied according to the biological function of the animal, and deer are farmed in a similar manner to sheep and cattle, the average per farm cost would be the same at \$5,500 in 2015 at \$25/tonne. According to MAF⁸, from 2008 to 2010, the average pre-tax profit of a typical New Zealand deer farm was NZ\$65,665 p.a. The immediate cost of the ETS to deer farms at introduction will be 8% of gross income. At \$50/tonne it would be 17% of gross income. Clearly, no business could withstand this sort of cost where no benefit accrues to the business owner.
- 6.4 Once again, this analysis does not take into account the fact that, although useful as a concept, the 'average farm' in reality does not exist. The average farm profit, by definition, incorporates the many farm businesses operating with substantially lower margins than average. Given that the relationship between the financial burden of the ETS as proposed and farm profits is not linear (for a wide variety of operating reasons) then it can be expected that the burden of the ETS will be especially severe on less profitable farmers.
- 6.5 The Parties submit that it would be conservative to suggest that the impact of the ETS as presented will critically endanger farm businesses making an annual, before tax profit under \$20,000. This represents over 4,100⁹ (32%) of sheep and beef farmers that it can be predicted will not be operating within 5 years of the entry of agriculture to the ETS as planned.

⁷ \$64,200 before tax – average annual profit for average sheep and beef farm– 2000 – 2010 decade average. Beef + Lamb New Zealand Economic Service.

⁸ MAF Farm Monitoring Reports, 2008, 2009, 2010 Deer Farm Reports

⁹ 2008-09 Sheep and Beef Farm Survey New Zealand. *Percentage Distribution of Farm Profit Before Tax per Farm*. Beef + Lamb Economic Service – Latest year for which full data is available.

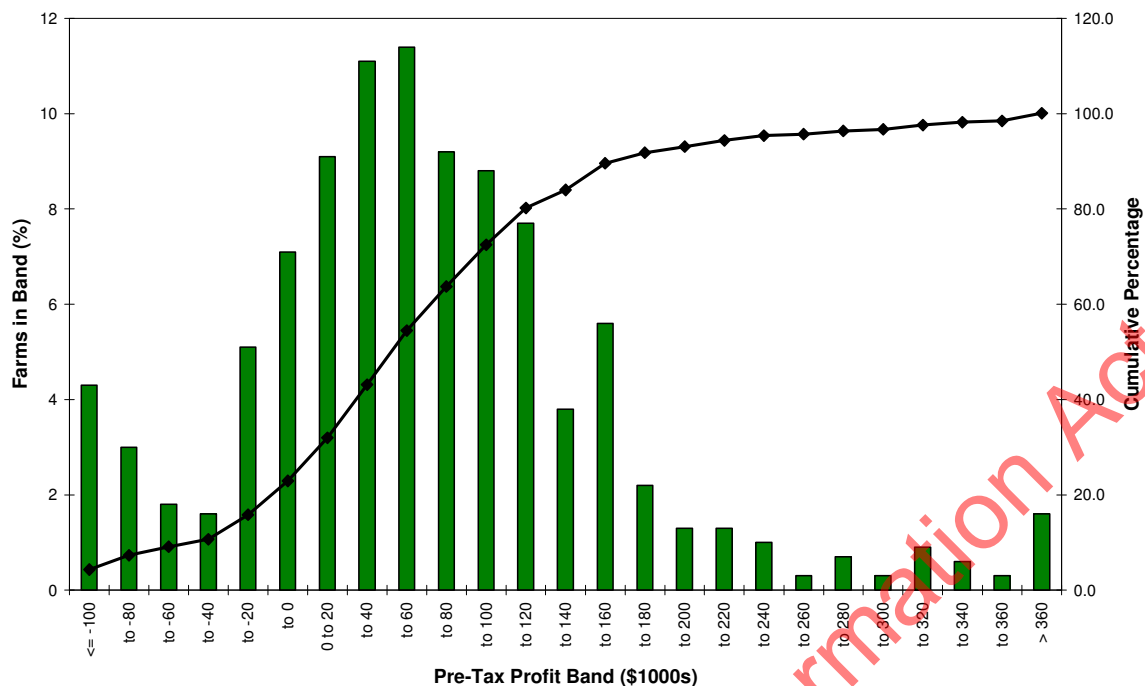


Figure 1. Percentage distribution of sheep and beef farm profit before tax per farm (2008 – 2009). Beef + Lamb Economic Service.

- 6.6 The Parties would also suggest that the medium to long-term impact on marginally more profitable farm businesses will be to reduce on-farm investment and purchasing of immediate 'non essentials' such as fertilisers. Over time, this is likely to promote a self-perpetuating downward spiral of declining productivity and margins eventually leading to business failures.
- 6.7 Declines in farmer and livestock populations can be expected to act upon the whole industry value chain and services, reducing opportunities for synergies and benefits associated with the 'economies of scale' that are currently available to the Red Meat sector, thereby reducing overall profitability still further.
- 6.8 The Parties would note that farm businesses with narrow margins will have limited ability to invest (either collectively or individually) in the development and implementation of emissions mitigation technologies.

Anticipated Impacts of the ETS on rural communities

- 6.9 The Parties note the Statement's paragraph 67 projecting an increase in afforestation to 30,000 hectares per annum by 2020. A significant proportion of this new forest land must be anticipated to be converted from pastoral use – most likely Red Meat farming. The Parties question whether the Statement gives proper consideration of

such significant land conversion on rural economies, employment and communities.

- 6.10 Red Meat farming works in tandem with the Red Meat processing sector which employs about 25,000 people, mostly in rural communities.
- 6.11 Red Meat farming and Red Meat processing sustain a wide range of rural support industries, for example, rural veterinarians, stock and station agents, hauliers and agricultural contractors. Collectively, these industries in turn support the continuance of rural schools, post offices, shops and other amenities. Essentially, livestock farming is the backbone of the rural economy and is essential for vibrant rural communities across the length and breadth of New Zealand.
- 6.12 Forestry is a very low-input land use, with labour only required, and economic activity generated, essentially on three occasions over a 25-30 year period – planting, pruning and harvesting. Aforestation unquestionably reduces rural employment and economic activity.
- 6.13 Aside from economic activity that sustains the community, livestock production also plays a very important role in maintaining bonds within the community and promoting cohesiveness that comes from the widespread social interactions that occur throughout the sector. These include community events such as markets and A&P shows.
- 6.14 The Parties conclude that the ETS, as currently prescribed, will through its impact on farm profitability and incentives for conversion to forestry, reduce rural employment and do significant and irreversible damage to rural communities in New Zealand.

b. whether any significant business risks are created by uncertain carbon prices, and if so, how these risks could be mitigated

Impacts of the ETS on the New Zealand Economy

- 6.15 The predicted impacts on Red Meat farming described above will, as modelled, have direct impacts on the domestic economy, leading to a decline in GDP and a reduction in associated taxation received by the Crown. It can also be expected that the impacts on economic activity in rural areas, where alternative sources of income and employment are unlikely to exist, will precipitate increased demand on welfare and other support programs directly financed by central government.

- 6.16 More significantly, the negative impact on Red Meat farming is likely to lead to a large reduction in animal product export receipts, valued at \$6.2 billions for the beef, sheepmeat and venison sector in 2010¹⁰.
- 6.17 From a national cash-flow perspective, those foreign exchange earnings will not be replaced by the forestry that is planted over pastoral land. At best, forestry will produce foreign exchange in 25-30 years, but if harvest is not possible because owners cannot afford to repay carbon credits, or purchase of those repayment credits is offshore, then there is effectively no revenue generated for the country from that forestry.

c. any competitiveness risks and therefore risks of carbon leakage

- 6.18 As previously noted, Paragraph 67 of the Statement sets out that by 2020, 30,000 hectares of forestry will be being planted each year. Such a forestation rates can only possibly be achieved by conversion of significant areas of pasture. All conversion of pasture to forestry equates to Red Meat production that will not take place in New Zealand.
- 6.19 Loss of Red Meat production in New Zealand does have an effect on global prices for red meat. New Zealand represents a very significant [~30%] of globally traded sheepmeat and [~7%] of globally traded beef, and changes in production levels here do influence global prices.
- 6.20 Increased global prices will have combination of two separate effects:
- Some consumers will not be able to afford products and will not eat what they would have, all other things being equal;
 - Other red meat producers who are not facing carbon costs will respond to higher global prices and increase production.
- 6.21 Reducing Red Meat production in New Zealand (and to a greater extent in other countries if New Zealand's ETS is to be seen as an example for others) has the effect of reducing global food security, and creating leakage of production to non-carbon costed countries – in a combination that is very difficult to predict.
- 6.22 It is feasible to envisage more meat being imported into New Zealand derived from countries that have not included agriculture into their own GHG schemes, and is therefore cheaper than New Zealand products.

¹⁰ \$5.9 billion for beef and sheepmeat and \$300 millions from deer products. Beef and Lamb Economic Service and Statistics New Zealand.

6.23 Increased production of Red Meat in overseas countries that have not applied carbon costs to agriculture is likely to be undertaken at greater emissions intensity than what can be achieved in New Zealand leading to a net increase in global GHG emissions.

6.24 Recent life cycle assessments ('carbon footprints') recently undertaken for lamb¹¹ exported to Europe and beef¹² to North America show that production in New Zealand is among the most carbon efficient in the world, even when transport is taken into account.

Impacts arising from driving beef and lamb production overseas

6.25 In addition to this 'carbon leakage', and the societal and economic damage to New Zealand described above, other negative impacts can be expected to flow from shifts in production to competitors overseas. These include:

- *Biodiversity*: by encouraging monoculture of exotic *Pinus radiata* at the expense of Red Meat farming, the inclusion of agriculture in the New Zealand ETS may lead to further deforestation and concomitant loss of biodiversity in market competitors such as Brazil.
- *Water availability*: Unlike many of our competitors, New Zealand Red Meat producers do not rely on large quantities of reticulated water in order to be sustainable. Further, the water that is used for Red Meat production in New Zealand comes at a comparatively low opportunity cost, when compared with other exporting nations including Australia. Shifting production overseas will exacerbate existing resource constraints and environmental problems that exist in these countries.
- *Animal welfare*: In a recent European study New Zealand was ranked second only to Switzerland and equivalent to the EU for its animal welfare legislative and regulatory framework¹³. It can be expected that animals reared overseas to make up for shortfalls in supply brought about by reduced production in New Zealand would experience lower standards of welfare than those enjoyed by our stock.

¹¹ A Greenhouse Gas Footprint Study for Exported New Zealand Lamb – AgResearch (2010). Report prepared for the Meat Industry Association, Balance Agri-Nutrients, Landcorp and the Ministry of Agriculture and Forestry.

¹² Beef Greenhouse Gas Footprint – Final Report – AgResearch (2010, publication pending). Report prepared for the Meat Industry Association, Balance Agri-Nutrients, Landcorp and the Ministry of Agriculture and Forestry.

¹³ Overview of animal welfare standards and initiatives in selected EU and third countries, Schmid O, Kilchsperger R, 2010 http://www.econwelfare.eu/publications/EconWelfareD1.2Report_update_Nov2010.pdf

Competitive disadvantage within the agriculture sector

- 6.26 The Parties wish to highlight to the Panel, major concerns with the ETS agriculture regulations, which set out how emissions should be accounted in the agriculture sector. Our major concern is that those regulations relate to a processor-level point of obligation, which requires the same emissions liability to be applied to all stock killed (on a per-head and per kilogram basis) and all milk collected, regardless of any abatement activities undertaken by farmers¹⁴. These concerns are expanded in the 'Abatement' section, below.
- 6.27 A secondary, but still very significant concern is that officials have determined those average liabilities to be applied to all livestock and milk in a way that will make the Red Meat sector liable for emissions that arise on dairy farms and will result in a significant wealth transfer from the Red Meat sector to the dairy sector.
- 6.28 The wealth transfer arises primarily because the regulated 'emissions factors' apply the emissions created through a cow or ewe's pregnancy and lactation to its offspring. Because the Red Meat sector rears calves that originate on dairy farms, the rearer of the calf effectively assumes the responsibility for emissions from the dairy cow. The cost of the assumed responsibility will not be able to be passed back to the dairy farmer because the price of calves is already low and dairy farmers are given alternative, zero liability disposal options under the regulations. The Parties can provide further detail to the Panel on request.
- 6.29 Current ETS arrangements therefore create not only a competitive disadvantage for the agriculture sector as a whole, but a secondary competitive disadvantage for the Red Meat sector relative to the dairy sector.

d. any business opportunities and benefits that may arise

- 6.30 The Parties submit that the ETS offers no business opportunities or benefits for the Red Meat sector. Some key customers and some consumers do care about climate change and the sector is responding to those demands. It is important to stress, however, that this interest in climate change and emissions does not translate into an understanding or interest in emissions trading schemes. Rather, consumer interest is directed towards more conceptually straightforward footprinting and 'food miles' issues that have no perceived linkages to emissions trading schemes.

¹⁴ We note that further regulations prescribing 'Unique Emissions Factors' are envisaged in legislation, but have not been developed.

6.31 The Parties would note that the poor performance of cap and trade systems in overseas jurisdictions and questions about their integrity have discredited the entire concept among many consumers.

6.32 The industries would like to bring to the attention of the Panel that market experience and analysis indicates that New Zealand's 'clean green' image, as it applies to red meat products primarily encompasses the belief that our animals and products:

- are reared extensively on pasture.
- have a very low incidence of livestock diseases.
- have a very low prevalence of zoonotic food safety pathogens.
- are reared with comparatively low amounts of agricultural chemicals.
- are reared in an environment where GM is tightly regulated
- meet the highest standards of animal welfare.
- have been shown through LCA to have comparatively small carbon footprints.

This is supported by findings from a recent survey¹⁵ of consumer preferences for lamb in premium markets, which found that climate change ranked 7th out of 8 key purchase influences related to product quality.

6.33 One possible response by agricultural producers to the costs imposed by an ETS is to intensify production. More intensive production can, arguably reduce the emissions intensity of produce and it can also deliver greater cash flows making ETS costs more affordable. The ETS therefore has the potential to drive the intensification of New Zealand's farming practices.

Abatement

e. how you expect abatement technologies to develop by 2015 and beyond

f. comparison between carbon prices and abatement costs

6.34 A review¹⁶ of current progress on mitigation research and applications indicates that there are currently no practical and cost effective interventions sheep and beef farmers can introduce to materially limit emissions of nitrous oxide or methane attributable to their stock.

6.35 The Parties support ongoing investment into GHG abatement technologies delivered through participation in the Pastoral Greenhouse Gas Research Consortium (PGgRC). We also strongly support New Zealand's continued leadership of the Global Research Alliance and welcome the recent establishment of the Agricultural

¹⁵ Fact Pack: United Kingdom Lamb Consumption and Attitudes. February 2010. Meat & Wool New Zealand (Confidential)

¹⁶ Pastoral Greenhouse Gas Research Consortium Annual Report 2010

Greenhouse Gas Research Centre. Collectively, these initiatives represent a very substantial contribution to the global effort to respond to anthropogenic effects on climate.

- 6.36 The Parties submit that the availability of practical and cost effective abatement technologies should be one of a series of conditions (see below) that are required to be met before agriculture is brought into the New Zealand ETS.
- 6.37 Further, this and other conditions must be specified in legislation to mitigate the fear and uncertainty that is currently having such a detrimental impact (described above) on those involved in the Red Meat sector in New Zealand.
- 6.38 Under the ETS currently prescribed under legislation and regulations, farmers are not rewarded for reducing on-farm emissions. The point of obligation is at the point of slaughter and emissions are assessed purely on a per-head and per kilo of carcass weight basis. This system of accounting emissions liability cannot possibly drive mitigation of emissions in agricultural systems – it is simply a disincentive for agriculture.
- 6.39 The current approach gives no consideration to the speed with which an animal grows or any other on-farm mitigation measures that could be undertaken to abate agricultural emissions.
- 6.40 Even if abatement technology becomes available, (e.g. through changing the rumen function to reduce methane emissions), there is no incentive for the adoption and application of this as the producer cannot be rewarded under the current arrangement.
- 6.41 It is the strong view of the Parties that alternative and more sophisticated design is required to drive abatement of agricultural emissions. Any alternatives must include assessment of individual farmer behaviours and could include targeted incentives for development or trialling of new abatement technologies.
- 6.42 Without per-farm obligation, the only measure farmers have to reduce their emissions is to increase the kilograms of meat produced per animal. Steady improvements have been achieved by the livestock industries in this regard, with productivity improvements (as previously mentioned) averaging 1.4% per annum for the sheepmeat sector. However, these genetic gains may near exhaustion and newer technologies are needed to maintain this pace. Improvements in productivity will result in marginally lower GHG emissions per unit of livestock production. The practical answer is to increase intensification of production to rapidly get animals heavier. Feedlots, indoor

wintering and growth promotants will become options farmers will need to consider to obtain heavier carcass weights. From a market point of view – this change to New Zealand's free-range pastoral system poses a greater threat to New Zealand's reputation than does the exclusion of agriculture from the ETS.

6.43 Encouragement of heavier animals may also act as a disincentive to multiple births in sheep farming – a key driver of both productivity and emissions intensity reduction.

6.44 The Parties strongly recommend that the ETS Agriculture Regulations be deleted. The Parties have substantial concerns with the emissions accounting methodology applied to create those regulations and do not consider that an averaging approach should be a component of an agricultural ETS under any circumstances.

7. Forestry and the ETS

Q7: As forestry is New Zealand's largest source of carbon credits and has a significant influence on emissions reduction in New Zealand, do you think the ETS provides enough incentive for forestry investments? If not, why not?

7.1 We note that this question is 'loaded' insofar as it encourages discussion of why incentives might be considered insufficient but not of why they may be considered excessive.

7.2 The Parties believe that the ETS creates excessive and unhealthy incentives for afforestation of pastoral land. The incentives that the ETS creates for forestry need to be considered alongside the disincentives created for pastoral farming.

7.3 We have set out, under Question 6, our view that substitution of livestock for forestry will have substantial negative social and economic impacts, particularly on rural employment, communities and economies, and the effect on global food availability.

7.4 We would add here that we believe, from a national strategic perspective, that policies encouraging substitution of pastoral farming with forestry create an economic and fiscal time bomb for the country. Forestry proponents are actively promoting the revenues available to landowners from 'carbon farming' while downplaying the fact that those revenues are effectively drawings on a loan that must be repaid if trees are ever felled – by harvest or by accident.

7.5 'Carbon farming' in effect places a mortgage on land. If, at maturity, the mortgage is unable to be repaid, because the money has been spent, or the price of carbon credits has risen, then the land must be

effectively written-off New Zealand's balance sheet. From an individual's or company's perspective, this may still seem a rational option – particularly if owners don't expect to be alive in 28-30 years time. But from the perspective of government – which should take a long-term strategic view, living on the drawings from a mortgaged asset for the next 30 years cannot be a defensible policy.

- 7.6 The Parties believe that Government has not done enough to dispel the commonly held misconception that 'carbon farming' represents a 'free lunch' of additional revenue flows for no cost or risk.
- 7.7 We believe that the short-term incentivisation of forestry with inadequate description and quantification of the risks and future costs of carbon farming is inappropriate and detrimental to New Zealand's long-term well-being.
- 7.8 The Parties would note that there are entirely justifiable non-climate-change related reasons for tree planting, including particularly for erosion control. There are properties and regions in New Zealand that would benefit from greater planting for such purposes. We note, however, that required planting – such as willow or poplar in at-risk gullies – would not generally be eligible for any recognition under the current ETS rules. We suggest that to encourage such planting, more efficient and effective policy tools should be deployed than the ETS.

8. Panel's assessment of impact on Māori

Q8: Do you agree with the Panel's assessment of the impacts of the ETS on Māori? If not, why not?

- 8.1 The Parties agree with the Panel's assessment that Māori will be particularly severely impacted by the ETS.

9. Experience of Māori to date

Q9: In your opinion, what impacts of the ETS have Māori experienced to date?

- 9.1 The impacts of the ETS to date can be expected to have been disproportionately heavy on Māori compared with non-Māori New Zealanders for the reasons described in the Statement and as set out in the answer to question 10, below.
- 9.2 In particular, the high proportion of Māori assets that are made up of primary industry indicates that a disproportionate share of the impacts described in section 2 (above), for example an extra \$2,000 per sheep and beef farm under the ETS, will have fallen on Māori.

- 9.3 In addition, constraints on decision making arising from governance of jointly held land can be expected to exacerbate problems in the sector arising from uncertainty and its impact on investment decision making.

10. Long term affect on Māori

Q10: In your opinion, how will the ETS affect Māori in the longer term?

- 10.1 Māori represent a substantial proportion of the B+LNZ levy payers, owning approximately 10 – 15% of New Zealand's sheep and beef cattle. Māori are also heavily represented in employment in Red Meat processing.
- 10.2 Analysis suggests that Māori trusts, incorporations and landholdings tend to be over-represented among farm businesses at an early stage of development of the most efficient management practices and, hence, will be particularly hard hit by the impacts of the ETS.
- 10.3 For many Māori sheep and beef farms, sale of land is not culturally and / or legally feasible, leading to an inability to secure borrowing secured by land assets and a relatively heavy reliance on cash-flow for sustainability, when compared with the rest of the sector. This makes the impact on profitability arising from the ETS additionally severe for these businesses that rely on strong cash-flows to cover both operating costs and to fund the required land development.
- 10.4 The effect of the ETS on farm cash flows is expected to heavily reduce Māori farm owners' ability to achieve the full development potential of land that, in many cases has only recently been returned to their ownership and control.
- 10.5 We have described, under Question 6, the likely impact of the ETS in hollowing-out rural employment and communities. Strong Māori involvement in rural employment, including Red Meat processing will mean that rural employment losses will impact Māori more severely.

11. Future scenarios

Q11: Do the scenarios in table 4.1 (page 28) capture the most likely outcomes for the international framework after 2012? If not, what other scenario(s) do you suggest the Panel should consider?

- 11.1 The parties' view is that, while the scenarios outlined in table 4.1 may properly describe high-level international framework outcomes, they do not give any consideration to more detailed aspects of

international frameworks – particularly accounting rules – that may have very significant impacts New Zealand's policy approach.

- 11.2 We note that, even within the current, Kyoto protocol negotiating framework, the rules for accounting of national greenhouse gas inventories were in a constant state of negotiation and development. New Zealand has active negotiating agendas relating to the applied Rules for Agriculture and Land Use, Land Use Change and Forestry (LULUCF).
- 11.3 We note that there are active discussions within IPCC¹⁷ fora regarding, for instance:
- alternatives to the GWP¹⁸ approach for creating accounting equivalence between CO₂ and short-lived GHGs such as methane
 - the appropriateness of current estimates of forest albedo¹⁹ and the effect of albedo on the overall cooling effect of forests.
- 11.4 Subtle changes to Rules, such as might result from the discussions mentioned above, could fundamentally alter the shape of New Zealand's international liabilities and therefore the most appropriate domestic policy approach.

12. Impact of global framework scenarios

Q12: How might the objective(s) of the ETS change under each of these scenarios? In particular:

a. what do the different scenarios imply about the costs New Zealand should be imposing on its economy through the ETS in the short term?

- 12.1 The high level scenarios, alongside the more detailed accounting rule issues discussed under Question 11, above, describe a global context for emissions mitigation policy that is highly uncertain.
- 12.2 The Parties submit that, within such an uncertain international framework, it is reasonable and prudent to implement policies or work programmes aimed at mitigation of emissions by each sector of the economy. It is not prudent, however, to implement policy that rebalances the economy by favouring one sector over another.
- 12.3 The Parties submit that there are substantial risks in setting policies that would fundamentally re-engineer New Zealand's economy by redirecting resources from pastoral food production to forestry, on the basis of accounting rules that are immature, imprecise and almost certain to change from current settings.

¹⁷ Intergovernmental Panel on Climate Change – Scientific advisory body for climate change science.

¹⁸ Global Warming Potential – factoring approach used to convert all greenhouse gases into CO₂-equivalents.

¹⁹ Albedo is the reflective power of any given surface – in this context, referring to the relative levels of solar energy that are reflected or absorbed by different ground coverings.

b. what considerations should influence how the costs of any international obligation New Zealand faces should be shared between different sectors of the economy such as the split between emitters and taxpayers and the relative abilities of different sectors to reduce emissions?

12.4 The view of the Parties is that New Zealand should only be making emissions reduction commitments in international agreements that New Zealand can realistically achieve within its own economy. On this basis New Zealand should have no long-run international liabilities.

12.5 It is the very strong view of the Parties that policy tools chosen by New Zealand, including the ETS, should have the objective of driving emissions mitigation innovation and adoption, and not be designed as a mechanism for devolving a Crown liability that has arisen because policymakers have over-promised in international agreements.

c. what is the role of the ETS in preparing New Zealand for the international obligations and other drivers for action it may face in the long term?

12.6 The Parties consider that, with appropriate design and settings, an ETS can provide an effective and credible policy tool that governments can use to achieve international commitments, and prior to such achievement, demonstrate a positive policy approach.

12.7 Conversely, an ETS that simply collects revenues for government and/or drives a hollowing-out of certain sectors of the economy (such as has happened independently of ETS policy in Europe's industrial sector) will lack credibility and does not represent a useful policy prototype that could be emulated by larger countries.

d. should the ETS design be changed in order to strengthen the incentives for domestic abatement? If so, how?

12.8 Notwithstanding the biased nature of this Question, the Parties have a number of serious concerns with current ETS design – particularly in relation to Agricultural emissions – and their impact on incentives for abatement. These issues have been discussed in detail under other Questions, but are highlighted below.

12.9 In order to incentivise abatement of emissions in agriculture, as opposed to simply abating agriculture, an ETS must:

- Assess individual farm business's emissions performance.
- Recognise the mitigation effect of all scientifically proven mitigation technologies.
- Properly shield agriculture from non-carbon costed overseas competitors such that cash-flows are available for investment in mitigation technologies.

12.10 The ETS, as currently designed, does not meet any of the criteria set-out above. Addressing these issues would create (as opposed to strengthen) incentives for abatement in agriculture.

e. how important is continuing access to international carbon markets?

12.11 The Parties believe that access to international carbon markets should only be relied upon if and when consistent, settled and well-policed rules are established under an international framework agreement.

f. how do you see domestic and international carbon markets developing beyond 2012?

12.12 The Parties believe that the development of global carbon markets is highly dependent on the outcome of international framework negotiations, as outlined in table 4.1.

12.13 The Parties do not believe that voluntary carbon markets will represent credible, long-term tools for emissions abatement.

13. Scale-up to full obligation

Q13 Under what conditions should the ETS scale up to a full obligation? In particular:

13.1 The Parties' clear view is that a fixed and relatively low ceiling price of units should be maintained until such time as there is substantive carbon pricing enacted by trade partners and competitors.

13.2 The Parties consider that the current effective ceiling price of \$12.50 per unit is an appropriate level given the current and foreseeable global carbon pricing conditions.

13.3 The Parties note that global carbon markets are immature, insecure, illiquid, susceptible to political or bureaucratic decision making and, as a predictable consequence, highly volatile. It is the strong view of the Parties that the New Zealand economy should not be reliant on such markets to set the price of NZUs in the near future.

a. Should the fixed price option of \$25 continue beyond the current transition phase (ie, after 2012)?

b. Should the one-for-two obligation continue beyond the current transition phase?

13.4 The Parties do not recognise a material distinction between the fixed-price option and half-obligation mechanisms of fixing the ceiling price of NZUs.

14. Consideration of abatement options for sectors

Q14: To what extent, if any, should abatement options be relevant in determining the extent of a sector's participation in the ETS?

- 14.1 The Parties consider that abatement options are a relevant consideration when determining different sectors' entry in the scheme.
- 14.2 The Parties' key criteria for application of an ETS framework to any sector are that the scheme be effective in incentivising mitigation behaviour and that it does not place the New Zealand economy at competitive disadvantage. This position is discussed in further detail under Question 15, below.
- 14.3 If entry of a sector to the scheme is unlikely to achieve both of the criteria above because there are no, or few, mitigation options, then policy makers should reconsider the entry of that sector.
- 14.4 The Parties submit that the lack of options to mitigate methane and nitrous oxide emissions in the Red Meat sector means that imposition of ETS obligation is unlikely to drive significant mitigation gains, even if current ETS design issues for Agriculture were addressed.
- 14.5 Policymakers are bound to consider the costs of imposition of an ETS that may achieve only minor mitigation gains but at substantial administrative cost.

15. Entry of agriculture into the ETS

Q15: Under what conditions should new sectors enter the scheme and incur surrender obligations?

- 15.1 The Parties' views on entry of new sectors to the ETS will focus on 'Agriculture', being methane and nitrous oxide emissions from farmed animals and agricultural soils. The Agriculture sector, including the Parties' constituents are already subject to significant emissions liabilities under the ETS as currently implemented.
- 15.2 The Parties' view on the conditions under which Agricultural gases should enter the ETS are that:
- Entry must hold some prospect of effectively driving on-farm practices that mitigate emissions – *Economic benefits for New Zealand will accrue.*
 - Entry must not disadvantage New Zealand agricultural enterprises relative to overseas competitors – *Economic costs to New Zealand will be avoided.*

15.3 Prospect of driving on-farm practices (*Ensuring economic benefits for New Zealand*) relies on two key criteria:

- That the ETS design assesses individual farm enterprise emissions performance and properly incentivises improved performance.
- That there are mitigation technologies available (or in prospect) for adoption by farmers, the probable mitigation benefits of which outweigh the costs of ETS implementation.

15.4 Avoiding competitive disadvantage (*Avoiding economic costs for New Zealand*) relies on either, or a combination of two factors:

- Overseas trade competitors (both exporters and domestic industries) applying equal costs to agricultural enterprises as are applied under the ETS.
- The ETS includes mechanisms for fully offsetting the net costs that the ETS imposes on New Zealand enterprises. Such costs should be considered to include all emissions liabilities, administrative and compliance costs, and economic adjustment costs that are not faced by competitors.

15.5 Accordingly, the Parties propose that the ETS legislation be amended to set out that Agricultural gases will not enter the ETS until the criteria set out above are met. Expressing these criteria in legislation would provide certainty and confidence that would encourage investment in the sector, including investment in mitigation technology. The current legislated entry date of 2015, along with uncertainty of (regulated aspects of) ETS design and uncertainty of mitigation technology development, encourages only disinvestment from the agriculture sector.

15.6 The criteria that the Parties consider proper conditions for the entry of Agricultural gases to the ETS are described in further detail below.

On-farm point of obligation

15.7 Driving on-farm behaviour change requires application of incentives to those who are able to take management decisions that influence on-farm practices. Any price signal must be such that those who are able to modify emissions performance are properly incentivised to do so. This means that the 'Point of Obligation' for agricultural emissions must be on-farm.

15.8 Continuation with a processor point of obligation effectively removes any sensible incentives for the sector to mitigate its emissions. Without a farm point of obligation, emission charges can only be averaged across production, which provides no individual incentive for farmers to reduce emissions.

Availability of mitigation technologies

- 15.9 The commitment of the pastoral industries to understanding and mitigating the effects of agriculture emissions is substantial, as described above, involving funding of the PGgRC, footprinting studies on livestock products and continued engagement in climate change policy issues.
- 15.10 Despite significant investment in research, there are as yet, no practical technological interventions that Red Meat farmers can apply that reduce emissions. The sole option for improved emissions efficiency in Red Meat farming is improved productivity, where our sector has made very significant improvements over the last 20 years. Improved productivity is fully incentivised by normal farm economics and it seems unlikely that application of an ETS would increase the rate of productivity gain in Red Meat farming.
- 15.11 Given that the lack of mitigation technology at this time, it is unlikely that the costs of administration of a properly implemented ETS would be justified by gains in emissions mitigation in Red Meat farming.

Competitor policy action

- 15.12 The Parties' interpretation of emissions policy being developed in overseas jurisdictions is that no overseas country intends to apply liabilities to emissions of agricultural gases in the foreseeable future.
- 15.13 The Parties note that, to avoid economic cost for New Zealand, emissions related costs would need to be applied by all competitors to the New Zealand agriculture sector, not simply to producers in markets supplied by New Zealand's exporters, as implied by table 4.2 in the Statement.
- 15.14 The Parties note that our profitability and competitiveness is already impacted by the impact of the ETS on energy prices.

Offsetting the net costs of the ETS

- 15.15 In the expectation that agricultural competitors will not be exposed to the costs that the New Zealand sector would face under an ETS, the ETS should contain mechanism to offset the net costs of the ETS on New Zealand agriculture enterprises. Without such offsetting, enterprises will lose the ability to generate profits that can be reinvested, including in mitigation technology development and adoption. Offsetting mechanisms are discussed further under Question 16, below.

16. Allocation

Q16: Should allocation of NZUs continue as planned under current design settings after 2012?

- 16.1 The Parties' strong view is that the current ETS settings for allocation do not achieve the objective of shielding trade exposed industries from overseas competitors that face no carbon cost.
- 16.2 The Parties believe that the allocation mechanisms for the ETS need to be substantially revised such that New Zealand enterprises can continue to compete effectively with overseas companies and generate sufficient returns to fund emissions mitigation innovation and adoption.
- 16.3 We believe that amendments are required to the mechanism and level of allocation thresholds and the amount of allocation provided at each threshold.

In your response we would be particularly interested in:

a. the effectiveness of allocation in reducing competitiveness risks

- 16.4 For the Red Meat processing sector, MIA estimates that energy related emissions costs added to energy prices will cost the sector about \$12.5m per annum under the current ETS settings. The sector has had one activity – 'Production of protein meal' or rendering – recognised as 'moderately emissions intensive and thereby eligible for free allocation. Total free allocations likely to be provided to the sector for rendering will likely sum to about 40,000 units – offsetting about 4% of the total additional cost.
- 16.5 We consider this allocation outcome to be completely inadequate and far from achieving the Act's stated objectives for allocation.

b. the impact of allocation on incentives to reduce emissions

- 16.6 Despite persistent views expressed in media and by certain interest groups and political parties, allocation – when provided on a per-unit of output basis – does not have any impact on individuals' economic incentive to mitigate emissions. The overall financial position of an individual makes no difference to the marginal behavioural signal created by a price on emissions (unless the position of the individual is insolvent, in which case their ability to employ mitigating solutions is seriously impinged).

c. whether the allocation thresholds should be amended

- 16.7 The Parties consider that substantial amendments are required to:
- The basis on which allocation thresholds are measured.
 - The level at which allocation thresholds are set.
 - The level of allocation provided at a given threshold.

Basis for measuring allocation thresholds

- 16.8 The ETS design currently only provides for allocation of NZUs to enterprises that are determined to be trade exposed and 'emissions intensive'. Emissions intensity is determined on the basis of (notional) emissions per unit of revenue. Emissions per revenue are used as a proxy for the impact that emissions costs will have on the competitiveness of an enterprise. Of course, revenues are a very poor approximation of the competitiveness of an organisation.
- 16.9 For many businesses such as, for instance fuel retailing, sales revenues can be very high compared to margins and operating costs because the vast majority of revenues are accounted by the cost of goods sold. In such firms, the size of the emissions cost relative to revenue gives no useful indication of the impact of the emissions costs on competitiveness. Processors of agricultural products are analogous to the fuel retailer example, in that the cost of raw materials represents that vast majority of revenues.
- 16.10 The New Zealand ETS has many features, including many details of the allocation regime, that are closely modelled on the Australian Carbon Pollution Reduction Scheme (CPRS). One element of the CPRS that New Zealand chose not to adopt was an assessment of emissions intensity on an emissions-per-value-added basis. Emissions-per-value-added allows a much more informative assessment of the impact of emissions costs on the competitiveness of a firm, in a way that emissions per revenue can not.
- 16.11 The Parties strongly recommend amendments to the Act to enable an emissions-per-value-added measure of emissions intensity.

Setting of allocation thresholds

- 16.12 The experience of the Parties is that, in Red Meat processing, allocations have been provided that cover only one process occurring on some meat processing sites – rendering – that is judged 'moderately emissions intensive' and may receive about 40,000 NZUs per year allocation – about 4% of total meat processing emissions.
- 16.13 The view of the Parties is that this level of assistance is entirely inadequate for an industry that is absolutely trade exposed and for which energy forms a major component of total costs.
- 16.14 Regardless of the measurement basis (emissions per revenue or emissions per value added), the Parties strongly recommend that allocation thresholds be lowered so that genuinely trade exposed industries are not competitively disadvantaged.

16.15 The Parties recommend a 'reasonableness' test to determine whether the allocation regime has been effective in shielding at-risk enterprises. We suggest that, as a minimum, the allocation regime should have offset at least half of the emissions liabilities of all companies exporting greater than 75% of production and with calculated emissions of greater than 50,000 tonnes per annum.

Level of allocation at each threshold

16.16 The Parties consider that the level of assistance provided at each threshold is inadequate and should be increased to 95% and 80% for highly and moderately intensive industries respectively.

d. whether the process to determine allocative baselines should be changed

16.17 The Parties do not agree with the current ETS approach whereby the emissions factor for electricity used in calculating allocative baselines is determined theoretically by government.

16.18 The Parties recommend that the electricity emissions factor used in allocative baselines should be either:

- fixed based on the emissions of the highest-cost electricity generator, or
- based on a survey of actual energy price increases associated with the introduction of stationary energy generation to the ETS.

e. whether the allocation of units to small and medium sized enterprises (SMEs) is the most administratively efficient way for protecting impacted sectors either for SMEs or government.

16.19 No view.

17. Synthetic Greenhouse Gases

Q17: Should the ETS cover synthetic greenhouse gases (SGG) from 2013, as currently legislated?

- a. if no, what other policy tools or what combination of policy tools should be used to encourage reduction in SGG emissions?**
- b. if yes, are there supporting measures or amendments to the ETS that could support implementation and reduce administrative and compliance costs?**
- c. if the ETS should be amended to cover only some SGG-using sectors: which ones, why, and what policies should be developed for the others?**

In your response we would be interested in

- d. estimated impacts of the ETS coverage of SGGs (such as compliance costs for direct participants, on rates of gas recovery and recycling or destruction, and on management of leakage)**
- e. arguments for or against alternative policy tools**

f. estimated impacts, including behavioural impacts in terms of incentives to reduce emissions, of alternative policy tools.

17.1 The Parties note that the Red Meat sector utilises refrigeration facilities, directly and indirectly, on a very significant scale, and that many of those facilities will utilise SGGs as refrigerants.

17.2 The Parties submit that there are better-targeted and lower-cost mechanisms for minimising losses of refrigerants than inclusion in the ETS.

18. Other issues - recommendations

Q18: Are there any other issues, in particular any related to the matters set out in section 160(5) of the Act as summarised in Chapter 1, you think the Panel should consider? If so, please provide details of your view on them.

Summary of recommendations

The Parties recommend the following modifications to the ETS:

18.1 That the entry of Agriculture not be prescribed as 1 January 2015 but be made conditional on the achievement of certain criteria, being:

- That there is a realistic prospect of the ETS driving on-farm mitigation behaviour change, requiring:
 - That the point of obligation for emissions is on-farm, and;
 - That there are mitigation technologies that might be adopted.
- That New Zealand enterprises are not disadvantaged relative to overseas competitors, requiring:
 - That all competitors have similar emissions liabilities applied to them, and/or;
 - That mechanisms are in place to ensure that all net costs created by the ETS are offset.

18.2 That the existing regulations setting out the bases for calculation of agricultural emissions be deleted.

18.3 That the mechanism for providing allocation of NZUs to affected businesses be amended to:

- Provide an emissions per-value added test of emissions intensity.
- Lower the threshold for allocation to ensure major trade exposed sectors are provided allocations.
- Increase the level of assistance at each threshold level, with the objective of satisfying a 'reasonableness' test that companies exporting 75% of production and with emissions over 50,000 tonnes per annum are eligible for allocations to offset at least half of their liabilities.

Emissions Trading Scheme Review 2011

Submission by DairyNZ

6 April 2011

Summary

1 DairyNZ is grateful for the opportunity to provide comment to the Emissions Trading Scheme Review panel. The dairy industry is committed to a strategy of reducing our greenhouse gas emissions intensity and maintaining its position as world leaders in low carbon intensity dairy production. We have set ambitious targets for research into developing mitigation technologies, and are targeting farmer-funded investment accordingly. We are confident that, in the future, this research will result in the development of proven, practical, economically-viable tools to mitigate emissions of agriculture-based gases and lower the greenhouse gas intensity of dairy production. However, more time is needed for this research to produce results that are proven and farm-ready.

2 The estimated cost should agricultural emissions enter into the ETS would have a significant impact on the profitability of the dairy sector, and our international competitiveness. Given New Zealand's very small contribution to global greenhouse gas emissions and the fact we are currently meeting our existing Kyoto obligations; the absence of domestic action by our key competitors; and the unlikelihood of any binding international commitments once the first Kyoto Commitment period concludes, we would argue that there is no reasonable case for why New Zealand would want to harm the dairy farming industry in this way.

3 Therefore, we are strongly of the view that agriculture should not be included in an ETS until:

- there are practical, economically-viable mitigation technologies available for agricultural greenhouse gas emissions;
- our trading competitors are facing a similar price on carbon for agriculture; and
- there is greater certainty around the form and magnitude of any greenhouse gas emission reduction commitments in a legally binding multilateral agreement.

As these conditions appear unlikely to be met in the short to medium term, we believe the Review panel should recommend that plans to include agriculture in the ETS from 2015 be shelved.

Introduction

4 DairyNZ is grateful for the opportunity to provide comment to the Emissions Trading Scheme Review Panel. We have comments on a number of issues raised in the Emissions Trading Scheme Review 2011 issues statement. DairyNZ would like to meet with the Panel to discuss the issues raised in our submission. We would be available to meet with the Panel on 13 or 20 April 2011.

5 This submission has been prepared by the Policy and Advocacy team, the Science team and the Economics team of DairyNZ. The primary contact for this issue is:

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Introductory Comments

6 DairyNZ is the industry good organisation representing New Zealand's dairy farmers. Funded by a levy on milk solids and through partnering with other organisations and the New Zealand Government, our purpose is to secure and enhance the profitability, sustainability and competitiveness of New Zealand dairy farming. We deliver value to farmers through leadership, influencing, investing, partnering with other organisations and through our own strategic capability. Our work includes research and development to create practical on-farm tools, leading on-farm adoption of best practice farming, promoting careers in dairying and advocating for farmers with central and regional government. For more information, visit www.dairynz.co.nz.

7 As an organisation that represents 100% of New Zealand's dairy farmers, and is one of the country's largest private research, development and extension providers, the focus of our submission to the Review panel is on the inclusion of agriculture and particularly on the conclusions to be drawn based on an examination of:

- Efforts to develop mitigation approaches;
- Threats to the international competitiveness of the NZ dairy industry; and
- uncertainty of international frameworks after 2012;

8 The dairy industry is committed to growing its economic contribution to New Zealand while reducing its environmental footprint. Reducing our greenhouse gas emissions intensity is a key part of this commitment. We are setting stretch targets to challenge our scientists and developers, so we can develop cost-effective tools and techniques to reduce our emissions, and are targeting our investments accordingly.

Development of mitigation (abatement) technologies by 2015 and beyond

9 Despite the fact that NZ dairy farmers, with our pasture-based system, already have one of the lowest carbon footprints of any dairy industry around the world¹, DairyNZ is committed to supporting research into greenhouse gas mitigation technologies that can be used in New Zealand farming systems. DairyNZ is member of the Pastoral Greenhouse Gas Research Consortium, which is spending over \$5 million per year researching ways to reduce the carbon footprint of our industry. Beyond this DairyNZ's total contribution to climate change related activities, including climate change-related research, supporting adoption of nutrient management tools, and running a feed conversion efficiency trial that could lead to more efficient animals, is over \$5 million per annum. This places climate change research as one of the most important areas of DairyNZ's entire research and development investment. Similarly, the more than \$10 million per annum that the dairy industry as a whole is spending on GHG mitigation makes it one of the most important R&D areas for the entire industry.

10 There are significant technological challenges in reducing greenhouse gas emissions from livestock. Production of methane by ruminants is an outcome of an evolutionary process that has spanned millennia. Reversing such a process without affecting the ability of the cow to efficiently digest pasture is an enormous challenge.

Methane

11 Several technologies with the potential to reduce methane emissions have been trialled, including feeding lipids (oils), ionophore antibiotics (Monensin), adding bacterial supplements to feed, and animal vaccinations. Some are being evaluated for their suitability and effectiveness under New Zealand conditions.

12 Research into the effectiveness of Monensin (an antibiotic that targets bacteria in the rumen) has not benefitted either production, or reduced methane under our pasture-based farming conditions. Adding lipids to the diet can reduce methane, with a recent review suggesting an average reduction of around 8%. However, most trials have involved grain based diets and there are practical challenges of sourcing affordable lipids and adding

¹ Food miles – comparative energy/emissions performance of New Zealand's agriculture industry. Caroline Saunders, Andrew Barber and Greg Taylor. AREU Research Report No. 285 July 2006

them to a pasture diet. Vaccines targeting methanogens are a focus of the PGGRC and New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC) programmes, because they have widespread application in farming. Although progress is being made, none are currently available. Vaccines are being developed, and need to be evaluated for efficacy, persistence and compatibility with rumen function and animal production.

13 Trials comparing methane production from forage types, such as ryegrass, clover, or chicory have not shown much variation in methane, but work is ongoing. Any forages having potential to lower methane will need to be assessed for their applicability at a farm system level. There is negligible methane produced from cow manure deposited on pasture. Biodigestion of waste, in order to be effective, would require a change from our pasture-based farming model to allow the manure to be collected.

14 Despite this on-going work, at the current time there are no practical, economic tools that will achieve significant methane reductions available to New Zealand's dairy farmers that are compatible with our pasture-based farming practices, although on-going improvements in general productivity will naturally lead to some improvements in emissions intensity over time.

Nitrous Oxide

15 Mitigation options for nitrous oxide include using stand-off pads to collect animal excreta, incorporating maize silage in the diet or use of nitrification inhibitors. Nitrification inhibitors have been shown to reduce emissions significantly under ideal research conditions on urine patches. But their usefulness at the farm scale has proven limited and questionable, under some soil and climate regimes (e.g. warm temperatures and high rainfall) common to dairying areas in parts of NZ. The research needed to quantify effectiveness under varying conditions, funded by MAF and industry, is under way. This will indicate optimal application of nitrification inhibitor to get the best result. It is too early to make assumptions about the extent of nitrous oxide mitigation may be possible.

16 It is important to understand that mitigation technologies are not necessarily additive. Measures to reduce methane emission may end up increasing nitrous oxide or CO₂ emissions, or vice versa, which is why it is vitally important to consider a whole farm footprint. Farming systems are complex and the tradeoffs in greenhouse gas mitigation options become important. For example, reducing protein in the diet through increasing the use of maize silage will lead to lower emissions of nitrogen through urine, but bringing additional supplementary feed onto a farm will have an impact on the total carbon footprint of the farming operation. Our pasture based systems have lower GHG production than those of our major competitors. Increasing "cut and carry" style farming would significantly increase the carbon footprint of NZ dairy farmers as they use more energy to gather and transport the feed.

17 DairyNZ researchers have been using modelling to estimate the scope for potential reductions in emissions on-farm through optimising farm systems for our pasture-based approach. This research has shown that, using a model representing an “average” dairy farm, it could be possible to reduce greenhouse gas emissions by up to 27 - 32%². However, in order to achieve these results, the farm would need to be stocked with cows of high genetic merit, achieve above average reproductive performance, and operate with a very low replacement rate and reduced stocking rate. Operating such a farm system requires a highly-skilled farm management approach and excellent stockmanship skills. It is also important to note that this work is based on a simulated model, operating under ideal conditions. The next step in the process is to conduct a trial to investigate results that are possible in the real world.

18 Further, we must not lose sight of non-greenhouse gas related aspects of mitigation technologies, such as potential negative impacts on animal welfare from restricting cows to stand-off pads. As noted above, some of the mitigation technologies proposed could have the potential to move the dairy industry away from the pastoral basis that underpins our clean, green image.

Reducing greenhouse gas emissions intensity of the NZ dairy industry

19 The research summary outlined above demonstrates that while a considerable amount of research is underway, there are not currently any “silver bullets” available that could significantly reduce agricultural greenhouse gas emissions within the next few years. Nonetheless, as part of our dairy industry strategy, we have set some ambitious targets for our researchers to achieve³. These include:

- By end of 2015, production of greenhouse gases from New Zealand dairy farms are reduced by 10% in CO₂ equivalents/kg MS (relative to legislative baseline) and in so doing improve productivity.
- Achieve 30% reduction in system footprint (one or more of irrigated water use, greenhouse gas emissions, nutrient loss) with 0% production loss in a research farmlet/demonstration context by June 2016.
- In 2014, 70% of dairy farms are modifying their farm system or using mitigation technologies to reduce greenhouse gas emissions; 100% of farms are doing so in 2015.

² Improving production efficiency as a strategy to mitigate greenhouse gas emissions on pastoral dairy farms in New Zealand. Beukes, P.C.; Gregorini, P.; Romera, A.J.; Levy, G.; and Waghorn, G.C. Agriculture, Ecosystems and Environment (2010) 358-365.

³ DairyNZ Targets in Detail (2010) <http://www.dairynz.co.nz/page/pageid/2145868663>

20 These are stretch targets designed to drive ambitious and innovative science and development. At this point, while promising work exists, we do not have the technology to achieve them. The intent behind these targets is to challenge researchers to push ahead with the research we will need to develop proven, cost-effective mitigation tools. We are confident that – at some point – these solutions will be developed.

21 DairyNZ is of the view that, until these mitigation tools are developed and proven, the agricultural sector should not be included in an ETS. To do otherwise would simply place an additional cost on the industry that would only be met through reduced production and/or profitability. Even including dairy farming in an ETS and not placing any charges on dairy-based emissions would have a negative impact on the industry as it would undermine industry confidence and potentially distort investment for no obvious gain. The time to consider the terms under which agriculture might be included in an ETS should follow rather than precede the development of proven tools and techniques to mitigate.

Impact of the ETS on the competitiveness of the NZ dairy industry

22 The dairy industry is a vital sector of the New Zealand economy, with a direct contribution of approximately 2.8% of GDP⁴. This contribution is greater than the contribution of the fishing, forestry and mining sectors combined and accounts for over a third of the GDP contribution of the entire primary sector (dairy and livestock farming and processing, horticulture, fishing, forestry, mining). Approximately one quarter (\$10 billion annually) of New Zealand's merchandise export earnings come from dairy products. The dairy sector's growth over the last 20 years has improved New Zealand's balance of trade, and allowed for increased consumption spending, and reduced foreign liabilities and interest on foreign debt.

23 The dairy sector's influence extends well beyond its direct impacts as it is closely integrated with the rest of the economy. This includes the employment it creates, the income that those workers earn, its link to supplying firms, the effects of rural economic growth on urban centres and regional sustainability and development and the tax revenue it provides to fund public services.

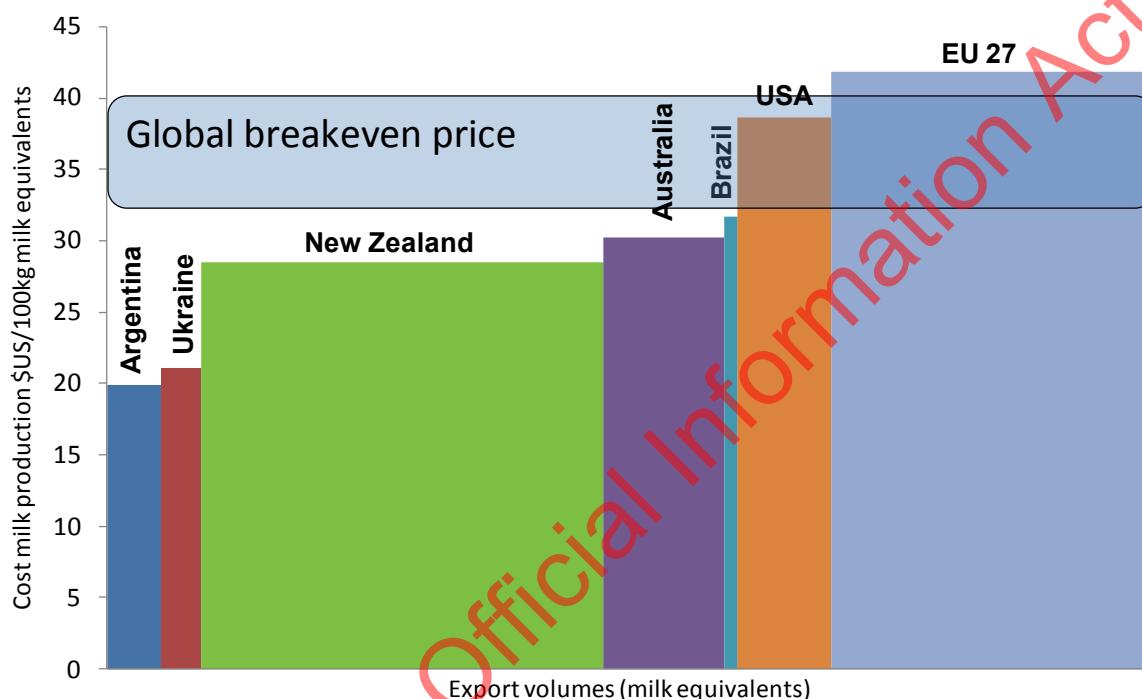
24 The New Zealand dairy industry earns over 95 percent of its revenue on the global market and competes with dairy industries in other countries to maintain and grow market share. Our industry is a world leader and currently has the major share of global profits

⁴ Dairy's role in sustaining New Zealand – the sector's contribution to the economy, NZIER – a report to Fonterra and DairyNZ, December 2010.

<http://www.fonterra.com/wps/wcm/connect/fcf7000044f43b8bb2b2fbac5c5d2692/NZIER+economic+report+to+Fonterra+and+DNZ+2010.pdf?MOD=AJPERES&CACHEID=fcf7000044f43b8bb2b2fbac5c5d2692>

from the trade of dairy commodities due to a combination of our cost competitiveness (both on-farm and manufacturing), food safety standards, innovation, supply chain efficiencies and customer relationships.

25 However, New Zealand is not the lowest cost producer of milk - we have higher labour and land costs than many of our competitors. Figure 1: Cost of production and export volumes for key dairy traders.



Source: OECD-FAO, IFCN, DairyNZ Economics Group

26 While our position is currently strong with opportunities to increase our exports from growing global demand, defending our position is a growing challenge. External threats will come from countries that have both the ability and incentive to rapidly increase their exports to take up market share (such as USA), or maintain a low cost of production position (such as Argentina or Brazil).

27 The dairy industry's challenge is to continue to grow supply, sustainably, while constantly working to maintain cost competitiveness and ensure we don't compromise our international reputation. There are a number of domestic factors that have the potential to negatively impact our competitive position. These factors include the additional cost to production from an Emissions Trading Scheme, particularly when we consider that none of our international competitors is likely to face such additional costs in the foreseeable future.

28 The ETS Review Panel Issues Statement refers to a Ministry of Agriculture and Forestry (MAF) estimate of increased costs of \$10,000 per annum⁵ for the an average dairy farm, if agricultural emissions enter the ETS at 2015. This figure assumes a carbon price of \$25 per tonne. As the current \$25 price cap for carbon is due to expire before 2015, it is likely that a more accurate estimate of the costs would use a \$50 per tonne price for carbon, increasing the MAF estimate to \$20,000 per annum⁶.

29 These estimates suggest that the immediate cost of ETS to the dairy industry in 2015 will be in the order of \$120 million - \$240 million per year⁷. This will have a consequent negative impact on New Zealand dairy farming's competitive position.

On-farm Financial Impacts

30 With the point of obligation set at the processor level by the regulations developed under the Emissions Trading Scheme, farmers will have little ability to influence the costs they face for their emissions. Dairy farmers are price takers and have no ability to increase prices to recover these costs. Under the current proposal it has been estimated by MAF that in 2015 the ETS will lead to cost increases of \$20,000 per annum for the average dairy farmer. Due to the processor-level point of obligation, this is likely to be through reduced milk prices paid by dairy companies. The ETS Review Panel issues statement contrasts the \$20,000 in additional costs for 2015 against estimated annual farm working expenses of \$494,000⁸, implying that the additional costs are small (an additional 2%) in comparison to existing costs. However, it is more appropriate to contrast the \$20,000 cost of the ETS with the cash available for debt reduction, capital development or investment off farm.

⁵ Assuming 90% allocation and a 2015 baseline for allocation

⁶ assuming a 90 percent allocation as envisaged in the ETS legislation

⁷ MAF's estimated of \$10,000 per farm per annum, multiplied by the number of dairy farms in New Zealand for the low range estimate; \$20,000 per farm per annum, multiplied by the number of dairy farms for the high range estimate.

⁸ Para 64, p 22

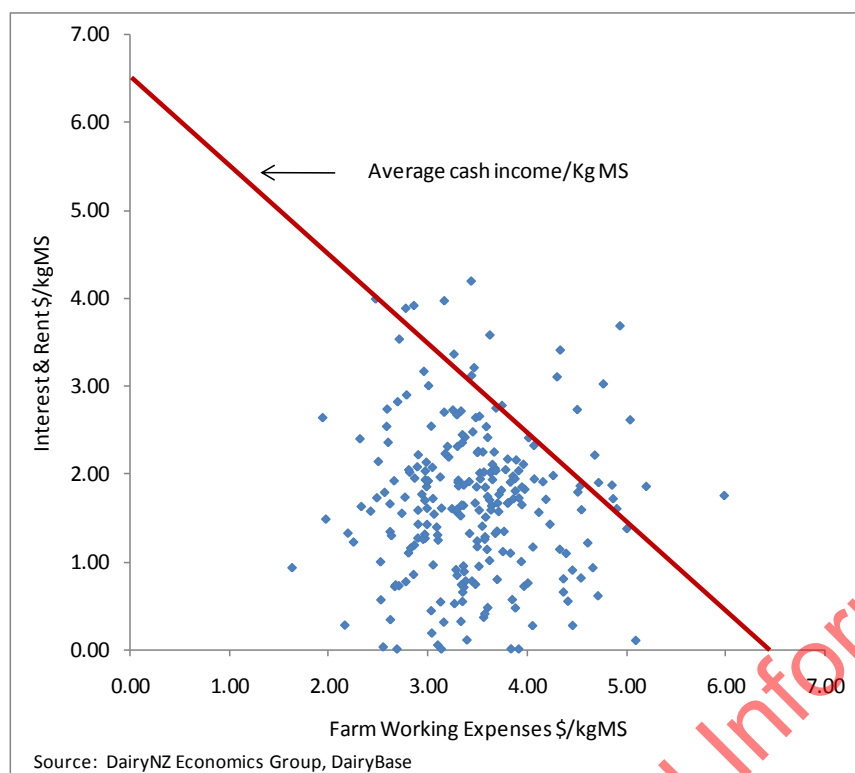
31 The table below shows the cash flow over the last five years for an average owner-operator farm:

\$000	2005-06	2006-07	2007-08	2008-09	2009-10e	Average
Cash Income	475	519	897	679	830	680
FWE	290	320	451	468	454	397
Cash Op Surplus	185	199	446	211	376	283
interest & rent	117	132	161	207	208	165
tax	19	15	53	22	30	28
drawings	77	76	79	77	80	78
Cash available to repay debt/development	-28	-24	153	-95	58	13

Source: DairyNZ Economic Survey

32 Three out of the last five years have produced cash deficits which mean there was no cash available for debt reduction, capital development and or investment off farm in those years. In those years, increasing costs or lowering income by \$20,000 per farm would essentially mean farmers would need to reduce drawings (living expenses), impacting on their standard of living. Alternatively more supplementary income from off-farm work would be required to support the farm business or the farming business would become fiscally unsustainable.

Figure 2: 2009-10 Owner-operators liquidity position (excluding drawings and tax)



33 In Figure 2, the red line represents \$6.55/Kg MS cash income (milk plus net livestock sales), which was the national average for 2009-10. Farmers on the right-hand side of the red line faced significant liquidity risk as interest and rent and farm working expenses (FWE) were greater than \$6.55/Kg MS. This situation applied to approximately 10% of farmers in 2009-10. However, in 2008-09 more than one-third of farmers had serious liquidity issues because FWE remained high while milk prices declined – a calculation that excludes drawings for the farm family and any tax payments. In this context a \$20,000 additional charge for these farmers would have a significant impact on farm family standard of living and farm viability.

34 A number of farmers are struggling to reduce borrowings. The average level of term liabilities has increased to \$21/Kg MS. Adding an additional \$20,000 in costs would further hamper farmer's efforts to reduce debt levels, placing them in higher risk categories with their lending institutions.

35 The data above clearly shows that the estimated costs of the ETS will be a significant burden for a significant proportion of New Zealand's dairy farmers, at a time when farmers must focus on keeping costs under control in order to ensure the New Zealand industry remains internationally competitive.

36 Adding new and potentially unsustainable cost to dairy farmers raises the potential for carbon leakage. The threat of carbon leakage from the dairy industry is a real one for

New Zealand. Capital from New Zealand dairy farmers has already shown itself to be surprisingly portable. NZ dairy farmers are already making significant farm investments off-shore, with farms established in Australia, the United States, China, Russia, Uruguay, Argentina, Chile, Brazil and other locations. Reducing the international competitiveness of the NZ dairy industry, and making the relative investment environment for dairy farming in NZ less attractive than international alternatives, where carbon charges will not apply, will only accelerate this trend.

Uncertainty of International Frameworks after 2012

37 There continues to be significant uncertainty in the international context for multilateral agreement on climate change actions. We agree with the possible international framework scenarios summarised in table 4.1 of the ETS Review Panel Issues Statement, although our view is that timescales for scenarios 1 (legally binding multilateral framework) and 2 (international political accord) are likely to stretch beyond 2013. We would argue that Scenario 3 (medium term uncertainty transitioning into scenarios 1 or – more likely – 2) is the most probable outcome.

38 NZ is well-placed to meet our obligations under the first Kyoto Commitment Period. With no clear pathway to a second Commitment Period for the Kyoto Protocol or another legally binding international agreement, New Zealand will not face any legally binding commitments for a period of time that, given the lag time before any new commitments will come into force, is likely to stretch for several years. The concern from some commentators about how New Zealand will handle any financial obligations in the future is therefore highly theoretical, particularly given the uncertainty of how food will be treated by such multilateral agreements in the future.

39 In the absence of any binding commitments for greenhouse gas reductions Figure 3.4 in the ETS Review Panel Issues statement demonstrates that, if the ETS is fully implemented, the Government stands to make significant financial gains from the Scheme post-2018. This would appear to be inconsistent with the National Party's policy from 2008 that "The ETS should be fiscally neutral rather than providing billions of dollars in windfall gains to the government accounts at the expense of businesses and consumers."⁹

40 Given the uncertainty in international frameworks, it is important to consider carefully and realistically what New Zealand's "fair share" should be. There are a number of factors that, in DairyNZ's view, set the context for analysing the concept of our fair share.

41 The domestic actions taken by our international trading competitors are just as important, if not more so, than our trading partners. As is shown in table 4.2 of the Issues

⁹ 2008 Emissions Trading: <http://www.national.org.nz/Article.aspx?articleId=28559>

statement (Mitigation measures taken and planned by our main export markets), none of our key markets are looking to introduce a price on carbon for their agricultural producers. For dairy products, this table also includes our key competitors (Australia, the EU and the US) – highlighting that none of our key competitors are looking to introduce a price on carbon for their dairy producers, either.

42 The argument has been made that agricultural emissions are somehow different for New Zealand, as they make up a larger proportion of our greenhouse gas emissions (46.6%¹⁰) than for other developed countries. However, this should be viewed in the context of New Zealand's contribution to global greenhouse gas emissions of 0.2%. Rather than focussing on the less than 0.1 percent of global emissions represented by New Zealand agriculture, the most significant contribution New Zealand can make to reduction of global greenhouse gas emissions is through research into technologies to reduce agricultural greenhouse gas emissions. As is noted above, DairyNZ on behalf of New Zealand dairy farmers is already making significant contributions in this research space, and is a partner in the New Zealand Agricultural Greenhouse Gas Research Centre. We also support strongly the Global Research Alliance on Agricultural Greenhouse Gas Emissions. Given the tiny proportion of global emissions which the New Zealand dairy sector represents, it is appropriate that our overwhelming focus should be on where we can make a meaningful contribution to global climate change – developing the technology and farm systems approaches that will reduce emissions from pastoral agriculture. This is the single greatest contribution New Zealand can make to addressing global climate change.

43 We must also bear in mind that climate change is not independent from other global issues. Food security is a grave concern for many countries, and UN Food and Agriculture Organisation forecasting suggests that global food production will need to double from 2005 levels in order to meet global food demand in 2050¹¹. Ensuring that both of these global imperatives are met demands an approach that supports agriculture and food production continuing to occur in the parts of the world that can produce food in the most carbon efficient manner possible.

44 Limits on emissions (and therefore on production) of goods that are traded globally will not necessarily result in net reductions of emissions. The flow of traded goods around the world means that only increases in global efficiency of production will result in mitigation of emissions. The World Economic Forum¹² noted that significant benefits could be derived from switching agricultural production to more carbon efficient locations, with a potential abatement of 178 million tons of CO₂-equivalent if just 10% of traded food

¹⁰ Ministry for the Environment: New Zealand's Greenhouse Gas Inventory 1990-2008
<http://www.mfe.govt.nz/publications/climate/greenhouse-gas-inventory-2010-snapshot/index.html>

¹¹ "World must double food production by 2050: FAO chief". AFP, 26 Jan 2009:
<http://www.google.com/hostednews/afp/article/ALeqM5gTDI6xThSI-2wg9K21oVbUNOyRMw>

¹² "Supply Chain Decarbonization", World Economic Forum, 2009.

production was moved to more efficient locations. The gains would be even greater if the location of all agriculture was optimised to enable low carbon production – such as encouraging production of dairy products in a country with a comparative carbon advantage, such as New Zealand. Ironically, if New Zealand becomes the only country in the world which places emissions charges on its dairy production, carbon leakage will promote dairy production increases in less carbon efficient locations rather than New Zealand. The net impact of this is global emissions from dairy production will increase.

45 In summary, New Zealand's very small contribution to global greenhouse gas emissions and our leadership in emissions-reduction R&D, the absence of ambitious domestic action by our key competitors, and New Zealand's place as a highly efficient food producer, all strengthen the case that it would be inappropriate to include agriculture in the ETS.

Perception issues

46 Some commentators have argued that if agriculture does not enter into the ETS according to the current schedule (i.e. 2015), it will have a negative impact on New Zealand's "clean, green" image in the short term. We do not agree that this is the case. While our international image is a factor for many industries in marketing New Zealand's products overseas, this is based on a number of different factors, for example our reputation for safe food, our pasture-based agricultural systems, comparatively high animal welfare performance, relatively low population density and natural beauty. We agree that the New Zealand agricultural sector needs to do its fair share over the long-term in order to help maintain this image. As discussed above, the commitment shown by the industry to invest in mitigation research and development coupled with New Zealand's commitment to initiatives such as the Global Research Alliance is the key to that fair share. International consumers with an interest in these issues will, through simple research, be able to readily identify the impressive facts of New Zealand's contribution, including the fact that New Zealand food is already amongst the most carbon efficient in the world.

47 There have been some suggestions that not charging farmers for their emissions amounts to agriculture "free riding" on the Emissions Trading Scheme. Leaving aside the equity questions of taxing farmers when they lack the ability to mitigate their carbon footprint, we believe that the question of free riding is only really relevant when all dairy farmers around the world face similar emissions charges.

Extension of transition measures for processors

48 The transition measures of a fixed price option of \$25 for units and the two-for-one surrender obligation were introduced in part to assist firms while the carbon market is developing and maturing provide some protection to businesses while they learnt how the

emissions market worked, and while there was uncertainty about the future of this market after 2012¹³. DairyNZ is of the view that this uncertainty still persists, and therefore considers that these transition measures should continue beyond 2012, until there is more certainty in both of these areas.

On-farm point of obligation

49 As this paper makes clear, it would be unwise to bring agriculture into the ETS in 2015, until the conditions discussed above are resolved. However, if at some point these conditions are met and agricultural emissions do enter the Scheme, it must have an on-farm point of obligation that will reward adoption of mitigation technology and practice. This is to ensure the ETS contributes to signals to farmers in favour of them adopting new technologies and practices that support emissions reduction. An on-farm point of obligation will ensure that all farmers have a further incentive to put in place the appropriate proven mitigation measures, as they will see the benefits from that measure. A processor-level point of obligation for farm-level emissions has the effect of converting the ETS to a uniform tax on farmers, who on an individual farm basis will not see any additional ETS-related rewards for adoption of mitigation.

Conclusion

50 The dairy industry is committed to reducing its greenhouse gas emissions. We have set ambitious targets for research into developing mitigation technologies, and are targeting our investing accordingly. We are confident that, in the future, this research will result in the development of proven, practical, economically-viable tools to mitigate agriculture-based gases.

51 However, for the foreseeable future inclusion in an ETS will have a negative impact on the New Zealand dairy industry's international competitiveness, given that no other major dairy producing country is intending to introduce a price on carbon for its agricultural sector. The unsubsidised New Zealand dairy industry already competes internationally with subsidised products from other dairy producing nations in a global dairy marketplace distorted by tariffs, quotas and other market access barriers. Placing emissions charges on our dairy farmers while there is no prospect of their international competitors facing similar charges only tilts the playing field further against our industry.

52 The future of international agreements on climate change is highly uncertain. The only point that there seems to be broad agreement on is that there will not be a second Kyoto commitment period to follow on directly after the first commitment period ends. To the questions of whether there will be any more legally binding commitments, when these

¹³ Review of the Emissions Trading Scheme and other matters, Report of Emissions Trading Scheme Review Committee, August 2009.

will come into force, and how food will be treated, we have no answers. In light of New Zealand's very small contribution to global greenhouse gas emissions, and the absence of ambitious domestic action by our key competitors or the very large greenhouse gas emitters, there is no strong case for why New Zealand would want to place significant costs on its economy in the absence of any binding commitment.

53 Our position on these issues has not changed¹⁴. More time is needed to develop mitigation tools that will achieve significant reductions in emissions. The dairy industry is strongly committed to reducing our carbon footprint, and we already doing our share to ensure that in the future mitigation technologies will be capable of delivering significant reductions in emissions.

54 Therefore, we remain strongly of the view that agriculture should not be included in an ETS until:

- there are practical, economically-viable mitigation technologies available for agricultural greenhouse gas emissions;
- our trading competitors are facing a similar price on carbon for agriculture; and
- there is greater certainty around the form and magnitude of any greenhouse gas emission reduction commitments in a legally binding multilateral agreement.

55 DairyNZ would like to thank the Emissions Trading Scheme Review Panel for the opportunity to comment on the ETS review. Please contact us if you would like further clarification on any of the points in this submission. We look forward to engaging with the Panel on this matter as it moves forward.

¹⁴ DairyNZ submissions to the ETS Review Select Committee and Finance and Expenditure Select Committee.

SUBMISSION

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Submission on: Emissions Trading Scheme Review 2011 Issues Statement

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SUBMISSION TO EMISSIONS TRADING SCHEME REVIEW PANEL ON: EMISSIONS TRADING SCHEME REVIEW 2011 ISSUES STATEMENT

1. EXECUTIVE SUMMARY

- 1.1 Federated Farmers of New Zealand submits that it strongly opposes biological agricultural emissions from food production remaining in the Kyoto Protocol and subsequent international agreements. Federated Farmers, noting the above statement, further considers that should the inclusion of biological agricultural emissions in the emissions trading scheme (ETS) remain, it should be postponed far beyond the entry date of 2015 currently set in the legislation.
- 1.2 Our preference as an organisation remains that there should be no ETS in New Zealand. If New Zealand must have an ETS, then it must not include biological agricultural emissions. If New Zealand must have an ETS and include biological agricultural emissions, then there are a number of requirements the legislation and regulations would need to satisfy before that could occur.
- 1.3 Such requirements would include:
- Removal of the legislated entry date of 1 January 2015 for biological agricultural emissions from food production.
 - Insertion of conditions on the entry of new sectors to the ETS that include:
 - That competitors in other countries have similar schemes or otherwise face similar emissions costs;
 - That economically-sustainable mitigation technologies are available for widespread uptake; and
 - That international rules allow New Zealand to recognise the uptake of such technologies.
 - Retention of transitional measures, such as:
 - The grace period for penalties upon the entry of a sector to the ETS;
 - The one-for-two obligation;
 - The \$25 per tonne price cap;
 - The ability to pay money in lieu of surrendering emissions units to the government; and
 - The ability for the government to issue emissions units where money is paid in lieu of emissions units.
- 1.4 Federated Farmers is aware of the terms of reference and the matters on which the Panel has sought comment. There are however arguments that the federation has

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included in this document to more fully express the views of New Zealand farmers on the ETS.

2. FEDERATED FARMERS POLICY POSITION ON THE KYOTO PROTOCOL

- 2.1 Federated Farmers opposed the government's 2002 ratification of the Kyoto Protocol and remains opposed to it. Our members are of the strong view that it is unjustifiable and inappropriate for the government to bind New Zealand to emissions reduction commitments and certain economic hardship for little if any environmental benefit. This is even more true today given the current economic climate.
- 2.2 In 2002, the government of the time submitted a National Interest Analysis that outlined their reasons why they considered it in New Zealand's interests to ratify the Kyoto Protocol. The National Interest Analysis however suffered a range of fundamental flaws that the federation considers have caused the series of policy rethinks that saw a special select committee established in 2009 and now a technical review panel to examine whether the current policy regime is appropriate.
- 2.3 Chief among those flaws was the insistence that ratification of the Kyoto Protocol was quite separate from the domestic policy response New Zealand would have to undertake to honour the Protocol's obligations, and the absence of any effort to quantify the environmental benefits of ratification.
- 2.4 Federated Farmers argued then, and continues to argue now, that it is irresponsible for any government to commit to honour treaty obligations without first having a clear idea of how that could be done in a fair and just manner. The resulting policy failures for the agricultural emissions research levy in 2003, the carbon tax in 2005, and now the emissions trading scheme highlight the political problems for blindly taking action.
- 2.5 That the environmental benefits of ratification could not be clearly outlined then and continue to remain largely unknown is an indictment against government process around climate change. Federated Farmers argued that where the environmental benefits of ratification cannot be described, that the government should instead focus on the more easily discernible effects of New Zealand being a party to the Kyoto Protocol. This clearly has not happened with any robustness over the years since New Zealand ratified the Kyoto Protocol.
- 2.6 However, in light of New Zealand's ratification of the Kyoto Protocol, and that there is a domestic policy response, Federated Farmers considers:
- *The government should not appropriate the carbon rights of landowners.* Landowners created the carbon right through land management decisions and the government should not be able to take or assume a property right without providing fair compensation to affected landowners.
 - *The government should revise its preferred policies to better reflect what our key trading partners and competitors are proposing to do.* Among those countries that have committed to emissions reductions, New Zealand is uniquely reliant on the export earnings of the primary sector. Domestic Kyoto policies will impact adversely on the competitiveness of those exports in offshore markets.

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- *The government should seek to adopt policies that impose least cost, are least distortionary, and will result in efficient resource allocation.* The impacts on the New Zealand economy from constraining carbon through price mechanisms are of a scale that hasn't been seen since the reforms of the 1980s.
 - *Biological agricultural emissions should not be included in an emissions trading scheme, until (a) our major trading partners and competitors take action to reduce such emissions and (b) there are mitigation measures that are economically sustainable and easily implemented by farmers.*
- 2.7 Our members remain highly sceptical of the government's reasons for pursuing compliance with emissions reduction commitments under the Kyoto Protocol. However, efficient farmers have never shirked from making responsible decisions. For example, future proofing their production systems by establishing water storage, development of new crop and pasture cultivars, or adopting any other technologies that enhance their viability in the face of a changing environment.
- 2.8 Federated Farmers is deeply concerned that any climate change policy must demonstrate that it is practical, economically-sustainable and ensure New Zealand farming can remain economically viable and internationally competitive through even the most testing of economic times, such as those being experienced right now.
- 2.9 Looking at the March 2011 issue of NBNZ Rural Focus, there is an item on trade and more specifically the tariffs that New Zealand agriculture are forced to bear as exporters. The overall burden for agricultural exports was in the area of \$1.5bn in 2010. Breaking that down to what that means for pastoral farming, the average beef farmer lost revenue in 2010 of \$15,900 or 19% of profit. For the average dairy farmer, lost revenue in 2010 was \$100,950 or 34% of profit. Not only are New Zealand farmers subsidising overseas governments to a ridiculous extent, but these are costs that our trade competitors would not be facing, certainly not to the extent that we are in New Zealand. Put simply, including biological agricultural emissions in the ETS would only exacerbate the situation of New Zealand farming and build on the range of pressures that already threaten the viability of food production in this country.
- 2.10 The ETS poses its own challenges to the future of farming in New Zealand, challenges most farmers struggle to see how they would remain viable, in producing subsidy-free products and trading to countries with distortionary barriers to trade. Substantial and immediate improvements are required to the current ETS before these challenges can be overcome.

3. GENERAL COMMENTS

3.1 Agriculture Sector Inclusion in the ETS

- 3.1.1 Farmer opposition to government efforts on climate change policy has been consistent over the years. At the heart of such opposition is an understanding of the farming sector being expected to shoulder a burden that neither makes sense nor leaves this sector and the country as a whole, economically-viable.
- 3.1.2 New Zealand farmers operate in an unsubsidised environment and are viewed internationally as highly efficient. Environmentally, it simply does not make sense to introduce a regime for New Zealand agriculture that forces production to less efficient

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jurisdictions or encourages reductions in efficient production here in New Zealand – again, a lose-lose situation for New Zealand and for the global environment.

- 3.1.3 It is abundantly clear to the federation that the current ETS is unsustainable for New Zealand and on this basis it should not proceed. The economic effect of such a scheme on the farming sector and our country will be difficult for the country to bear against current and on-going economic conditions.
- 3.1.4 Despite farming's huge contribution to the economy and boasting a superior productivity performance, farmers increasingly feel that they are not receiving adequate reward for their efforts. Over recent years there has been an insidious margin squeeze with farmers caught between remorselessly high inflation for their farm inputs and incomes that are at the mercy of fluctuations in commodity prices, the exchange rate and the weather, all of which are beyond the ability of farmers to control.
- 3.1.5 It is important to recognise that farmers are price takers, not price makers. Unlike many businesses, including those that provide services to the agricultural sector, farmers have no easy or direct ability to increase selling prices – they are mostly globally set. This means that when farm input costs rise while incomes remain static (or fall), farmers either have to cut spending or increase debt, with the latter increasingly less of an option due to the heavy indebtedness of many farms and stricter lending criteria being applied by banks.
- 3.1.6 The most recent data from MAF farm monitoring reports shows meagre returns for farmers, even dairy farmers. The table below shows rates of return on equity for the sheep and beef national model and the dairy national model.

Table 1: Rate of Return on Equity

	2008/09	2009/10	2010/11
Sheep & Beef	-0.2%	-0.2%	-0.1%
Dairy	-2.2%	3.0%	3.4%

Source: Farm Monitoring Review, Ministry of Agriculture and Forestry, October 2010

- 3.1.7 The rate of return on equity refers to the economic farm surplus (less interest and lease) as a percentage of equity. Income tax, debt repayment, capital expenditure, and living expenses for the farmer's family all have to be met from within this rate of return. Poor rates of return help to explain, in part, why farmers have had to increasingly resort to borrowings, with agricultural debt nearly doubling over the past five years¹.
- 3.1.8 The impact on farming under the current emissions trading scheme is such that Federated Farmers struggles to see a future for food production in New Zealand and therefore strongly argues for the exclusion of biological agricultural emissions from food production from the ETS, for reasons of:
- New Zealand is the only country attempting to do so;
 - Feeding a growing global population is more important than New Zealand's emissions profile;

¹ Agricultural sector debt grew from \$26.9 billion in November 2005 to \$48.0 billion in November 2010, Reserve Bank of New Zealand *Sector Credit Statistics (C5)*.

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- New Zealand can produce food more efficiently than other producers;
- Without ground breaking new technology, farming cannot reasonably do anything to reduce emissions beyond reducing production;
- The current rules place too much emphasis on reducing temporary non-CO2 gases when carbon dioxide is more persistent;
- The burden of an ETS will put many farmers out of business; and
- The cost to the New Zealand economy being too great for the country to withstand. International product prices are as high as they have ever been, but farm balance sheets are strained because of domestically imposed cost structures.

3.1.9 These are not ideal conditions in which to consider imposing a price of carbon on biological agricultural emissions from food production in New Zealand. We trade so much as a country post-border, and we need to do so more than most. The federation is unable to see how New Zealand can ever hope to compete if costs keep being added without any clarity of benefit. As such, Federated Farmers would argue that the date for the sector's entry must be removed from the Climate Change Response Act 2002.

3.2 Realistic mitigation potential

3.2.1 The likelihood of substantive and meaningful abatement of biological agricultural emissions is somewhat limited and requires time well beyond 2015 before research can be expected to deliver technologies to reduce emissions.

3.2.2 The core issue arises from the complexity of biological systems. The application of a widget to a mechanical process will have relatively easier and more certain effects. The same cannot be said for biological systems as they do not react in the same way as mechanical systems. Using stand-off feed pads as an example, the reduction in nitrous oxide emissions from the collection of dung and urine would be offset by the carbon emissions from the construction of the feed pad and reliance on trucking in supplementary feed.

3.2.3 The potential for biological agricultural emissions to be reduced must be understood on a holistic basis as the application of various practices and technologies targeting one greenhouse gas will have the effect of increasing the emission of other greenhouse gases. The permanence of the mitigation effects of a technology is another reason why more time is required to better understand what happens when farm management changes to attempt to reduce emissions. Other factors affecting the delivery of technologies include:

- Still growing understanding of processes that generate emissions within the New Zealand farming system;
- Challenges in applying yet unproven technologies across widely variable farm types and farming conditions;

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- Uncertainties in the cost-effectiveness of technologies within the New Zealand farming system;
 - Uncertainties in the impact that use of technologies could have on other farming pressures such as product quantity, product quality, product consistency, and animal welfare among others.
- 3.2.4 One also needs to understand the long lead-in times required between the proof of concept and commercialisation stages of product development that complicate an already complicated situation.

3.3 International efforts

- 3.3.1 New Zealand is the only country to have committed to imposing emissions obligations on the biological agricultural emissions. The EU ETS focuses on heavy industrial emissions and electricity generation. The Japanese ETS is focussed on transport fuel consumption by major companies. The detail of just what Australia and the USA intend to do remains largely unknown, but the previously proposed CPRS looked to exclude agricultural emissions and both the Carbon Farming Initiative and Waxman-Markey sought to reward land managers for various Kyoto non-compliant activities.
- 3.3.2 New Zealand has in the past adopted a world leader position on addressing biological agricultural emissions ahead of every other party to the Kyoto Protocol. Making matters worse, it has done so while there remain few, if any, options to mitigate those emissions beyond simply reducing production.
- 3.3.3 For New Zealand food production to remain internationally competitive, the example of other countries must be followed and biological agricultural emissions must remain outside the ETS, while an imbalance exists.

3.4 Conditions to entry

- 3.4.1 Given the imbalance in applying a price of carbon on New Zealand food producers while competitors avoid such a cost and while cost-effective mitigation options remain largely non-existent, there must be conditions on the entry of biological agricultural emissions into the ETS.
- 3.4.2 Federated Farmers would consider it reasonable that the review provisions in s160 of the Climate Change Response Act be amended to require that future reviews specifically consider whether New Zealand finds itself such:
- That competitors in other countries have similar schemes or otherwise face similar emissions costs;
 - That economically-sustainable mitigation technologies are available for widespread uptake; and
 - That international rules allow New Zealand to recognise the uptake of such technologies.
- 3.4.3 The reason why the federation insists that these conditions must be built into future reviews is to ensure that food production in New Zealand is not forced to bear a price

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of carbon where to do so would make agriculture uncompetitive and largely unable to respond to the carbon price beyond simply reducing production. This is a situation the government should look to avoid.

4. THE SUBMISSION'S APPROACH TO THE ISSUES STATEMENT QUESTIONS

- 4.1 The federation is not in a position to comment on all of the questions against which the panel seeks feedback. As such, this submission focuses on those questions that the federation can offer a considered response.

5. SPECIFIC RESPONSE TO QUESTIONS

- 5.1 *Q2e: What impacts of the ETS have you experienced to date? Other impacts of the ETS (eg: social, environmental).*

- 5.1.1 The ETS is having a disturbing impact on land purchase and sale decisions, farm management decisions and planning of on-farm investment often at the expense of the land being put to best use. Since the entry into force of the ETS, the federation has noticed a number of its members have had to revise investment intentions for their farms and farms they've considered purchasing.

- 5.1.2 This impact has been most visible among members in the Central North Island and Canterbury regions, where land development has been a particularly keen issue. The Central North Island is known for having large areas of pre-1990 forest that has since become excellent farm land with the understanding of how to remedy the mineral deficiencies that saw much of it planted in forests. Canterbury conversely is looking at the development potential that comes from increased irrigation.

- 5.1.3 That land is now perceived by our members to force somewhat different decisions on its use is having the effect of preventing a lot of land from being put to best use. This has the effect of not only affecting the ability of farm land to realize its full economic potential, but also of encouraging the locking up of land-use more generally. Farmers are under enormous pressure to meet ever-changing market and other drivers of production and any moves to constrain land-use flexibility puts farming at risk.

- 5.1.4 For an example of the impacts afforestation incentives have on rural areas, the federation would direct the Panel to MAF Policy technical paper 97/3 that looked at the impacts of land-use change in Wairoa District. The executive summary provides a helpful snapshot of rural population decline, falls in sheep and cattle numbers, downflow impact on rural support businesses and affected viability of meat processing capacity, as well as exaggerated environmental effects. Granted this is a snapshot of a particular region suffering under the pressures of the time, but it does highlight the unintended consequences that arise from not looking at the full range of effects of central government policies directed towards affecting land management.

- 5.2 *Q6f: What impacts do you expect to experience after 2012 (given the current settings of the ETS)? Comparison between carbon prices and abatement costs.*

- 5.2.1 Carbon prices in New Zealand's ETS are less driven by abatement cost and mitigation potential within our national borders, but more by the value of traded units in the EU ETS. This is not a slight against international linkages (a necessity to ensure highest economic value can be realized by the selling of units, while also enabling international supply of units into the New Zealand ETS to cover off risks to

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liquidity and availability of units to scheme participants), but a nod towards the need for more balance between an ETS designed for New Zealand's interests and a scheme replicating conditions better suited for other countries.

5.3 *Q6g: What impacts do you expect to experience after 2012 (given current settings in the ETS)? How you expect the ETS to affect New Zealand socially and environmentally in the long-term.*

5.3.1 The effect the ETS is having of confusing and complicating land-management decisions will see New Zealand's productive base progressively less and less optimally managed to deliver the best returns from land being put to best use. Yes, there are additional factors that also affect farm decision-making, and, yes, farm management has to respond to myriad issues and concerns, but the extent to which the ETS makes decision-making so difficult that many are forced to throw their hands up or indeed look to get out of farming altogether, will see social and community impacts on a scale similar to those seen in the 1970s as land conversion to forestry became more widespread.

5.4 *Q11: Do the scenarios in table 4.1 capture the most likely outcomes for the international framework after 2012? If not, what other scenario(s) do you suggest the Panel should consider?*

5.4.1 It would be worth considering a new scenario 4 whereby a singular international market is instead replaced by an interlinked series of domestic schemes bound by bilateral arrangements.

5.4.2 International carbon markets are not maturing or evolving in the way many commentators had originally hoped. The EU ETS functions as a fortress, allowing emissions units in but not out while also being very selective about the units it admits. The New Zealand ETS has taken a somewhat opposite approach. Australia doesn't seem sure where it is heading with its own arrangements except that there will be a low-level carbon charge as well as a heavily under-subscribed and largely non-compliant Carbon Farming Initiative. The USA is unlikely to establish a compliant ETS. The future of Japan's narrow scheme is uncertain given the recent disaster they've suffered.

5.4.3 The lessons one can derive from these schemes is that they are all approaching their domestic arrangements in different and unique ways, and it is in their differentness and uniqueness that a promised merging into a cohesive international market is extremely unlikely to eventuate, instead relying on a looser system of bilateral arrangements.

5.5 *Q12b: How might the objective(s) of the ETS change under each of these scenarios? In particular: What considerations should influence how the costs of any international obligation New Zealand faces should be shared between different sectors of the economy such as the split between emitters and taxpayers and the relative abilities of different sectors to reduce emissions?*

5.5.1 There are two ways of looking at this: fix the target or fix New Zealand's response to the target.

5.5.2 In the first instance, conditions can be imposed against New Zealand's agreement to adopt targets under an international framework, a means by which the country can

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hedge its bets while not compromising its participation in the international process in the same way as happened to the USA and Australia during the Bush-Howard years.

- 5.5.3 In the second instance, being realistic about what can be achieved and the relative costs of achievement by different sectors should drive any consideration of how the burden ought to be shared within our national borders.
- 5.6 *Q12c: How might the objective(s) of the ETS change under each of these scenarios? In particular: What is the role of the ETS in preparing New Zealand for the international obligations and other drivers for action it may face in the long-term.?*
- 5.6.1 So long as there remains as much uncertainty around the likely shape and content of future international agreements and rules, it is difficult to see what role the New Zealand ETS could play in preparing scheme participants for what is to come. With that being the case, the more relevant issue to consider is whether ETS settings are optimal for New Zealand's interests and sufficiently flexible to enable the ETS and scheme participants to move with the shifts in international consensus, whether multilateral or bilateral.
- 5.7 *Q12d: How might the objective(s) of the ETS change under each of these scenarios? In particular: Should the ETS design be changed in order to strengthen the incentives for domestic abatement? If so, how?*
- 5.7.1 There are two aspects here: is the ETS adequately recognizing what is happening, and what more could be done to encourage further effort.
- 5.7.2 On the first point, there is a fair amount of unhappiness among landowners that much of their efforts go unrecognized and unrewarded. Efforts include riparian plantings that fail to meet the 30m width threshold, forest plantings that fail to meet the post-1989 threshold and definition as reforestation, and perceived increases in soil carbon sequestration from land management. This understanding is what lies at the core of many of the misgivings many farmers have about the ETS and government efforts to reduce emissions. Whether the fault of international guidelines (separate treatment of sources and sinks in national inventories), international rules (art 3.3 rules around eligibility of forests) or government policy (art 3.4 activities such as soil carbon, point of obligation at the processor-level, etc.), the question of whether the ETS could have a stronger role should be parked until it is first understood why more isn't being done.
- 5.7.3 Put more simply, the ETS should focus on addressing the extent to which it rewards action that is currently being undertaken and the need to incentivize further effort will largely be resolved,
- 5.8 *Q12f: How might the objective(s) of the ETS change under each of these scenarios? In particular: How do you see domestic and international carbon markets developing beyond 2012?*
- 5.8.1 The unlikelihood of achieving a unifying international market means that domestic markets will continue to become more and more focused on serving the needs of scheme participants and national circumstances, than over-arching international ambitions. This is something that New Zealand should look to do with its own ETS settings.

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5.9 *Q13a: Under what conditions should the ETS scale up to a full obligation? In particular: Should the fixed price option of \$25 continue beyond the current transition phase (ie, after 2012)?*

5.9.1 Yes, it should. While there remains uncertainty over future international agreements and rules, while other countries are still considering how they might respond to their international obligations, while our carbon price remains hostage to the vagaries of action outside our borders, and while our ETS remains out of sync with other schemes, then transitional measures such as the price cap must continue beyond 2012.

5.10 *Q13b: Under what conditions should the ETS scale up to a full obligation? In particular: Should the one-for-two obligation continue beyond the current transition phase?*

5.10.1 Yes, it should. While there remains uncertainty over future international agreements and rules, while other countries are still considering how they might respond to their international obligations, while our carbon price remains hostage to the vagaries of action outside our borders, and while our ETS remains out of sync with other schemes, then transitional measures such as the two for one obligation must continue beyond 2012.

5.11 *Q15: Under what conditions should new sectors enter the scheme and incur surrender obligations?*

5.11.1 Only where competitors face a similar price of carbon, where there are economically-sustainable mitigation technologies available for uptake, and where uptake of such technologies can be recognized under international rules, should New Zealand consider the entry of a sector to the ETS.

5.12 *Q18: Are there any other issues, in particular any related to the matters set out in section 160(5) of the Act you think the Panel should consider? If so, please provide details of your view.*

5.12.1 There are other transitional measures that the review panel would do well to consider retaining with some amendment, namely:

5.12.2 S217: the grace period for penalties upon a sector's entry to the ETS should be retained, albeit with a more general period tied to the flexible entry of new sectors, rather than the legislated dates of entry for new sectors.

5.12.3 S222C: the payment of money instead of emissions units should be retained to cover risk to scheme participants from low liquidity in the New Zealand ETS and difficulty securing emissions units from other markets to cover shortfalls. If deemed necessary, this measure could be tied to general phase-out conditions for future reviews to consider. Although the rate for cash payments in lieu of emissions units should be tied to the price cap, that the rate is tied to the price cap should be additional incentive to ensure the price cap is set at a reasonable rate.

5.12.4 S222D : the ability for the government to issue NZUs where money is paid by scheme participants in lieu of emissions units should be retained as it is necessary where 222C is in effect.

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5.12.5 S222G : the prohibition on the export of emissions units needs to be reviewed as it raises a trade-off between scheme participants realizing the full economic value of emissions reductions vs protecting sovereign risk and managing liquidity concerns. Should those that reduce industrial emissions be prevented from realizing potentially higher values for those reductions? Should those that reduce industrial emissions benefit from a windfall gain under allocation? These are questions that require further thought.

6. ABOUT FEDERATED FARMERS OF NEW ZEALAND

6.1 Federated Farmers welcomes the opportunity to comment on the issues statement for the Emissions Trading Review 2011 consultation.

6.2 Federated Farmers of New Zealand is a member-based organisation representing farming and other rural businesses. Federated Farmers has a long and proud history of representing the needs and interests of New Zealand farmers.

6.3 The federation aims to add value to its members' farming business. Our key strategic outcomes include the need for New Zealand to provide an economic and social environment within which:

- Our members may operate their business in a fair and flexible commercial environment;
- Our members' families and their staff have access to services essential to the needs of the rural community; and
- Our members adopt responsible management and environmental practices.

6.4 Federated Farmers has been closely involved in the climate change issue since April 2001, when it was first brought to our attention that agricultural greenhouse gas emissions would be included in the government's domestic policy response to the Kyoto Protocol.

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Fonterra Co-operative Group
Submission to the Emissions Trading Scheme Review Panel



Dairy for life

Executive Summary

1. Fonterra Co-Operative Group Limited (Fonterra) appreciates this opportunity to comment on the operation and effectiveness of the New Zealand Emissions Trading Scheme (ETS).
2. This submission sets out Fonterra's experience of the ETS so far, as well as considering the potential development of the ETS in light of further international measures on climate change, and includes our recommendations to ensure that the ETS becomes a relevant, flexible and effective scheme.
3. Fonterra is the world's largest dairy processor and New Zealand's largest company. In the calendar year 2010 the value of New Zealand dairy exports rose to over \$10.9 billion dollars, representing 25 percent of New Zealand's merchandised exports for the 2010 calendar year.
4. Given this economic contribution, it is vitally important that the ETS is designed in a way that does not place the competitiveness of the New Zealand dairy industry at risk.

The impact of the ETS on dairy farmers is large enough to cause leakage if allocations are not granted

5. The ETS legislation has many diverse aspects, covering industrial processes, agricultural issues and forestry. Each of these aspects has an impact on Fonterra and its suppliers.
6. There is a misconception that, because agricultural gases are not yet subject to surrender obligations, dairy farmers have not been affected by the ETS. However, the ETS already results in a cost of \$3,600 per annum on the average dairy farm. This compares to an average household cost of \$133 per annum. When it is considered that the average dairy farm directly supports two households, the economic effect of the ETS on dairy households far exceeds that borne by the general economy.
7. The ETS will cost the average dairy farmer \$7,500 per annum with full obligations, and \$15,000 per annum if NZU prices rise to \$50. If agricultural gases enter under current emissions factors this cost will rise to \$24,000 per year.
8. In the dairy season 2009-10 the average owner-operator dairy farm had a post-drawings cash surplus of \$58,000. This represents the amount of money available for reinvestment in new infrastructure to support production growth. It also represents the cash available to pay down debt and to finance investment in new dairy production. The ETS will reduce the cash available for re-investment by 28 percent, reducing dairy growth in New Zealand. This reduction in New Zealand production will result in a rebalance of the market and an increase in production offshore. As offshore production will result in equal or greater emissions than New Zealand production, the result of this policy is unacceptable production and emissions leakage.
9. This impact on profitability is ignored by the current allocation tests in the ETS. These tests assess competitiveness impacts based on the simple notion of emissions per million dollars of revenue. However it is the profitability of a business, rather than its revenue, that enables investment. A true comparison requires a measure of the effect on profit. This requires the adoption of a "value add" approach, as is used in the EU and consequently has resulted in European dairy processors being granted full allocation.
10. The current ETS definition of an activity is too discrete. In the context of dairy processing, it is important to consider that one base product is transformed using a range of processes, sometimes across different sites, to create numerous different outputs. This has led to an overly complex application for allocation process, at an administration cost to both Fonterra and the Government.

Fonterra recommends:

Introducing additional thresholds for allocations on the basis of a value-add test, rather than solely on the basis of revenue;

Classifying activities with greater than 1200 tonnes of CO₂e per million dollars of value-add as moderately emissions-intensive and classifying activities with greater than 2400 as highly emissions-intensive; and

Broadening the definitions of activities to ease the administrative burden of application for allocation.

International approaches to climate change – aligning and refining

11. Climate change is a global problem, and as such must be addressed in cooperation with other countries. The nature of this cooperation will inevitably change as the international climate change response agenda develops. While New Zealand's ETS must be capable of integrating with initiatives in other jurisdictions, it must also be flexible.
12. As climate change response policies are formed, debated, and amended in other jurisdictions (just as they have been in New Zealand), New Zealand's approach must be continually reviewed. Changes are dynamic and sometimes unpredictable. Australia's abandonment of their proposed Carbon Pollution Reduction Scheme (CPRS) is an example of this. The USA's abandonment of the Waxman-Markey Bill is another. Yet once the initial "dynamic" phase is complete, a jurisdiction will enter a more settled phase of operation and refinement. New Zealand should seek to integrate our ETS with foreign schemes only once policy development has reached a settled phase.
13. Beyond 2012, the international commitments which influenced the enactment of the Climate Change Response Act 2002 (Act) will lapse. It is not certain what direction the international community will take, but it is clear that New Zealand has an opportunity to reconsider some of the constructs that the ETS bends to align itself with at present.
14. Not only will the obligations under the Kyoto protocol lapse, but the administrative rules that Kyoto established which have been reflected into current legislation can now be re-examined. In other words, rather than continuing to look to the UNFCCC for emissions accounting rules, New Zealand is now uniquely placed to develop an approach to emissions trading that reflects local circumstances but maintains international connections.
15. Two such unique local circumstances are our large areas of exotic plantation forest, and our narrow bands of riparian planting. In both cases the application of the Kyoto rules has lead to inefficiencies in the operation of the New Zealand ETS. New rules must be developed to alleviate these inefficiencies.

Fonterra recommends:

Maintaining the 2-for-1 obligations and the \$25 price cap until such time as New Zealand's developed nation partners have implemented obligations equivalent to a 1-for-1, uncapped price. The price cap will also be needed until full recourse to international climate markets is available;

Amending the stated purpose of the Act to reflect current climate change response policy, and to focus on proactive, rather than reactive approaches;

Amending forestry rules to fit New Zealand circumstances, such as, allowing for flexible land use by removing pre-1990 forestry conversion obligations and removing the 30 metre minimum width.

Introducing a price for agricultural gas emissions

16. Currently, methane and nitrous oxide from agricultural activities (agricultural emissions) are scheduled to face obligations from 2015. Due to New Zealand's low population, renewable dominated electricity sector, and internationally competitive agricultural sector, these gases form the largest 'wedge' of New Zealand's emissions profile (46.6 percent).
17. Kyoto obligations will soon lapse, and the approaches being developed by other jurisdictions are increasingly based on incentives rather than penalty. In the USA and Australia policy development has focussed on a zero-cost approach to creating agricultural incentives. In the EU the approach has largely been one of sustainability subsidies.
18. The current legislative framework, which places the point of obligation at the dairy processor, will necessitate a standardised "cost" of carbon for on-farm activities – implemented through what may be described as working as a levy. Without the estimation of emissions at the farm level, there will be only weak drivers on farmers to reduce ETS costs. And because both efficient and inefficient farmers face the average charge, the incentive to invest in emissions-reducing activities is not created.

Fonterra recommends:

Reassessing the question of agriculture gases being made subject to surrender obligations during the 2014 review;

Developing a system that, when and if agricultural gases formally enter the scheme, would allow the point of obligation for emissions to be on-farm.

An ETS for the future – setting direction, principles and guidance

19. Fonterra acknowledges that, while the current review may not resolve all the potential future issues of the ETS, the Panel should give clear recommendations to Government about the immediate changes needed, as well as setting out principles to give industry and participants some certainty about the way ahead and, in addition, aiding future reviews in their decision-making.

Fonterra recommends

Seeking findings which provide decisiveness about the immediate future, principles for the medium term and guidance for the long term.

Contents

Executive Summary	2
The impact of the ETS on dairy farmers is large enough to cause leakage if allocations are not granted	2
International approaches to climate change – aligning and refining.....	3
Introducing a price for agricultural gas emissions	4
An ETS for the future – setting direction, principles and guidance	4
Contents.....	5
Introduction	6
Key principles of ETS policy in New Zealand	7
Fonterra position and approach.....	7
Short-term competitive risks to New Zealand dairy production	8
Costs to New Zealand dairy farmers arising from the ETS	8
Reduced global competitiveness of New Zealand dairy farmers	10
Leakage occurs between trading competitors, not just trading partners.....	11
Measures to maintain New Zealand dairy competitiveness during the global transition to a price on emissions	12
Improving the measure to test eligibility for allocations	14
Improving the definition of an activity	15
Key ETS design changes needed for likely post-2012 international frameworks	15
Ensuring the ETS is part of a balanced global response to climate change.....	15
Likely international obligations post-2012.....	16
Policy development in partner nations.....	17
Restating our purpose – post-Kyoto.....	18
Supply of NZUs post-2012.....	19
Linking with international carbon markets	19
The Kyoto Protocol and forestry rules in the ETS.....	20
Flexible land use.....	21
Riparian margins.....	22
International and domestic treatment of agricultural gases.....	23
Fonterra recognises the importance of reducing agricultural greenhouse gas emissions.....	23
International treatment of agricultural gases	24
Assessing the current agricultural emissions framework	25
Other economic considerations before including agricultural emissions	25
Other questions raised in the Issues Statement.....	26
Q2: What impacts of the ETS have you experienced to date?	27
Q3: What are your views on the administrative efficiency of the ETS?	29
Q4: In your opinion, are the modelling results in paragraph 62 (page 21) likely to reflect the actual macroeconomic impacts of the ETS? If not, in your opinion, how will the ETS affect New Zealand in overall economic terms?	29
Q5: Do you agree/disagree with the Panel's assessment of the impact of the ETS after 2012? If not, why not?.....	29
Q17: Should the ETS cover synthetic greenhouse gases (SGG) from 2013, as currently legislated?	30
Cross reference between Issues Statement questions and Fonterra submission	31
Appendix 1 – 2009-10 owner-operator farm income statement	33
Notes on farm income statement	34

Introduction

20. Fonterra thanks the Review Panel for the opportunity to address the questions raised in the “Emissions Trading Scheme Review 2011: Issues statement and call for written submissions” (Issues Statement). This submission will focus on three key areas of concern for Fonterra. The submission will begin by looking at the competitiveness, equity and investment impacts the ETS will have on Fonterra suppliers. The submission will then cover the opportunities and key design changes needed to move the ETS to a post-Kyoto framework. The final area of discussion is the method and conditions under which agricultural gases may enter the scheme. The submission will finish by directly addressing some of the questions posed to submitters in the Issues Statement that are not covered under these over-arching themes.
21. Fonterra is the world’s largest processor and exporter of dairy products with annual turnover of NZ\$16.7 billion for the financial year ending July 2010. In total Fonterra is responsible for more than a third of international dairy trade. Fonterra is a truly global company, with milk supply originating from in New Zealand and throughout the world. This milk is processed and distributed through Fonterra’s global supply chain to customers in more than 140 countries.
22. Fonterra is at the heart of the dairy industry in New Zealand, and the dairy industry is at the heart of the New Zealand economy. In the calendar year 2010 the value of New Zealand dairy exports rose to over \$10.9 billion dollars, representing 25 percent of New Zealand’s merchandised exports for the 2010 calendar year¹.
23. Fonterra is proudly fully New Zealand owned and operated. Through the co-operative structure, Fonterra’s shareholders are our 10,500 New Zealand dairy farmer suppliers. These farmers, and the farmers that came before them, have built Fonterra over 140 years through the founding, and then consolidation, of hundreds of community dairy co-operatives.
24. A recent report by NZIER titled “Dairy’s role in sustaining New Zealand” investigated the economic contribution dairy makes to New Zealand². The report highlighted:
 - 24.1. Dairy has a strong influence on New Zealand’s balance of payments. Dairy exports are twice those of the meat sector, over six times larger than all fruit exports, nine times larger than wine exports, twelve times larger than aluminium exports and seventeen times larger than wool exports. In fact, dairy exports are about the same as the sum of the next four largest export sectors: meat, wood, mineral fuels (oil) and fruit & nuts.
 - 24.2. Through its export earnings, the dairy sector makes a positive contribution to narrowing New Zealand’s current account deficit. Without this export growth, New Zealand would have had to face increased foreign liabilities and interest on foreign debt. A smaller deficit reduces New Zealand’s country risk premium on mortgage and other borrowing costs, which benefits all households and firms that are borrowers.
 - 24.3. As many as 1 in 4 jobs in some rural areas are in the dairy farming and processing sectors. Many other jobs are indirectly attributable to the dairy industry. The dairy volume expansion over the past decade has delivered an additional \$650 of income per person in the Southland region and \$590 per person in the Canterbury region above that which what would otherwise have occurred.

¹ StatsNZ: Overseas Merchandise Trade: December 2010

² “Dairy’s role in sustaining New Zealand – the sector’s contribution to the economy”, NZIER – a report to Fonterra and DairyNZ, December 2010.

<http://www.fonterra.com/wps/wcm/connect/fcf7000044f43b8bb2b2fbac5c5d2692/NZIER+economic+report+to+Fonterra+and+DNZ+2010.pdf?MOD=AJPERES&CACHEID=fcf7000044f43b8bb2b2fbac5c5d2692>

24.4. The national benefit of an increase of \$1 per kilogram of milk solids in the Fonterra payout results in a welfare gain of \$1.2 billion, as proxied by private and public consumption. This results in an additional \$270 of spending for every man, woman and child in New Zealand. The richer dairy sector would generate employment of approximately 4,600 more FTEs and wages would later start to rise.

25. The ETS legislation has many diverse aspects, covering industrial processes, agricultural production and forestry. Fonterra's business is unique in the sense it feels significant impacts from each of these interwoven aspects. Given the Company's stated economic contribution, it is vitally important that the ETS is designed in a way that does not place the competitiveness of Fonterra and the New Zealand dairy industry at risk.

Key principles of ETS policy in New Zealand

26. At the last election the current National Government presented to the people of New Zealand a climate change policy that sought to seek a balance between ambition and pragmatism. This policy contained the following principles on Emissions Trading³:

"The ETS must strike a balance between New Zealand's environmental and economic interests. It should not attempt to make New Zealand a world leader on climate change.

"The ETS should be fiscally neutral rather than providing billions of dollars in windfall gains to the government accounts at the expense of businesses and consumers."

"The ETS should have the flexibility to respond to progress in international negotiations rather than setting a rigid schedule. This way, industry obligations can be kept in line with those of foreign competitors."

27. There is no indication that the principles the New Zealand public support have altered. In reviewing the ETS it is important to keep these democratically endorsed principles in mind. The recommendations contained in this submission have been formulated to ensure that the ETS continues to adhere to these principles.

Fonterra position and approach

28. These principles have general agreement with those that Fonterra has previously advocated. Fonterra's consistent approach to the development of domestic climate change policy has been:⁴

28.1. Any New Zealand action to reduce domestic emissions must also contribute to reduction in global emissions. Any policy that contributes to emission leakage will have a neutral to negative impact on global emission reductions, while adversely impacting New Zealand's economic well-being;

28.2. Emissions reduction should be achieved with no greater compromise to New Zealand's economic wellbeing than that incurred by other developed countries in addressing climate

³ 3 of 6 principles contained in "Environmental Policy" (National Party, 2008)

<http://www.national.org.nz/files/2008/environment%20policy.pdf> . Other principles were: The ETS should be closely aligned to the Australian CPRS (now defunct), should encourage increases in emissions efficiency, and should not discriminate against small businesses.

⁴ These principles also contained in previous Fonterra submissions on emissions trading;

http://www.parliament.nz/NR/rdonlyres/F793E11E-A3EE-45D2-A983-59E8783D47D3/115724/49SCFE_EVI_00DBHOH_BILL9597_1_A14811_Fonterra_1.pdf

change. Where economic compromise is required, the quantum and effect should be explicitly acknowledged; and

- 28.3. Climate change is a global issue requiring a global response, but the response must not compromise security of food supply and the efficient production of food to meet the requirements of a growing global population.

Short-term competitive risks to New Zealand dairy production

Costs to New Zealand dairy farmers arising from the ETS

29. Farmers face costs for emissions that occur within their own businesses as well as those that occur through the transport and processing of dairy products. This is due to milk processors not being able to pass costs onto customers and consequently being forced to pass these costs onto farmer suppliers. In the case of Fonterra, where farmers are also the owners of processing facilities, there is absolutely no doubt that the costs borne by Fonterra will be passed onto farmers - either through a lower milk price or lower dividend.
30. Leakage in the dairy supply chain primarily occurs on-farm. Individual dairy farmers dictate the level of milk production in New Zealand. Fonterra is then required to process all milk that farmers supply. If farmers costs go up, investment will fall, milk production will be reduced, and Fonterra's production of processed dairy products will be reduced.
31. At present the ETS increases average dairy farm annual costs by approximately \$3,600 per Fonterra supplier⁵. These costs arise from farmer use of electricity and fuel, as well as increased processing costs passed onto suppliers by Fonterra.
32. Under current legislation these costs will increase once the ETS enters its second phase in 2013. The removal of the 2-for-1 obligation will, of course, double the costs dairy farmers face. The effect of the removal of the \$25 price cap is harder to forecast. Table 1 shows the costs that would eventuate under both a \$25 and a \$50 NZU price.

Table 1. Dairy farm ETS costs: F11 and F14

<u>Emissions Costs per Dairy Farm in F11 and F14</u>					
	F11		F14		F14
Emissions Cost Avenue	Cost @ \$25 per 2 tonnes		Cost @ \$25 per tonne		Cost @ \$50 per tonne
Fonterra Collection and Processing	\$	2,400	\$	5,000	\$ 10,000
Farm Electricity and Fuel	\$	1,200	\$	2,500	\$ 5,000
Total Farm ETS Cost	\$	3,600	\$	7,500	\$ 15,000

33. Over Fonterra's 10,500 dairy farmers suppliers these costs aggregate to a total cost of \$38 million per annum at present and between \$79 and \$158 million in 2013 (depending on the price of NZUs).
34. This cost impact will increase further if agricultural gases enter the ETS in 2015 as scheduled under current legislation. These costs are summarised below in Table 2⁶. The forecast is for the average dairy farm in the 2015-2016 dairy season (F16).

⁵ For simplicity all Fonterra estimates use an NZU price of \$25 pre-2013. Post 2013 costs are expressed at an NZU price of both \$25 and \$50. This is broadly consistent with methods of cost estimation used by various government departments.

⁶ Previous cost forecasts by Fonterra estimated a lower agricultural emissions cost. These forecasts were done before the release of the regulations "Climate Change (Agriculture Sector) Regulations 2010 (SR 2010/335)". While previous forecasts

Table 2. Dairy farm ETS costs: F16

Emissions Costs per dairy farm in F16					
Emissions Cost Avenue	Quantity	Tonne	Emissions Factor	Cost @ \$25 per NZU	Cost @ \$50 per NZU
Milk Solids (kg)	139,944	140	6.14	\$ 2,254	\$ 4,509
Culls	64	12	7.90	\$ 251	\$ 501
Calves born not bobbies	263		1.98	\$ 1,368	\$ 2,736
Nitrogen fertiliser	17		5.72	\$ 259	\$ 518
Total Ag Gas Cost per Farm				\$ 4,132	\$ 8,264
Fonterra Collection and Processing				\$ 5,164	\$ 10,328
Farm Electricity and Fuel				\$ 2,625	\$ 5,249
Total Farm ETS Cost				\$ 11,921	\$ 23,841

35. To understand the impact these costs will have on dairy farm businesses these costs need to be compared to average operating margins. Table 3 contains a DairyNZ estimate for the cash flows on an owner-operated dairy farm for the most recent financial year available⁷⁸. The 'Cash Surplus' line represents the amount of cash available for reinvestment or debt repayment. Appendix 1 includes an average farm income statement for detail on non-cash items.

Table 3. 2009-10 New Zealand owner-operator cash flow estimate

2009-10 New Zealand Owner-Operators estimate

Cash Operating Surplus and Operating Profit 2009-10

PHYSICAL CHARACTERISTICS:	per farm	per cow	per hectare	
Milking area (ha)	133.7			
Peak cows milked	376			
Kg Milksolids produced	126,669	337	948	
	\$ per farm	\$ per cow	\$ per milking hectare	\$ per Kg milksolids produced
DAIRY CASH INCOME:				
Milk sales (net of dairy levies)	786,098	2,091	5,880	6.21
Net livestock sales (sales - purchases)	38,690	103	289	0.31
Other dairy cash income	5,186	14	39	0.04
Net Dairy Cash Income	829,974	2,207	6,209	6.55
Farm Working Expenses	454,118	4,752	13,365	13.10
Cash Operating Surplus	375,856	1,000	2,812	2.97
less interest & rent	208,000	553	1,556	1.64
less tax	30,000	80	224	0.24
less drawings	80,000	213	598	0.63
Cash Surplus	57,856	154	433	0.46

Source: DairyNZ Economics Group, DairyBase

needed to make assumptions, current forecasts are based purely on the emissions factors contained in these, and this is the reason for the change.

⁷ The payout in this year (\$6.21) is slightly higher Fonterra F02-F11 historical average is \$5.41. Long-term, the 'interest & rent' and 'Farm Working Expenses' in the 2009-10 season will likely be higher than average. In general the bottom line cash surplus may be typical for this year but cash income, farm working expenses and interest may be higher than normal.

⁸ Note that the forecast does not contain an adjustment for the labour of the farm owner who in this case is presumed to also manage the farm, but instead contains the drawings expected to be taken by the owner as both a dividend on investment and personal wages. If this was a farm that employed a farm manager the drawings would be split between dividends to the farm owner and a wage for the farm manager.

36. Table 4 presents the ETS costs against the 2009-10 average owner-operator cash surplus, drawings and final cash surplus⁹. Under the current legislative framework the ETS cost will be equivalent to 14 percent of average farm drawings, at a \$25 NZU price. This is a massive burden to place on dairy farm owners. The reduction measured against final cash surplus, and adjusted for a reduction in business tax, is also 14 percent. Such a cost will, overtime, reduce the ability of the industry to finance organic investment or attract external investment, and therefore result in leakage. If emissions prices rise, these costs will also rise. At an NZU price of \$50 the reduction in farm cash surplus is 28 percent.

Table 4. Emissions cost as percentage of total owner cash surplus, drawings, and final cash surplus

<u>Cost as a percent of farm surplus</u>		Cost at \$25 per NZU		Cost at \$50 per NZU	
ETS Impact on 126,669 kg MS dairy farm		without ag	with ag	without ag	with ag
	raw cost	\$ 7,400	\$ 11,200	\$ 14,800	\$ 22,400
Total Owner Cash Surplus	\$ 137,856	5%	8%	11%	16%
Drawings	\$ 80,000	9%	14%	19%	28%
	adjusted for tax savings	\$ 5,328	\$ 8,064	\$ 10,656	\$ 16,128
Cash Surplus	\$ 57,856	9%	14%	18%	28%

Reduced global competitiveness of New Zealand dairy farmers

37. The increase in cost due to the ETS occurs at a time when dairy farmers have already faced rising farm costs. During the period between 2006-07 and 2007-08 alone average farm working expenses rose 41 percent (in part due to drought, but in part due to increased farm input prices). Against this background, as well as climatic variation and fluctuating payouts, farmers have only achieved an average cash surplus in 2 out of the last 5 years. Table 5 shows the dairy farm cash surplus over the last five years.

Table 5. Dairy farm cash surplus over the last five years

2005-06 to 2009-10e New Zealand Owner-Operators Cash Surplus

Cash Operating Surplus and Operating Profit By Year

	2005-06	2006-07	2007-08	2008-09	2009-10e	Average last 5 years
	per farm	per farm	per farm	per farm	per farm	per farm
PHYSICAL CHARACTERISTICS:						
Milking area (ha)	118	123	125	129	134	126
Peak cows milked	321	336	348	359	376	348
Kg Milk solids produced	108,800	116,900	114,800	121,400	126,669	117,714
	\$ per farm	\$ per farm	\$ per farm	\$ per farm	\$ per farm	\$ per farm
DAIRY CASH INCOME:						
Net Dairy Cash Income	475,000	519,000	897,000	679,000	830,000	680,000
Farm Working Expenses	290,000	320,000	451,000	468,000	454,000	396,600
Cash Operating Surplus	185,000	199,000	446,000	211,000	376,000	283,400
less interest & rent	117,000	132,000	161,000	207,000	208,000	165,000
less tax	19,000	15,000	53,000	22,000	30,000	27,800
less drawings	77,000	76,000	79,000	77,000	80,000	77,800
Cash Surplus	-28,000	-24,000	153,000	-95,000	58,000	12,800

Source: DairyNZ Economics Group, DairyBase

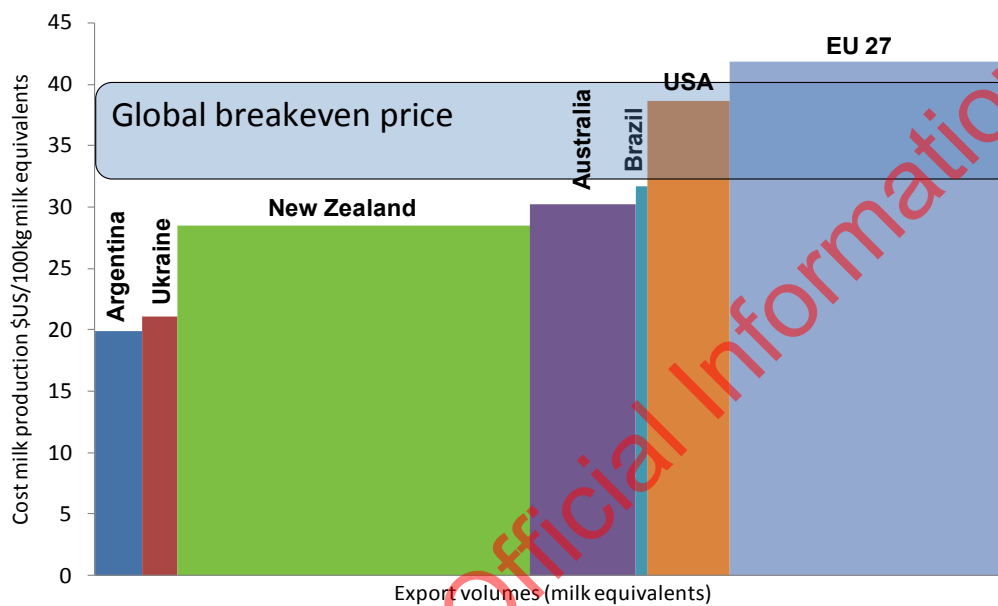
38. Farmers are responding to this variation in payouts by diverting a higher percentage of the cash surplus in profitable years to debt repayment, rather than re-investment. Between September 2010 and January

⁹ An adjustment is needed to compare the cost forecasts presented in Table 2 to the historical farm shown in Table 3. After this adjustment the cost impact on the 2009-10 farm falls to \$11,200 at an emission price of \$25 per NZU, or \$22,400 at \$50 per NZU.

2011 alone, farm debt fell by \$459 million¹⁰. Recent rises in the forecast payout to dairy farmers should not be interpreted as a signal that dairy farmers are in a strong financial position to absorb new costs.

39. These cost increases have reduced the cost advantage New Zealand dairy production has on the global stage. Figure 1 shows the current cost of New Zealand dairy production compared to selected trade competitors. It can be seen that Argentine and Ukrainian production is now lower cost than New Zealand production. At an NZU price of \$50 the ETS will cause New Zealand production costs to increase by a further US\$1.07 per 100 kilograms of milk equivalent¹¹. The reduction in New Zealand competitiveness will lead to both organic and external investment being diverted offshore to nations that offer higher profit margins.

Figure 1. Cost of dairy production and export volumes in selected trade competitors



Source: OECD-FAO, IFCN, DairyNZ Economics Group

Leakage occurs between trading competitors, not just trading partners

40. In the development of climate change policy, emphasis has been given to the approaches taken by New Zealand's 'trading partners'. It is trading competitors, rather than partners, to which leakage of New Zealand dairy production will occur. These are the jurisdictions to which we should look when assessing competition risks associated with the costs of ETS to dairy farming. Tables 6 and 7 below show the current state of climate change policy in major dairy producing and exporting nations.

¹⁰ BNZ Weekly Overview 10th March 2011 <http://www.bnz.co.nz/static/www/docs/weekly-overview/w2011-03-10.pdf>

¹¹ This is a measure of standard milk in liquid form, 1 kilogram of milk equivalent is approximately 88 grams of milksolids

Table 6. 2010 global dairy production by nation¹²

Country	Milk Equivalent (SEU, tonnes)	Emissions Trading	Agricultural Emissions Included?	Allocations to Processors
1 European Union	150,595,000	Yes	No	Yes
2 India	105,000,000	No	No	- No ETS -
3 United States of America	82,667,000	Stalled	No	Unknown
4 China	38,753,665	No	No	- No ETS -
5 Russia	33,208,920	No	No	- No ETS -
6 Brazil	27,752,000	No	No	- No ETS -
7 New Zealand	19,691,450	Yes	Yes	No
8 Ukraine	13,846,700	No	No	- No ETS -
9 Turkey	11,309,715	No	No	- No ETS -
10 Australia	11,271,000	Proposed	No	No
Rest of World	89,546,703			
Total	583,642,153			

Table 7. 2010 global dairy exports by nation¹³

Country	Milk Equivalent (SEU, tonnes)	Emissions Trading	Agricultural Emissions Included?	Allocations to Processors
1 New Zealand	17,670,422	Yes	Yes	No
2 European Union	15,369,223	Yes	No	Yes
3 United States of America	6,554,335	Stalled	No	Unknown
4 Australia	3,806,677	Proposed	No	No
5 Argentina	1,867,392	No	No	- No ETS -
6 Egypt	1,392,809	No	No	- No ETS -
7 Ukraine	901,745	No	No	- No ETS -
8 Switzerland	854,160	No	No	- No ETS -
9 Iran	839,782	No	No	- No ETS -
10 Uruguay	782,686	No	No	- No ETS -
Rest of World	5,545,242			
Total	55,584,473			

41. Figure 1 and Tables 6 and 7 show the diversity of New Zealand's dairy trade competitors and the different cost of dairy production around the world. Dairy prices are largely set by large and quick changes in production in the subsidised and input-intensive European Union and United States markets. New Zealand is the key supplier of traded dairy products, however emerging producers such as Argentina and Ukraine offer more profit to investors due to a lower cost structure. These countries will continue to increase production while this is the case. These nations have the land and climate to threaten New Zealand's position as the world's dominant supplier of low cost dairy products to export markets. There is little prospect of either of these nations having a price on emissions in the immediate future. Therefore further escalation of emissions trading will further decrease New Zealand's competitive position.

Measures to maintain New Zealand dairy competitiveness during the global transition to a price on emissions

42. The global population is forecast to rise to 9 billion people by 2050¹⁴. It is estimated global food production needs to double in order to feed this population¹⁵. Global dairy production will continue to grow as newly

¹² The New Zealand ETS only gives allocations to milk processors for less than 5 percent of emissions. The USA legislation is very unlikely to progress under the current economic conditions, House of Representatives and Senate, and so is classified as stalled.

¹³ Figures for Egypt and Iran may be inflated due to re-export of imported dairy products.

¹⁴ United Nations, "World Population to 2300",

<http://www.un.org/esa/population/publications/longrange2/WorldPop2300final.pdf>

wealthy populations seek more nutrient rich diets. This demand will occur regardless of the form of New Zealand's ETS, however New Zealand's ETS will influence where production growth will occur. If our ETS reduces the cash surplus, and therefore investment, in New Zealand's dairy industry, leakage will take place.

43. New Zealand dairy farmers are already very emissions efficient producers of dairy products. Fonterra's carbon footprint assessment calculated a litre of milk has a carbon footprint of 940g at the farm gate¹⁶. AgResearch, who conducted this part of the study, compared this result to other carbon footprint studies conducted in a range of nations and found New Zealand production to have the lowest footprint of those nations assessed¹⁷.
44. The implications of this are clear: measures that seek to reduce global emissions by placing a price on emissions in New Zealand must not reduce dairy production in New Zealand from business as usual levels. Any measures that do this will lead to an increase in global emissions as production is moved to other less emissions efficient locations.
45. Based on the costs outlined in clauses 29 to 39, Fonterra submits that the legislation as currently proposed will result in significant leakage from the dairy sector. New measures are therefore needed to avoid this leakage as the world transitions to a price on emissions. These measures should focus on the impact on investment – in other words, the change in “value add”.
46. The lack of allocation to dairy and meat processing is a point that seems to be lost on most of the public, and even many policy makers in New Zealand. For example, clause 31 of the issues paper states, “For agriculture, all activities facing obligations are eligible for allocation”. This is an erroneous conclusion and a point of increased frustration for Fonterra and other New Zealand food processors.
47. The New Zealand ETS is unique in its lack of allocation to food processors. Fonterra's competitors in the European Union are deemed to be “exposed to a significant risk of carbon leakage”, and will receive allocations at 100 percent of a best practice benchmark level (defined as the average of the 10 percent most efficient installations). These allocations will cover, at a minimum, production of whole milk powder, skim milk powder, casein, lactose and ethanol (Commission Decision 2010/2/EU). Production of other agricultural products is currently being assessed. Fonterra notes that 28 percent of global dairy exports originate from the EU (see table 7).
48. Of those product categories, only ethanol and lactose are eligible for an allocation under the NZ ETS. If the EU eligibility applied under the NZ ETS, Fonterra would be receiving a 100 percent of benchmark allocation on at least 55 percent of its production compared with the current allocation which covers less than 5 percent of Fonterra's emissions.
49. Fonterra submits that the New Zealand ETS allocations to food processors are inadequate. Fonterra continues to support allocations to competitiveness-at-risk firms on an intensity basis, as has been adopted by the EU ETS.

¹⁵ United Nations, Department of Public Information, <http://www.un.org/News/Press/docs/2009/gaef3242.doc.htm>

¹⁶ <http://www.fonterra.com/wps/wcm/connect/fonterra.com/fonterra.com/our+business/news/media+releases/fonterra+says+carbon+footprint+study+important+step+in+driving+further+efficiencies+and+cuts+to+greenhouse+gases>

¹⁷ Sweden, Germany, Ireland, The United Kingdom and The Netherlands.

Improving the measure to test eligibility for allocations

50. The New Zealand ETS currently tests allocation eligibility based on an activities emissions per million dollars of revenue. This method is an inappropriate way of comparing the competitiveness risk across different industries which will have different profit margins, different costs of capital and hence different required rates of return. A more sophisticated method of determining allocation eligibility in the ETS is needed to capture these differences.
51. Fonterra notes these tests were based on those proposed under the Australian CPRS. Australia does not share New Zealand's reliance on pastoral farming. The competitiveness-at-risk industries that provide the greatest proportion of wealth to the Australian economy, such as mining and mineral processing, typically require high profit margins and return on capital to compensate a large upfront investment in exploration and heavy machinery.
52. Pastoral farming and the associated food processing, on the other hand, is a high revenue, high cost, and low profit margin industry. As pastoral farming is such a significant part of the New Zealand economy, in order to reduce the costs of emissions pricing on the New Zealand economy, it is vital the ETS includes measures to adequately test the level of leakage across the different parts of the sector supply chain. The revenue tests do not achieve this.
53. Fonterra submits that risk of leakage arises from changes in profit, not revenue. Revenue is an inappropriate factor on which to determine eligibility.
54. Defining profit fairly across a range of companies and industries is difficult. "Value added" is generally preferred. This approach is used in the EU ETS and was included in the proposed Australian CPRS¹⁸. The EU ETS grants allocations to activities for which emissions will be greater than 5 percent of gross value added (assuming €30 per EUA in 2020).
55. While the EU ETS determines that an activity is significantly at risk of leakage once costs exceed 5 percent of value add, the New Zealand scheme's threshold of 1600 tonnes of carbon dioxide equivalent per million dollars of revenue, which must be exceeded for an organisation to get a 90% allocation, represents an impact of an 8.8 percent reduction in revenue¹⁹. The impact on value add will be considerably higher.
56. In support of this alternate and preferred approach, Fonterra would like to draw the Review Panel's attention to a paper prepared for the Ministry of Economic Development entitled "Impact of Emissions Pricing on New Zealand Manufacturing: A Short-Run Analysis"²⁰. This paper investigated the competitive impacts of emissions pricing and mechanisms for alleviating these impacts. The authors based the bulk of their analysis on a kilograms of emissions per thousand dollars of value add. While not proposing it as an allocation threshold, they did state that above a level of 400 tonnes per million dollars of value add there would be an impact on the business.
57. Fonterra recommends that a value add test be included in the New Zealand legislation. Fonterra submits that the maximum appropriate levels for these thresholds are 1,200 tonnes (moderate) and 2,400 tonnes (high) of CO₂e per million dollars of value. It is noted that the EU threshold for determining if a sector is eligible for full allocation equates to 1000 tonnes of CO₂e per million dollars of value add.

¹⁸ Although the Australian CPRS had a value add test, Fonterra is of the opinion the threshold test was set much too high. The Australian CPRS threshold is, for example, five times higher than that of the EU ETS. There were also issues with the method for calculating value add. Fonterra is happy to discuss this matter further with the Review Panel.

¹⁹ The EU test is based on percentage of value add using a €30 emissions price, this comparison applies the same methodology to the New Zealand threshold to calculate impact on revenue.

²⁰ Bartleet, M., Iyer, K., Lawrence, G., Numan-Parsons, E., Stroombergen, A. March 2010. Paper can be found at <http://www.med.govt.nz/upload/70346/occasional-paper-10-02.pdf>

Improving the definition of an activity

58. The current methodology within the ETS requires firms to apply for allocation on an individual activity basis (for example lactose manufacture). In the context of dairy processing, it is important to consider that one base product is transformed using a range of processes to create numerous different outputs. Each of these processes has a different emissions profile and is emissions-intensive for different reasons. Many are undertaken across numerous different sites in New Zealand.
59. The current approach is that each activity must have a defined input, a defined output, and a defined transformation process in between. The strict interpretation of what a defined output is from dairy processing has led to Fonterra having difficulties demonstrating to government the emissions intensity of different discrete activities. The production of lactose in particular has been problematic. In this case Fonterra needed to quantify energy use over 9 sites where the lactose operations comprised as little as 1% of each site's energy use.
60. Fonterra's application for allocation across three activities, and response to auditor questions, has required Fonterra to expend 115 labour days (staff and consultants), at a cost of \$100,000 to Fonterra. During this application process Government expenses have likely exceeded those of Fonterra.
61. Fonterra submits that the current interpretation of an activity for the dairy sector, in particular, is too discrete. A more workable approach would be to define activities at a higher level. For example, in dairy processing an activity defined as "Manufacture of dried milk products" would avoid the vast bulk of the allocation issues described above.

Key points:

- *At an emissions price of \$50 per NZU the ETS will result in a cost to the average dairy farmer in excess of \$22,000 per year;*
- *This is equivalent to a reduction of 27 percent of cash available for reinvestment;*
- *A significant component of this impact comes from the majority of dairy processing operations not being eligible for an allocation;*
- *In order to avoid the leakage this will cause, a more sophisticated mechanism for determining competitiveness at risk is needed;*
- *A broader approach is needed to defining an activity in the dairy processing sector. An activity entitled "Manufacture of dried milk products" would overcome our concerns.*

Recommendation:

- *The revenue tests currently contained in the ETS are accompanied by a value-add test*
- *The definitions of activities be generalised to ease administration costs in applying for allocation*

Key ETS design changes needed for likely post-2012 international frameworks

Ensuring the ETS is part of a balanced global response to climate change

62. Climate change is a global problem. A cooperative global approach is required in order to stabilise atmospheric concentrations of greenhouse gases. It is accepted that wealthy nations should take the lead on emissions reduction efforts and that for poorer nations the first policy priority will always be social development and poverty eradication²¹.

²¹ "Reaffirming that social and economic development and poverty eradication are the first and overriding priorities of developing country Parties, and also that the share of global emissions originating in developing countries will grow to meet their social and development needs", UNFCCC. (2010) *Negotiating Text. Ad Hoc Working Group on Long-term Cooperative Action under the Convention*

63. New Zealand is a moderately wealthy nation. We are ranked 21st in terms of GDP per capita (PPP) in the OECD, at a level that corresponds to 76 percent of the GDP per capita of Australia (PPP), and 63 percent of the GDP per capita (PPP) of The USA²². While it is important that we are ready for emissions pricing, it is not appropriate we demonstrate a willingness to impose costs on our economy that are significantly greater than those being imposed by other, richer, nations.
64. As a nation, New Zealand is heavily reliant on international trade. Additionally, the goods New Zealand exports are generally emissions intensive and do not have low cost mitigation options immediately available. The cost for New Zealand of moving ahead of international competitors is therefore disproportionately high compared to the cost for other nations.
65. As noted previously, the current Government was elected on a platform of implementing an emissions trading scheme that: did “not attempt to make New Zealand a world leader on climate change”; was “fiscally neutral rather than providing billions of dollars of windfall gains to the government accounts at the expense of businesses and consumers”; and had the “flexibility to respond to progress in international negotiations”.
66. Fonterra agrees that, at the time the National Government amended the ETS, the Government adhered to these principles. However since that time international developments have not played out as expected. For example:
- 66.1. Other nations have not implemented domestic climate policy at the rate expected in 2009, leaving the New Zealand economy exposed to greater emissions trading costs than other nations if the current timetables are adhered to;
 - 66.2. New Zealand does not have any binding commitments following the Kyoto Protocol commitment period (2008-2012), meaning the ETS will not be fiscally neutral beyond this period²³.
67. Therefore, as outlined in the third principle listed, the flexibility afforded by the ETS review should be used to ensure that New Zealand business obligations are kept in line with those of foreign competitors.
68. Fonterra submits that the 2-for-1 obligation and price cap must remain in place until significant nations more wealthy than New Zealand have emissions pricing legislation that is comparable to the obligations removing these mechanisms would place on the New Zealand economy²⁴.

Likely international obligations post-2012

69. Table 4.1 of The Issues Statement outlines three possible future scenarios for international climate policy. These are: a new legally-binding agreement similar to the Kyoto Protocol, a new agreement similar to the Copenhagen Accord, and no new agreement.
70. Fonterra is of the opinion that a mix of scenarios 2 and 3 is the likely outcome, and the outcome which the New Zealand Government should base current policy on. Under this outcome nations make a political commitment to implement domestic policy to reduce emissions and voluntary contributions to

²² OECD Statistics Portal <http://stats.oecd.org/index.aspx?queryid=558>

²³ Presuming that as obligations increase and forestry removals decrease the Government begins to directly supply NZUs to the market through a mechanism such as an auction of continued \$25 price option.

²⁴ Although the EU has an ETS it only includes about 50 percent of carbon dioxide emissions and does not include agricultural emissions. If New Zealand proceeded with the current legislation our ETS would become a world leader, including 100 percent of carbon dioxide emissions by 2013 and 100 percent of greenhouse gas emissions by 2015.

international climate funds. Targets are political in nature and may be governed by domestic accounting rules. International emissions markets are then formed 'from the bottom-up' via the integration of various domestic emissions trading schemes.

71. It is likely variations to the current accounting rules will be established in a 'bottom up' manner. Each nation will develop domestic emissions trading schemes and rules. As domestic emissions trading schemes are inter-linked accounting rules will be harmonised. Over time, international accounting rules will materialise 'from the bottom up', rather than 'from Kyoto (the top) down'.
72. This scenario is likely to be complemented by sector specific agreements. These are agreements under international industry bodies. The dairy industry has begun work to agree to sector specific measures through the International Dairy Federation's Global Dairy Agenda for Action on Climate Change²⁵.
73. A new agreement similar to the Kyoto Protocol does not seem possible. Japan has stated that it will "not inscribe its target under the Kyoto protocol on any conditions or under any circumstances". The USA is clearly unable to ratify a Kyoto type agreement due to the need to achieve a two-thirds senate majority before ratifying an international treaty. Canada has signalled intent to strongly mirror USA climate policy. Russia is also known to be unwilling to sign another Kyoto type agreement.
74. A Kyoto Protocol without these nations would only include 16 percent of global emissions. This would not be a global emissions agreement. Even if New Zealand entered into such an agreement, the merit of which would seem questionable, it is well understood that due to the time delay in developing the details of this agreement there would need to be a 'gap' period between the end of the first commitment period and the beginning of the next. It can therefore be assumed with a very high degree of certainty that, at least for a period, from the year 2013 New Zealand will not have an international obligation.

Policy development in partner nations

75. The current ETS bases many policy measures on what was contained in the draft Australian CPRS. There is considerable risk inherent in relying on foreign jurisdictions in this way. As each jurisdiction develops domestic climate change response policies, their rules and frameworks will inevitably progress through a period of dynamic and sometimes unpredictable change. In Australia and The USA the opposition political parties have vastly different approaches to climate change policy than that of the current Government. Just as elections are unpredictable, the form and timing of climate change policy in these nations remain unpredictable.
76. However, this initial period of uncertainty will likely be followed with a more stable period of operation and refinement – as we see occurring in Europe. Once a framework is in place, political and economic changes will refine the framework but are not likely to completely defeat it. At this stage, comparisons can be helpful.
77. But there is also a risk of "cherry picking" parts of legislation to draw on without considering the complementary measures or economic environment within a particular jurisdiction. For example, on top of the value add allocation tests, the Australian CPRS included a 'Climate Change Action Fund'²⁶. The Climate Change Action Fund was designed to assist "Businesses that are not eligible for other forms of assistance associated with the CPRS, recognising that there may be other situations where assistance is warranted", and included a "[AU]\$150 million stream of assistance for the food processing sector".

²⁵ <http://www.saiplatform.org/library/20717/46/Global-Dairy-Agenda-for-Action---Climate-Change/>

²⁶ Included in the version of the CPRS agreed to between Malcolm Turnbull and Kevin Rudd prior to Tony Abbott becoming leader of the Liberal-National Coalition.

78. Examining the path taken by foreign jurisdictions is important for evaluating our own approach. But rather than “locking in” New Zealand’s own tests and rules to those of a single trading partner or other developed nations, we should draw on the principles of their approaches to develop self-sufficient legislation that reflects local conditions.

Restating our purpose – post-Kyoto

79. Taking into account the post-Kyoto landscape, and the stated policy of the current Government, Fonterra submits that the stated purpose of the ETS should be reviewed.

80. The current purpose statement of the ETS, contained in clause 3(1) reads (emphasis added):

*“to enable New Zealand to meet its international obligations under the Convention and the Protocol, including (but not limited to) its obligation under Article 3.1 of the Protocol to retire Kyoto units equal to the number of tonnes of carbon dioxide equivalent of human-induced greenhouse gases emitted from the sources listed in Annex A of the Protocol in New Zealand in the first commitment period; and its obligation to report to the Conference of the Parties via the Secretariat under Article 7 of the Protocol and Article 12 of the Convention: provide for the **implementation, operation, and administration of a greenhouse gas emissions trading scheme** in New Zealand that supports and encourages global efforts to reduce greenhouse gas emissions **by assisting New Zealand to meet its international obligations under the Convention and the Protocol, and by reducing New Zealand's net emissions below business-as-usual levels.***

81. So, in essence, the purpose of the ETS is:

- 81.1. To provide a mechanism for New Zealand to meet our Kyoto obligations,
- 81.2. To implement, operate, and administer an emissions trading scheme,
- 81.3. And to reduce emissions below business-as-usual levels.

82. In a post Kyoto era, the above purpose statement is no longer appropriate. Fonterra supports climate policy based on the principles of: setting policy that places a price on emissions while avoiding emissions leakage; ensuring New Zealand does not face larger economic costs than other important developed nations; and ensuring policy to reduce global greenhouse gas emissions does not have the negative effect of reducing global food security.

83. As illustrated in clause 26 above, the current Government was elected on the principles of ensuring New Zealand did not attempt to be a world leader on climate change and that the ETS had the flexibility to respond to changes in international negotiations. The purpose statement of the ETS should encompass these important principles. There is no longer a need to reference the Kyoto Protocol.

84. Fonterra submits that the following points would be appropriate for inclusion in a redrafted purpose provision:

The Act:

Supports and encourages global efforts to reduce greenhouse gas emissions;

Promotes the reduction of New Zealand’s net emissions below business-as-usual levels;

Incurs costs to the New Zealand economy that are, as a percentage of total GDP, no greater than the costs generally accepted by other developed nations;

Is sufficiently flexible to adapt to dynamic changes in science and international emissions reduction efforts;

To the extent possible, does not result in emissions leakage; and

Does not reduce global food security by creating a reduction in New Zealand food production below business-as-usual levels.

Supply of NZUs post-2012

85. Participants in the New Zealand ETS currently source units to cover ETS obligations by either purchasing NZUs from foresters, purchasing NZUs from participants whose allocations are in excess of their direct liability, or purchasing CERs from international sources.
86. Over time the dynamics of the New Zealand market will change. Forestry will move from becoming a source of units for the market to having a demand for units. If 2-for-1 obligations are removed and agricultural gases are included demand for NZUs will further increase.
87. The Government has not thus far conducted any auctions of NZUs. As a result firms have relied on international markets to fill the supply gap. This has resulted in NZU prices closely tracking CER prices, with the NZU:CER spread ranging from NZ\$0-6 (CER prices act as a price ceiling for NZUs as participants can surrender CERs in place of NZUs). As demand for units increases and the supply offered by forestry decreases, NZU prices will move closer to the price of CERs.
88. Clause 68(2)(c) of The Act allows the Minister to create NZUs in the event there is no subsequent commitment period under the Kyoto Protocol or no successor international agreement to the Protocol. In determining the volume of NZUs to be allocated to the Government, the Minister must have regard to, amongst other matters, the report of the most recent ETS review. If the Minister creates a greater number of NZUs than that is required for allocation to emissions-intensive and trade-exposed activities and agriculture, the Government may auction excess NZUs.
89. Therefore there are two possible avenues NZU prices will take post-2012 under the current legislation: if the Government does not conduct NZU auctions, NZUs will closely track the CER price; if the Government does provide the market with additional NZUs, the NZU price will trade at a discount to CER prices.
90. A third possibility is that, under a legislation change, the \$25 price cap is extended, and that NZUs track CER prices until the point at which the CER price reaches \$25.

Linking with international carbon markets

91. Post-Kyoto linkage to international carbon markets is critically important to ensure the ETS allows the lowest cost abatement to be implemented. Following the Kyoto commitment period, flexible mechanisms such as the Clean Development Mechanism (CDM) which produce CER units will continue to exist under the UNFCCC banner. Fonterra is aware that the EU ETS has imposed restrictions on the use of HFC23 CERs eligible in the EU ETS from May 2013. This will reduce the supply of eligible CERs in the EU market and will increase prices. The UNFCCC will need to review the rules governing the CDM.
92. New Zealand should aim to allow all UNFCCC endorsed emissions units to be surrendered against ETS obligations. However, this should not be done regardless of the environmental integrity of the units available. In cases where international units do not represent an emissions reduction, price security should not be achieved at the expense of environmental integrity. Domestic measures, such as a price cap, are

preferred to a situation that results in a transfer of cash from New Zealand to foreign firms who are gaming the system.

93. As noted previously, Fonterra recommends the current price cap is continued until other developed nations implement more comprehensive emissions trading policy. Fonterra also recommends this price cap is maintained if restrictions are needed on the type of CER units New Zealand firms may import.

The Kyoto Protocol and forestry rules in the ETS

94. Forestry represents an important source and sink of carbon dioxide emissions: permanent afforestation will remove carbon dioxide from the atmosphere; deforestation will cause an emission of carbon dioxide; and plantation forests will cycle carbon dioxide as they grow and are harvested.
95. The treatment of forestry in the ETS has so far reflected Kyoto rules exactly. The reason for this, industry is informed, is to reduce the fiscal risk to the crown. Post-Kyoto, this risk does not exist.
96. Post-Kyoto it is likely forestry rules will be established in a 'bottom up' manner. Nations such as the USA and Australia will introduce domestic legislation to promote 'carbon farming'²⁷. These schemes will be inter-linked with domestic emissions trading schemes. As domestic emissions trading schemes are inter-linked, forestry rules will be harmonised. Overtime, international forestry rules will materialise 'from the bottom up', rather than 'from Kyoto (the top) down'.
97. Fonterra has seen no indication that other nations intend to mirror the Kyoto rules in the way New Zealand has, for example:
- 97.1. Early versions of proposed US emissions trading schemes have included allocation of units to a wide range of removal activities, such as urban tree planting and reduced deforestation;
 - 97.2. The Australian Government has recently released a consultation paper on a 'Carbon Farming Initiative'. This sets out a programme to reward land based emissions reductions and removals from a wide range of land based activities, including reductions from avoided deforestation, and potentially 'green corridors';
 - 97.3. The EU ETS does not include forestry. Member nations use non-market measures to increase afforestation and these are designed with country specific goals in mind;
 - 97.4. None of these jurisdictions have applied the 'pre-1990' forest classification contained in Kyoto on their domestic economy.
98. Fonterra is not requesting that New Zealand mirror or harmonise **the policy** other nations have implemented, rather that New Zealand mirror **the approach** these nations have taken. In each case these nations have sought to implement forestry policy which is designed for the unique ecological and economic demands and opportunities of each specific nation, rather than reflect those rules included in the Kyoto Protocol.

²⁷Such as the Australian Carbon Farming Initiative

99. From 2013 New Zealand ETS forestry rules should:
- 99.1. Maximise all economical sequestration from all forest types where no negative side effects occur²⁸,
 - 99.2. Minimise compliance costs,
 - 99.3. Maximise possible co-benefits such as increased biodiversity and ecological services.
100. Fonterra suggests two simple amendments which will ensure forestry rules under the ETS are suitable for New Zealand. These will not have a negative effect on New Zealand's ability to re-enter any future international agreement without cost, and will not result in short-term disruption to the ETS. These are outlined below.

Flexible land use

101. At the time the Kyoto Protocol was negotiated, it was considered important the agreement contain measures to limit deforestation. Under the Kyoto forestry rules, deforestation is defined as changing the land use of land that was in forest on January the 1st 1990 away from forestry. This policy is practical for most nations where exotic afforestation has not occurred. However, in New Zealand this has the effect of placing the same level of deforestation cost on both exotic pine plantations and ancient native forest.
102. These rules have been reflected onto the New Zealand economy through the ETS. As a result, land-owners of 'pre-1990' forest plantations will face massive liabilities if their land is reverted to pasture (approximately \$20,000 per hectare).
103. In many cases the decision to pursue plantation forestry was done under a different economic climate and with different technological considerations than exist today. For example, in the central North Island low cobalt soils were in the past planted in plantation forestry. New knowledge and use of appropriate fertilisers now allows pastoral farming on these soils. As these forests mature, prior to the ETS being introduced, many land owners found forestry was no longer the most efficient land use. This is the cause of much of the reduced 'deforestation' that is shown in figure 3.3 of the Issues Statement to have been 'prevented' by the ETS, but is extremely sub-optimal in terms of the capability of the land and the potential of that land to contribute to economic wellbeing²⁹.
104. While the figures in the Issues Statement show a reduction in 'deforestation', the reality is that these mature exotic plantation forests were likely harvested. However, as land owners no longer have an option to adjust land use away from plantation forestry, the land was replanted in pine, and in the eyes of the ETS no emissions have occurred. In some extreme cases, land owners have not replanted forest species but left land bare while they await more policy certainty. With this in mind the figures presented in the Issues Statement are especially misleading.
105. In fact, the forced replanting of this land in forest species is a form of leakage that has so far been ignored in domestic legislation. Every hectare of so-called 'deforestation' avoided is a hectare of productive land lost, and a hectare of pastoral agriculture that will now occur overseas.
106. Figure 3.3 in the Issues Statement shows that approximately 40,000 hectares of forest was converted to pasture in the three years leading up to the implementation of the ETS. This rate has now decreased to less

²⁸ Such as loss of biodiversity or food security

²⁹ Any environmental concerns the Review Panel, Government or public may have about the use of this land for non-forestry purposes are best addressed through specific legislation such as the Resource Management Act.

than five thousand hectares per year. Fonterra estimates that in the Southern Waikato (upstream of Karapiro) alone there are over 85,000 hectares of exotic forest that would be suited to high value forms of pasture farming once the trees reach maturity.

107. As noted in paragraph 26, Fonterra has consistently advocated for climate change policy that: does not result in emissions leakage; does not result in economic cost to New Zealand in excess of that being borne by other developed countries; and, does not reduce global food security. The prevention of the use of land for food production due to the ETS breaks all three of these principles.
108. The New Zealand UNFCCC delegation has lobbied strongly for a policy they call 'flexible land use'. This policy would allow deforestation of pre-1990 land so long as an equivalent area of forestry was planted elsewhere in that nation. This policy has been included in recent negotiating texts³⁰ and can be expected to be adopted in any future global agreement on climate change. In the event accounting rules are set from 'the bottom-up' there is unlikely to be any expectation on New Zealand to maintain this land in exotic forest. As noted, no other major domestic policy legislated or under development, has contained a pre-1990 forest distinction.
109. Fonterra recommends that measures are taken to remove the inefficient barriers to land-use change the ETS currently instils. At a minimum, offsetting of deforestation by planting an equivalent area of forest in a separate location should be allowed. However, even this policy would result in leakage: it would simply minimise the leakage that results from legislating, in effect, a minimum national forest area. The most efficient policy would be to treat all plantation forest in New Zealand as 'post-1989' forest (with continuation of the credit-debit rule ensuring there is no net ETS cost for a land owner harvesting production plantation forest).

Riparian margins

110. Under New Zealand's Kyoto obligations a forest is an area of at least one hectare, is likely to have 30 percent canopy cover and consists of species that have the potential to reach 5 metres in height at maturity.
111. Kyoto signatories were given the ability to choose a minimum width of between 10 and 30 metres of which to report forest removals and emissions. New Zealand chose to report only those forests that were at least 30 metres wide. At the time of the decision, most forest monitoring was done by either aerial photography or low resolution satellite imaging, and a 30 metre width was a prudent decision. Today, advances in satellite imaging mean this decision can be revisited.
112. Riparian margins are narrow bands of forest planted along the margins between pasture and waterways to reduce nutrient loss from agricultural land uses. The margins are generally native species and provide an ideal habitat for native wildlife. As with all permanent forest plantings, riparian margins sequester carbon.
113. In the Taranaki, where the regional council acts to reduce the cost of planting for farmers, 4500 kilometres of river bank have been planted in riparian margin since 2002. As well as delivering improved water quality and biodiversity benefits, Taranaki Regional Council estimate this will result in the sequestration of over 4000 tonnes of carbon dioxide per year by 2013, increasing overtime as the forest matures (6000 tonnes per year in 2018). As these margins are not 30 metres wide, this carbon sequestered is not recognised by the ETS.

³⁰ Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol. (December, 2010). FCCC/KP/AWG/2010/CRP.4/Rev.4: *Consideration of further commitments for Annex I Parties under the Kyoto Protocol*. UNFCCC. <http://unfccc.int/resource/docs/2010/awg15/eng/crp04r04.pdf> (clauses 32 to 35)

114. Removal of the 30 metre rule would allow recognition of this sequestration and an additional revenue stream to incentivise this planting. The Taranaki example shows that with a small incentive from regional government, a large quantity of planting can occur. Amendments may be needed to allow industry or local bodies to administer the ETS benefit on land owner's behalf³¹. Fonterra is happy to discuss technical details of how this would be achieved further with the Review Panel if requested.

Key points:

- *The international landscape has changed since the Act was drafted, and since it was last amended;*
- *Full recourse to international climate markets is desirable to allow efficient operations of the ETS;*
- *Other developed nations have not implemented domestic climate policy at the rate envisioned when the ETS was last amended;*
- *As a result, the New Zealand ETS will place greater obligations on New Zealand firms than those that will be borne by firms in other developed nations.*

Recommendation:

- *The 2-for-1 obligations and the price cap should be maintained until other relevant developed nations implement policy comparable to New Zealand's ETS without these instruments, and full recourse to international climate markets is possible;*
- *The purpose provisions of the Act should be amended to reflect New Zealand's climate change response policy;*
- *Forestry rules should be implemented that are fit for domestic purposes – including removing the 30-metre minimum width, removing pre-1990 forest conversion obligations and allowing for flexible land use.*

International and domestic treatment of agricultural gases

Fonterra recognises the importance of reducing agricultural greenhouse gas emissions

115. Fonterra is committed to reducing emissions from throughout the dairy supply chain. Fonterra has recently committed our business to reducing supply chain emissions,³² per kilogram of milk solids processed, by at least 30 percent by 2030.
116. Fonterra, and our dairy farmer suppliers, have already shown a commitment to emissions reduction through investments in research. Industry and government have invested \$45 million in agricultural greenhouse gas mitigation research. Half of this funding has come from industry and half of the industry share has come from the dairy sector. This equates to over \$1,000 per dairy farm already invested in research.
117. Fonterra has recently developed a comprehensive Emissions Reduction Action Plan. As part of this Action Plan, Fonterra will work with DairyNZ to undertake comprehensive extension work to actively encourage our suppliers to use the tools that become available to them to reduce their emissions. We are committed to doing this regardless of the obligations we may or may not face for agricultural emissions through the ETS.

³¹ For example a regional council could receive recognition of the carbon sequestered through a riparian planting initiative. The revenue could be used to subsidise the cost of further plantings, thus returning the revenue to land owners and allowing the carbon benefit to be recognised in riparian investment decisions.

³² This will be based on a life-cycle assessment using PAS2050 and ISO standards, from the life cycle of the feeds and materials going into the farm, farm operations, Fonterra operations, and transport to destination port.

118. A key finding from the Fonterra Carbon Footprint Study was that 85 percent of emissions occur 'before the farm gate'.



119. The implications for this are clear: in order to achieve our emission reduction target, effective methods and measures will be needed that promote greenhouse gas emission reductions on farm. Fonterra is of the opinion that the current ETS framework will not assist this goal. The following sections will explain the basis of this view.

International treatment of agricultural gases

120. Future emissions accounting rules will be developed 'from the bottom-up'. Nations will individually develop policy based on what they deem to be the most efficient method of pricing emissions. The mechanism for creating an international carbon market will be the interlinking of these individual schemes. In order to then understand what shape future emissions accounting rules will take, New Zealand ETS policy designers should therefore look to what rules are being proposed in the schemes in development in other nations.
121. In New Zealand the climate change policy debate has thus far focussed on our Kyoto Protocol obligation. As agriculture gases represent a large part of our Kyoto obligation, policy has been designed with the primary aim, not of reducing emissions, but of transferring this 'Kyoto-cost' onto farmers. Reduced to its basics, the policy currently legislated will simply create an emissions levy, administered per unit of milk processed, to transfer this Kyoto cost to farmers. It is not a policy that will assist Fonterra's aim of improving the emissions efficiency of our supply chain.
122. It is clear that future global emissions reduction commitments will not continue to use the all-sectors all-gases approach of the Kyoto Protocol. The USA's pledge to the Copenhagen Accord was for a reduction of "17%, in conformity with anticipated U.S. energy and climate legislation". This indicates that The USA's target would use domestic accounting rules rather than UNFCCC, and only include those gases included in the Waxman-Markey Bill (or subsequent legislation if the current political deadlock can be alleviated). In the future, under agreements such as the Copenhagen Accord, it may be more important to show equivalent climate policy rather than equivalent emission reductions.
123. Of the three relevant international schemes that have been developed:
- 123.1. The EU ETS does not include obligations for agricultural gases. Member states are required to implement domestic policy to collectively achieve a target of a 10 percent reduction in non-ETS gases by 2020, from 2005 levels;
 - 123.2. The Australian CPRS did not include agricultural gases. In fact the Australian Government now has a proposal for an agricultural mitigation credit system (Carbon Farming Initiative);

123.3. The Waxman-Markey Bill, which was approved by The USA House of Representatives, planned to reduce agricultural emissions through an offsets programme.

124. Fonterra recommends that the ETS maintain flexibility on the method for inclusion of agricultural gases. When integrating trading schemes, it is important that each sector is treated broadly similarly across jurisdictions. It would not be sensible for New Zealand farmers to purchase units from the same market that competitors with higher emissions intensities sell offset credits into. Such a policy would transfer wealth from low emissions production in New Zealand to high emissions production in other nations, reducing New Zealand production and increasing global emissions.
125. A decision on the method of creating a price mechanism for agricultural gas mitigation should be made during the 2014 agriculture review. If New Zealand faces no international obligations and other nations have not placed surrender obligations on emitters of agricultural gases, voluntary industry measures such as Fonterra's Emissions Reduction Action Plan will be sufficient to ensure continued emissions reduction. If competitors are creating a price signal through an offset system, a comparative approach may be required in New Zealand to allow integration of trading schemes.

Assessing the current agricultural emissions framework

126. Fonterra does not believe the current ETS framework will create any incentives for farmers to reduce agricultural emissions. By placing the point of obligation at the processor level, the only price signal felt by farmers will be a 6c milk levy³³. This levy has been designed to fund a Kyoto obligation; an obligation which is unlikely to exist over the time period the Review Panel is recommending policy for.
127. Fonterra supports an emissions trading scheme as the most efficient mechanism to put a price on greenhouse gas emissions. However, when the point of obligation is at the processor level the scheme ceases to function as a price on emissions and becomes a price on production. This is not an efficient mechanism for driving emission reductions. It will in fact result in economic regret as, economically, this has become a tax on production. As a result the economic signal to farmers is to reduce production, not emissions.
128. Fonterra therefore submits that if and when agricultural gases enter the ETS the point of obligation must be at the farm level.
129. Fonterra has designed a low cost method of implementing an on-farm point of obligation. This proposal would allow farmers to opt-in to farm level reporting in order to receive benefit for mitigation activities. Under this proposal Fonterra would offer to trade emissions units on behalf of farmers.
130. We believe that if this proposal was further developed between now and the agricultural gases ETS review in 2014 it offers a viable option for allowing a form of emissions trading that recognises variation in farm emission intensities. The administration costs of administering this method would be relatively low. Further details on this proposal can be made available at the request of the Review Panel.

Other economic considerations before including agricultural emissions

131. Fonterra would like to draw the Review Panel's attention to a recommendation made by the NZIER / Infometrics "Economic Modelling of New Zealand Climate Change Policy" report, commissioned by the Emissions Trading Scheme Review Select Committee in 2009. This report concluded (emphasis added):

³³ Based on an NZU price of \$50 (as used by Treasury for costs post 2012). Per kilogram of milk solids, but via both a levy on milk production and various meat and fertiliser levies.

*“If the aim of climate change mitigation policies is to change producers’ behaviour, it is vital to be able to measure emissions in a cost effective manner. If the transaction costs of measuring emissions outweigh the benefits of emissions reduction, the policy may not be net welfare enhancing. Therefore **the transaction costs of implementing an all-sectors all-gases ETS need to be evaluated. It may be advisable to exempt sectors such as agriculture where measurement costs are high relative to the benefit that would be gained from that sector’s inclusion.** Our modelling suggests that, in the short term, such exemptions do not reduce economy wide welfare.”*

132. In short, as clearly enunciated by the above NZIER and Infometrics report, the benefit of including agricultural gases in the ETS must outweigh the cost.

Key points:

- **Internationally, the treatment of agricultural gases has moved on since the development of the Kyoto Protocol;**
- **Placing an emissions levy on agricultural processors will not create an incentive for land owners to reduce agricultural emissions.**

Recommendations:

- **The timing and method used to include agricultural gases is reassessed in 2014, and this reassessment take full account of the policy options adopted by nations New Zealand is looking to integrate climate policy with;**
- **The time between now and 2014 is used to design an efficient system that allows the point of obligation for any government agricultural emissions policy to be on-farm.**

Other questions raised in the Issues Statement

Q1: Do you agree/disagree with the Panel’s assessment of the current impact of the ETS? If not, why not?

133. The Issues Statement notes that, “To date, costs to the agricultural sector are estimated to have been about \$3300 per annum for an average dairy farmer... These costs compare to estimated annual working expenses of approximately \$494,000 for dairy farms”.
134. Fonterra calculates that the ETS will cost the average Fonterra supplier \$3,600 in the current financial year. The difference between Fonterra’s estimate and the Government’s is likely due to minor variations in assumptions and Fonterra accepts the Government’s estimation as reasonable.
135. The Issues Statement’s comparison between the cost of the ETS and the average working expenses for a dairy farm is somewhat unhelpful. More appropriately, we can calculate the annual cost of the ETS to an average dairy household compared to other households.
136. Fonterra notes that paragraph 50 of the Issues Statement states the average annual household cost of the ETS is currently \$133. When considered in the context of an average household’s income (\$79,000), or an average household’s annual expenses (\$53,000), this number is far lower than the impact on a dairy farm³⁴.
137. The average dairy farm directly supports 2.6 employees (and indirectly supports many local and national businesses). Between the estimates of the Government and Fonterra the average dairy farmer cost is calculated to be between \$3,300 and \$3,600 per annum.

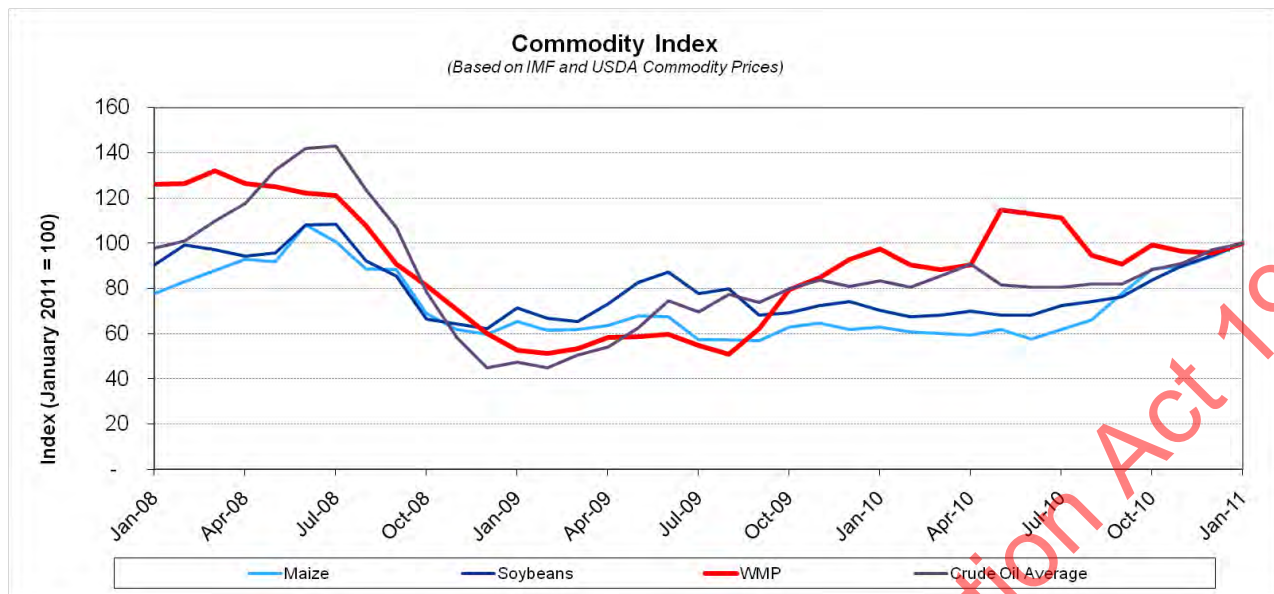
³⁴ All household statistics in this section are from Statistic NZ “Household Economic Survey: Year ended June 2010”

138. Given that the average household is supported by 1.3 incomes, the average cost per dairy farm currently equates to a dairy household cost of greater than \$1,650 per annum, or 5 times the average New Zealand household. This disparity will increase once agricultural gases enter the scheme.
139. The only conclusion that can be drawn from this data is that dairy families carry an inequitable share of the cost of implementing an ETS under the current framework. Allocations to dairy processors as conductors of an emissions-intensive and trade-exposed activity will somewhat alleviate this inequity.

Q2: What impacts of the ETS have you experienced to date?

- a. financial impacts you have experienced and how you have managed these (e.g., passed them on to consumers)*
140. The direct cost of ETS obligations to Fonterra is approximately \$25 million for 2011 calendar year. This cost arises from both the direct ETS obligations Fonterra has, as well as those caused by Fonterra suppliers of energy passing on the cost of their own obligations.
141. With many energy suppliers Fonterra has negotiated to maintain non-ETS energy costs and instead surrender emissions units to energy suppliers equal to the obligation that will arise from the energy Fonterra purchases. Where Fonterra has not been able to agree to obligation transfer terms with energy suppliers it finds emissions costs are passed on at a price of \$25 per NZU. As market prices for NZUs have been approximately \$18-\$20, the inability to negotiate a shift to the point of obligation for these emissions costs Fonterra approximately \$1.4 million per year.
142. As recognised in the ETS legislation, trade-exposed firms are not able to pass ETS costs on to either domestic or foreign consumers.
- b. how significant the impact of the ETS has been relative to other changes, such as GST increase, consumer demand changes and oil price increases*
143. When the cost of oil (and other energy sources) change, the costs increase for both New Zealand dairy processors and foreign dairy processors. This change in energy prices is then reflected in world dairy prices. The ETS will place a cost on Fonterra that our competitors do not have to contend with. Therefore the costs from the ETS will have an impact on dairy farmer comparative profit while a rise in energy costs may not.
144. New Zealand dairy farmers have adopted a low-input, pasture-based system. Competitors often implement high input corn and soy dominated systems. Corn and soy are energy intensive crops. When the price of oil rises, the price of corn, and soy, generally also rise. This in turn can lead to an increase in the price of dairy products, ceteris paribus. Figure 2 below shows this relationship over the last 3 years.

Figure 2. Maize, soybean, whole milk powder and oil prices since Jan-2008



145. Therefore rises in energy costs due to the ETS have a very different impact on our business compared to rises in world energy prices. The natural tendency for world prices to rise with costs is the reason Fonterra has advocated for allocations to be made during the period when most dairy production does not also face a price on emissions. Once the majority of nations do face a price on emissions this price will be incorporated into world dairy prices. At this time allocations to dairy processors will no longer be needed.

c. whether the ETS has yet influenced your investment decisions (eg, on low-carbon technologies, and land development)

146. Fonterra's New Zealand manufacturing operations invest in dozens of major capital projects every year. The choice of which projects receive investment funding is largely based on the estimated internal rate of return, with a few exceptions such as health and safety. For some time now projects have been assessed with a \$25 price on emissions included in the cost and benefit assessment. This marginal price on emissions means that projects that result in emissions reductions are now more likely to receive funding.
147. It is important to note that as trade-exposed firms face increased energy costs due to the ETS the profitability of the firm falls. This has the effect of reducing each firm's access to capital. As firm's cost of capital rises, the internal rate of return an investment must generate in order to receive funding also rises. Again, allocations to trade-exposed and emissions intensive firms, based on intensity of production, will allow a marginal price on emissions to be introduced while not reducing the profitability of firms, and therefore the investment those firms are able to make in emissions reduction.
148. Allocations to trade-exposed firms, based on intensity of production, are an efficient method of ensuring a marginal price is created while not reducing the competitiveness of the firm. Where activities do not qualify for allocation, another mechanism for tackling this issue is supplementing the ETS with a fund that supports emissions reducing investment. The Australian 'Climate Action Fund' is one example of such a mechanism³⁵. Fonterra supports allocations made to trade-exposed firms as the most efficient mechanism for ensuring a marginal price on emissions is introduced without reducing the competitiveness of local businesses.
149. Fonterra owns a number of farms adjacent to dairy processing sites. These sites are used for the disposal of dairy processing effluent through application to pasture. Some of these farms were purchased with areas

³⁵ <http://www.climatechange.gov.au/government/initiatives/cc-action-fund.aspx>

of maturing pinus radiata. At the time of purchase it was intended that once the pines were harvested this land would be converted to dairy farm to allow for the application of effluent at a lower rate. Conversion of this land would also provide economic benefits to Fonterra and New Zealand. Due to the ETS this land will now need to be replanted in forest in order to avoid deforestation liabilities.

150. This is yet another example of the barriers to efficient land use created by the ETS.

Q3: What are your views on the administrative efficiency of the ETS?

151. It is Fonterra's view that the brokerage fees associated with ETS transactions have so far been in line with the cost of brokerage in other markets overseas and are reasonable.
152. Other transaction costs have arisen as a result of emissions trading. As noted previously, Fonterra has often found that energy suppliers, whose prices are governed by long-term contracts, have taken the opportunity to increase costs to Fonterra based on a NZ\$25 per NZU emissions price, even though markets are trading significantly below this level. We also find that there is significant legal cost in developing contracts for sale and purchase of units. To reduce the advent of these costs the Ministry of Economic Development should publish a standard emissions purchase agreement and also aid price transparency by displaying of a weighted price average for all transactions on the New Zealand Emissions Unit Register.

Q4: In your opinion, are the modelling results in paragraph 62 (page 21) likely to reflect the actual macroeconomic impacts of the ETS? If not, in your opinion, how will the ETS affect New Zealand in overall economic terms?

153. The simple answer to the above question is no. The costs presented in paragraph 62 are the cost of introducing an ETS, without allocation, and without action by other nations. These costs can be avoided with intelligent use of allocation, linked to intensity of production, which is removed once the price of emissions is incorporated in world prices. The current ETS takes some measures to avoid the economic costs estimated in paragraph 62, so the actual costs will be lower than those presented (presuming the method of estimation is accurate). These costs can be further reduced if the eligibility tests for EITE activities are amended as suggested in this submission.
154. While economy wide cost forecasts are important, it is also important to be mindful of the sector specific impacts the ETS will create. Fonterra draws the Review Panel's attention to the following comment made by the authors of the MED paper entitled "Impact of Emissions Pricing on New Zealand Manufacturing: A Short-Run Analysis"³⁶,

"Economic models of various emission price and sector coverage scenarios predict relatively-small impacts on New Zealand's Gross Domestic Product (GDP). However, not all industries or firms in the economy are expected to face similar impacts; some industries may benefit from a price on emissions, others may face a significant cost, while many may be largely unaffected."

Q5: Do you agree/disagree with the Panel's assessment of the impact of the ETS after 2012? If not, why not?

155. Again, in this section the Issues Statement disregards the cost to dairy farmers by comparing those costs to the average working expenses for the average dairy farm. Businesses make decisions based on profit, so the comparison to working expenses alone does not "put these costs into perspective".

³⁶ Bartleet, M., Iyer, K., Lawrence, G., Numan-Parsons, E., Stroombergen, A. March 2010. Paper can be found at <http://www.med.govt.nz/upload/70346/occasional-paper-10-02.pdf>

156. MAF forecasts the average cost to dairy farmers is \$10,000. Fonterra estimates the cost to be \$11,900 at a \$25 NZU price and \$23,800 at \$50 per NZU. Fonterra notes that it has become standard Government practice to use an emissions price of \$50 for cost estimates post 2012³⁷. The use of \$25 presents an unfair analysis of the likely impact of the current impact of the ETS policy design.
157. The cost of \$23,800 per dairy farm represents a cost of \$11,900 per dairy household.
158. The Issues Statement notes that, "It is expected that the cost impact of the ETS on the agricultural sector will increase gradually from 2016, as agricultural allocation will be phased out at 1.3 per cent per annum from 2016". Fonterra disagrees with this interpretation of the legislation. Agricultural allocations will be decreased overtime to allow for efficiency gains. If these efficiency gains occur, and emissions factors are continually updated, costs should not increase. Allocations should only be "phased out" once the price of agricultural emissions is incorporated into the cost of agricultural goods. To state that allocations will be "phased out at 1.3 per cent per year" further enhances the false impression that the legislation contains a fixed timeframe for the removal of allocations to trade-exposed and emissions-intensive activities, which is not the case.
159. The need for allocations is to be reviewed at least once every five years during 'Reviews of the operation of emissions trading scheme' and 'allocation reviews' (clause 160 of the Act). These reviews must have regard to the relative climate change policies of New Zealand's trading partners'. Fonterra is of the view allocation reviews should have regard to New Zealand trade 'competitors', not partners. Once the full cost of emissions is incorporated in world prices, due to trade competitors having equal emissions costs, allocations will no longer be needed.

Q17: Should the ETS cover synthetic greenhouse gases (SGG) from 2013, as currently legislated?

160. The inclusion of synthetic greenhouse gasses (SGG) from 2013 should be decided on the same basis as proposed earlier in this submission for agricultural gases. In other words SGGs should be introduced only if doing so will reduce emissions and the benefits of inclusion outweigh the costs. Fonterra is not sufficiently close to this particular sector to have a view on this matter.
161. The Montreal Protocol and the subsequent Ozone Layer Protection Act (OLPA) had some unintended consequences in that refrigeration users reduced the impact on the ozone layer by phasing out HCFC's but have subsequently impacted greenhouse gas emissions by switching to HFC's. Care must be taken to ensure the inclusion of SGGs into the ETS does not drive further unintended consequences, for example the use of hydrocarbons as a replacement without proper engineering design.
162. Even if SGGs are brought into the ETS, the existing industry and government voluntary measures to reduce SGG emissions should be continued as they are best practices around equipment maintenance and elimination of intentional releases to atmosphere.

Key points:

- **Dairy families will take an inequitable share of the costs from the introduction of emissions trading;**
- **Increases in the price of oil can be passed onto consumers, however ETS costs cannot;**
- **The ETS has created a marginal price on emissions, therefore allowing emissions reductions to be incorporated into investment decisions;**
- **Brokerage costs have been in line with costs in other markets;**

³⁷ For example, the fiscal cost estimate contained on page 33 in the explanatory note to the Climate Change Response (Moderated Emissions Trading) Amendment Bill 2009 uses \$50 per NZU/AAU to estimate the impact of ETS amendments post 2012. To Fonterra's knowledge all Treasury estimates since 2009 have used a price of \$50 per NZU for post-2012 cost forecasts.

- *A transparent indicator of market prices is needed to, amongst other things, reduce the ability of energy suppliers to profit by passing on ETS costs at above market prices;*

Recommendations:

- *It is noted that the ETS will have an inequitable effect on the dairy sector, while increases in costs from rising world energy prices may actually increase New Zealand dairy competitiveness;*
- *Allocations based on intensity are endorsed as an efficient method of maintaining a marginal price on emissions, and do not reduce the price signal created by the ETS;*
- *A NZU price index is established to allow price transparency for purchasers of energy.*

Cross reference between Issues Statement questions and Fonterra submission

Question	Location in submission
Q1: Do you agree/disagree with the Panel's assessment of the current impact of the ETS? If not, why not?	Answered specifically in "Other questions raised in the Issues Statement"
Q2: What impacts of the ETS have you experienced to date?	Answered specifically in "Other questions raised in the Issues Statement"
Q3: What are your views on the administrative efficiency of the ETS?	Answered specifically in "Other questions raised in the Issues Statement"
Q4: In your opinion, are the modelling results in paragraph 62 (page 21) likely to reflect the actual macroeconomic impacts of the ETS? If not, in your opinion, how will the ETS affect New Zealand in overall economic terms?	Answered specifically in "Other questions raised in the Issues Statement"
Q5: Do you agree/disagree with the Panel's assessment of the impact of the ETS after 2012? If not, why not?	Answered specifically in "Other questions raised in the Issues Statement"
Q6: What impacts do you expect to experience after 2012 (given the current design settings of the ETS)?	Answer included in "Costs to New Zealand dairy farmers arising from the ETS"
Q7: As forestry is New Zealand's largest source of carbon credits and has a significant influence on emissions reduction in New Zealand, do you think the ETS provides enough incentive for forestry investments? If not, why not?	Not addressed
Q8: Do you agree with the Panel's assessment of the impacts of the ETS on Māori? If not, why not?	Not addressed
Q9: In your opinion, what impacts of the ETS have Māori experienced to date?	Not addressed
Q10: In your opinion, how will the ETS affect Māori in the longer term?	Not addressed
Q11: Do the scenarios in table 4.1 (page 28) capture the most likely outcomes for the international framework after 2012? If not, what other scenario(s) do you suggest the Panel should consider?	Answer included in "Likely international obligations post-2012"

Q12: How might the objective(s) of the ETS change under each of these scenarios?	Section “Restating our purpose – post-Kyoto” specifically addresses this question
Q13: Under what conditions should the ETS scale up to a full obligation?	Answer included in both “Ensuring the ETS is part of a balanced global response to climate change” and “Supply of NZUs post-2012
Q14: To what extent, if any, should abatement options be relevant in determining the extent of a sector’s participation in the ETS?	Section “Other economic considerations before including agricultural emissions” directly addresses this question
Q15: Under what conditions should new sectors enter the scheme and incur surrender obligations?	Addressed in length under major-section “International and domestic treatment of agricultural gases”
Q16: Should allocation of NZUs continue as planned under current design settings after 2012?	Section “Improving the measure to test eligibility for allocations” answers this question
Q17: Should the ETS cover synthetic greenhouse gases (SGG) from 2013, as currently legislated?	Answered specifically in “Other questions raised in the Issues Statement”
Q18: Are there any other issues, in particular any related to the matters set out in section 160(5) of the Act as summarised in Chapter 1, you think the Panel should consider? If so, please provide details of your view on them.	Other important issues are included throughout the submission as they arise

Appendix 1 – 2009-10 owner-operator farm income statement

2009-10 New Zealand Owner-Operators estimate

Farm Income Statement

PHYSICAL CHARACTERISTICS: <i>per farm</i>				
Milking area (ha)	133.7			
Peak cows milked	376			
Kg Milksolids produced	126,669			
	<i>\$ per farm</i>	<i>\$ per cow</i>	<i>\$ per milking hectare</i>	<i>\$ per Kg milksolids produced</i>
DAIRY CASH INCOME:				
Milk sales (net of dairy levies)	786,098	2,091	5,880	6.21
Net livestock sales (sales - purchases)	38,690	103	289	0.31
Other dairy cash income	5,186	14	39	0.04
Net Dairy Cash Income	829,974	2,207	6,209	6.55
CASH FARM WORKING EXPENSES:				
Wages (general)	73,129	194	547	0.58
Animal health	26,994	72	202	0.21
Breeding & herd improvement	14,772	39	110	0.12
Farm dairy	7,745	21	58	0.06
Electricity	12,036	32	90	0.10
Net feed made, purchased, cropped	86,292	230	646	0.68
Stock grazing	39,611	105	296	0.31
Run-off Lease	7,845	21	59	0.06
Fertiliser (incl nitrogen)	69,916	186	523	0.55
Irrigation	5,541	15	41	0.04
Regrassing	8,338	22	62	0.07
Weed & pest	3,693	10	28	0.03
Vehicles & fuel	23,298	62	174	0.18
Repairs & maintenance	33,928	90	254	0.27
Freight & general	6,273	17	47	0.05
Administration	15,146	40	113	0.12
Insurance	5,776	15	43	0.05
ACC	3,549	9	27	0.03
Rates	10,238	27	77	0.08
Farm Working Expenses	454,118	1,208	3,397	3.59
Cash Operating Surplus	375,856	1,000	2,812	2.97
ADJUSTMENTS:				
Value of change in dairy livestock	7,215	19	54	0.06
less Labour adjustment (effective wage of owner)	55,179	147	413	0.44
less Depreciation	55,674	148	416	0.44
Net Adjustments	- 103,639	- 276	- 775	- 0.82
Dairy Gross Farm Revenue	837,188	2,227	6,263	6.61
Dairy Operating Expenses	564,971	1,503	4,226	4.46
Earnings before Interest and Tax	272,217	724	2,036	2.15
less interest & rent	208,000	553	1,556	1.64
Earnings before Tax	64,217	171	480	0.51
less tax	30,000	80	224	0.24
Net Profit	34,217	91	256	0.27

Source: DairyNZ Economics Group, DairyBase

Notes on farm income statement

- I Cash income per kilogram of milk solids (\$6.21) is higher than historical levels. The average Fonterra payout from the ten years FY02-11 was \$5.41 per kilogram.
- II Working expenses from this year are also likely higher than average. Working expenses are highly correlated to payout. This is due to the tendency of rural suppliers to increase prices in response to an increase in farm cash income. These increases in costs do however exhibit a sticky response to falling cash incomes.
- III Interest expense has risen sharply in recent years. As with other industries, the dairy industry overleveraged prior to the global financial crisis. Overtime, interest costs should move back to more historical levels, compared to total cash income.

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ETS Review 2011 Consultation
Ministry for the Environment
PO Box 10362
Wellington 6143
etsreview2011@climatechange.govt.nz

6 April 2011

Submission: New Zealand ETS Review 2011

1. Forest & Bird appreciates the opportunity to comment on the ETS review 2011.
2. Any material in this submission, including contact details, can be included in any material published by the Review Panel.
3. Since we have already had an opportunity to address the Panel on most of the matters raised below, we do not need a further hearing unless the Panel wishes it.

Introduction

4. Forest & Bird (The Royal Forest & Bird Protection Society of New Zealand Inc) is New Zealand's largest independent conservation organisation, representing around 68,000 members and supporters.
5. Our members are people who care passionately about New Zealand's unique and special natural environment and native species, and want to make sure that these natural treasures are protected so that they can continue to be enjoyed by future generations.
6. Climate change is an area of increasing focus for Forest & Bird. We are acutely aware of the likely impact of climate change on New Zealand's indigenous flora and fauna. New Zealand's unique biodiversity is ill-equipped to adapt to this change. Forest & Bird is therefore supportive of strong, precautionary action to reduce emissions and move our economy to a low-carbon footing.
7. Mitigation policies have both risks and opportunities for biodiversity, particular those involving land-use change. We promote policies that protect both carbon stores and biodiversity; rather than trade one off against the other.
8. New Zealand's protected lands and flora is this country's greatest above-ground carbon store: massive amounts of carbon are sequestered in soils, wetlands, plants and forests in protected areas. Landcare Research has estimated that carbon stocks on public conservation land (PCL) represent the *single largest terrestrial carbon store* in New Zealand – an estimated 8,785 million tonnes of CO₂-e. This is 100 times New Zealand's annual emissions; or, put another way, just a 1% change in this protected carbon store is equivalent to New Zealand's annual emissions.
9. In addition, protection afforded by various conservation laws (particularly Schedule 4 of the Crown Minerals Act that prohibits mining in high-value conservation areas) ensures that significant below-

ground carbon stores of fossilised carbon remain intact, keeping this carbon safe from entering the atmosphere.

10. Conservation protections generally, and environmental regulations requiring the “sustainable management” of natural resources, also serve to give a level of protection against the unwanted and unnecessary release of natural carbon, e.g. the clearance of native forest on public conservation land and protection of wetlands in some areas.
11. Specific laws and Government policy on climate change serve to complement these basic conservation protections, and the ETS is currently the Government’s main emission reduction tool.

Emissions trading

12. Forest & Bird supports a price on carbon as an efficient and effective tool for incentivising behaviour change to reduce emissions and support activities that sequester carbon. The 2008 ETS was a flawed but important first step. The 2009 amendments weakened it substantially. The result is that the **ETS is not yet an efficient or effective economic tool**, particularly to reduce gross emissions. Indeed, it may be currently so ineffective that it provides little more than a smokescreen for Government inaction and lack of leadership.
13. One of the goals of the ETS is “ensuring any costs of meeting New Zealand’s international obligations fall on emitters, rather than taxpayers, as they are best placed to reduce emissions”. Because of the extensive restrictions preventing the carbon cost flowing through to sectors – namely the price-cap, two for one, and the deferral of obligations through grand-parented allocations – this goal is not being achieved in the short-medium term. Even in the longer term, it will be very limited in sectors like agriculture due to the very slow reduction in free allocations.
14. We acknowledge that there needs to be some transitory measures to allow particular sectors to adjust their investment and infrastructure, and where competitiveness is genuinely at risk. This should be on the basis of real evidence of need, not a blank cheque based on perceived concern or industry lobbying. However, the current ETS goes well beyond this and removes the price signal almost entirely, resulting in the bulk of the burden falling on taxpayers rather than emitters. Indeed, the areas where the signal to emitters is strongest (such as transport fuels) are areas where the individual consumers takes the brunt of the signal, but have limited ability to change behaviour if industry and Government has not invested in alternatives or complementary measures to allow economic choice (e.g. public transport infrastructure, biofuel availability, minimum energy performance standards or electric vehicle infrastructure).
15. The **carbon price signal under the ETS must be strengthened** in order to make this economic instrument effective. Strengthening the signal will encourage the reducing of emissions and transition to lower emission industries, technologies, practices, behaviours and choices. It is important that the signal is strong enough to reduce gross emissions and increase forest carbon stores. Failing to strengthen the price signal – or further weakening it through additional subsidies, delays or exemptions – will encourage increased carbon-intensive economic activity and depress the uptake of existing and new lower-carbon opportunities.
16. Forest & Bird believes that New Zealand will be required, one way or another, to take stronger action in future. Unless the ETS assists in creating a stronger price signal to lower gross emissions then the New Zealand economy is being set up to fail.

The review

17. The objectives of the review are worthy, although the benchmarks indicated are ambiguous and contestable. What is a “fair share of international action”? How can the “cost-effectiveness” of reductions be assessed when the level of reduction is not clear (i.e. there is no cap)? The panel is

therefore in the difficult position of seeking to assess the efficiency and effectiveness of the ETS mechanism within the contested politics of New Zealand's commitments and intentions. However, the third objective – "that the ETS supports efforts to maximise the long-term economic resilience of the New Zealand economy at least cost" – gives the Panel a mandate to consider the likely scenarios for what a "fair share" will be in future and what level of emission reductions will be required (cap) in order to evaluate cost effectiveness of the ETS.

18. We recommend that the Panel undertake its own assessment of what fair share means for New Zealand and base its analysis of cost-effectiveness on an assumption of a requirement to begin a trajectory of reducing gross emissions (independent of fluctuating forestry emissions) immediately.
19. We recommend that the Panel take a precautionary view of long-term economic resilience in its analysis, viewing the cost of action as an investment as well as a reduction in the likely cost of inaction.

ETS settings

20. The most fundamental settings that the Panel will be assessing are the transition measures and allocation framework introduced in the 2009 amendments. We **recommend** that:
 - The transitional price cap is removed at the end of 2011, rather than 2012.
 - The one emission unit for two tonnes of emissions subsidy is removed at the end of 2011 also.
 - The waste sector and synthetic gases be introduced earlier, in 2012. The paper notes the "relatively small" post-2013 impact on the waste and synthetic gases sector. Introducing these sectors earlier will also have a relatively small impact, but will provide an incentive to reduce waste to landfill and the recapture of synthetic gases.
 - The agricultural sector is introduced earlier, in 2012, with a transitory period that phases out grandparenting by 2020.
21. The Review Panel's issues paper notes the relatively limited impact of the scheme to date on **fuel and electricity**. This impact is not just a cost to emitters; it is a price signal that changes behaviour and reduces emissions, which is essential for economic transition in the longer term. Additionally, it is a reduction on the amount of emission cost picked up by the taxpayer. The impact is therefore an economic positive as well as a cost. The recommendations above would increase the impact somewhat, increasing the price signal to emitters to incentivise behaviour change. The paper notes that the impacts to date are not great relative to other increases such as labour costs, and the addition impact of removing the transition subsidies will not be either.
22. The impact on the **agricultural** sector is more significant. However, others have demonstrated that the sector does have some current mitigation options and the price signal will create additional incentive to innovate to find other mitigation options. Further, the sector is not monolithic. Particular modes of agriculture such as dairy are particularly emissions intensive, while others such as horticulture and farm-forestry are not. Part of the economic change that is required will be to grow exports in less emissions-intensive forms of agriculture, and potentially contract more intensive forms. Current pressures on freshwater, particular from intensive dairying, and the generally accepted call for limit setting through regulation will provide a parallel economic incentive or requirement to do agriculture differently over time.
23. The overall lesson here is that we cannot project economic costs based on a static economy. New Zealand's economy is historically dynamic and will continue to change in light of domestic resource pressures, market and consumer demands, international agreements and pressures and global price changes for commodities like oil and water. Our economy will need to be different in 2020

and beyond, and the role of the ETS is to ensure that economic signals incentivise the type of change required, namely lower-emission industries and behaviours must increase and higher-emission industries and behaviours must reduce.

Specific issues within ETS design

Forest & Bird wishes to comment on a number of specific design features.

24. **Mining sector grand-parenting.** The mining industry is expected to put to the Panel that the ETS allocation regime should be extended to cover its sector. We reject this as narrow sectoral self-interest. Mining activity generates its own emissions (e.g. fugitive emissions) and uses inputs that generate emissions or have emissions embedded (e.g. fuel). Like consumers and households, the industry must take responsibility for these emissions. A robust price signal will encourage behaviour to adopt lower emissions technologies.
25. **Fugitive emissions.** We also expect the mining industry to argue for a particular exemption for fugitive emissions from coal mining activity. We reject this view because fugitive emissions attract an obligation under Kyoto. The taxpayer should not pay for them. There are ways of mitigating these emissions, by capturing and generating electricity from underground mines. Further, coal mining is not responsible under the ETS for the emissions generated when coal is consumed offshore, so it is doubly important that domestic emissions from the extraction, processing and use of coal in New Zealand is accounted for under the NZETS.
26. **Wilding trees.** The perverse incentive of wilding trees is well recognised: that afforestation in some places for carbon benefit can also bring a very high environmental cost through impact on local ecology and other economic activities, and can create a snowballing wilding spread risk in some areas. Regional Councils and the Parliamentary Commissioner for the Environment made submissions to the 2009 amendments and changes were made to the Act to correct this perverse incentive. We recommend that the Panel review whether these changes were sufficient or whether additional changes are required to ensure only appropriate afforestation and enable continued conservation work to contain wilding tree spread.
27. **Subsidies for new developments such as lignite mining.** We share the view of other NGOs and the Parliamentary Commissioner for the Environment that the proposed major lignite developments in Southland (and all the downstream emission points) should not be eligible for exemptions from full obligations under the ETS.

ETS expansion

28. The Government has asked the Panel to consider "priority issues and questions for key ETS design settings arising from possible international frameworks post-2012, and considerations that the Government might apply in developing a response to these priority issues and questions". This relates to the objective "that the ETS supports efforts to maximise the long-term economic resilience of the New Zealand economy at least cost."
29. This is an opportune time to consider the implications of fuller carbon accounting for New Zealand. The international obligation beyond 2012 is currently unclear, but is likely to be (eventually) broader and deeper than the Kyoto Protocol. Future agreements may require New Zealand to account for carbon not currently accounted for. For example, in land management and broader such as non-Kyoto forest vegetation, public conservation land management, and in soil. Two things should therefore be considered by this review:
 - Does the ETS create perverse incentives to deplete non-accounted carbon in favour of Kyoto-recognised carbon? Given that we may eventually be responsible for the depleted carbon, it is important for the sake of the New Zealand economy in the longer term that we protect it even if it

is not currently priced under Kyoto. The climate is ambivalent as to where carbon comes from, so it is also in the best interests of the environment that we avoid such tradeoffs. Examples could include the replacement of regenerating native scrub or tussock-land with exotic Kyoto forest, or the loss of soil carbon. We have not been able to compile evidence on this point, but wish to alert the Panel to the potential.

- The flip side of the above is that we can use our ETS (and probably more commonly, wider policy and other complementary measures) to incentivise the protection of non-Kyoto carbon stores. Consideration should be given to the level of flexibility in the ETS to go beyond Kyoto rules and require measurement and obligation for non-Kyoto carbon emissions, particularly beyond 2012. The advantage of this is that it can also incentivise behaviour that has other benefits to the national and local environment: biodiversity, air quality, water quality, soil quality, etc. Again we have been unable to compile specific examples or suggestions, but wish to draw the Panel's attention to the potential.

Yours sincerely,



Quentin Duthie
Conservation Advocate

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Please email your completed submission to etsreview2011@climatechange.govt.nz.

Submissions must be received by 5.00pm Wednesday 6 April 2011

Things to consider when making your submission

Submitter details

Title: Mr

My/our full name(s): Geoff Keey

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Before answering the Consultation questions on the next page please take a moment to answer the questions below.

Publishing your name and details

	Yes	No
Do you agree to your name (and your organisation's name) and contact details being included in the summary of submissions?	Yes	☐

Comment

Do you agree to your name (and your organisation's name) being included in the list of submitters on the website?	Yes	☐
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Comment

Do you agree to your name (and your organisation's name) and contact details being released in response to an official request?	Yes	☐
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Comment

Please notify Greenpeace New Zealand of the requestor in the event of a request for any release under the Official Information Act.

Panel meetings with stakeholders

The Panel intends to meet with a selection of stakeholders after the deadline for written submissions. However, given the number of submissions, it is unlikely the Panel will be able to meet with all submitters. Please indicate below if you would like meet with the Panel if possible and which date would be most suitable.

Yes No

Do you wish to meet with the Review Panel in Wellington?

Yes ☐

Which of these three dates would suit you best – 13, 15 or 20 April? Open to any date with sufficient notice
The Panel will notify directly those stakeholders it determines are most appropriate to meet.

Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment and to promote peace.

It comprises 28 independent national/regional offices in over 40 countries across Europe, the Americas, Africa, Asia and the Pacific, as well as a co-ordinating body, Greenpeace International.

Greenpeace New Zealand was founded in 1974 and has over 60,000 financial supporters. The organisation has a global membership of 4 million supporters.

Greenpeace New Zealand plays a constructive role in assisting the government and progressive businesses to develop policies and solutions to climate change at a national level and in all of New Zealand's key trading partners at an international level. Greenpeace expects to be consulted directly by the review panel.

Consultation Questions

Q1 Do you agree/disagree with the Panel's assessment of the current impact of the ETS? If not, why not?

Greenpeace has seen no evidence that the emissions trading scheme is driving changes in behaviour. The reasons for this are:

- **Low price on carbon**
- **High levels of subsidy (free allocation)**
- **Industry belief that prices will remain low (or will disappear completely)**
- **Non-price barriers to change (particularly in the agriculture sector)**

In part this may reflect confusion on the part of policy makers over whether it is just a device to redistribute some of the costs of meeting an international target or whether it is a device to change behaviour.

Considerable caution should be exercised when assessing the extent to which deforestation has been halted by the emissions trading scheme because deforestation rates were distorted prior to the entry into force of the emissions trading scheme in order to avoid the deforestation penalty.

Q2 What impacts of the ETS have you experienced to date?

In your response we would be interested in:

- financial impacts you have experienced and how you have managed these (eg, passed them on to consumers)
- how significant the impact of the ETS has been relative to other changes, such as GST increase, consumer demand changes and oil price increases
- whether the ETS has yet influenced your investment decisions (eg, on low-carbon technologies, and land development)
- whether the ETS has yet influenced your operating decisions (eg, input sourcing, supply chain, choice of energy supply)
- other impacts of the ETS (eg, social, environmental).

Greenpeace understands that a recent survey of business leaders by the Ministry of Economic Development shows that business leaders are mostly (80%) passing through the cost of the emissions trading scheme or absorbing costs (20%) with very little changes in investment decisions. The same survey apparently reveals that business leaders lack confidence in the longevity of the scheme or that carbon prices will rise.

There appears to be little or no incentive to substitute renewable fuels such as second generation biofuels (produced from waste products such as tallow) for fossil fuels.

The ETS appears to have had no impact on long term investment decision making. To this end, Greenpeace notes that Solid Energy is currently developing proposals to convert lignite to fertiliser and liquid fuels and is talking up increased exploration and extraction of fossil fuels. Greenpeace also notes that Fonterra is proceeding with plans to develop coal-fired dehydrators. The development of new coal-fired plant, or emissions intensive lignite projects would be a clear test that the ETS is failing to deliver an adequate price signal.

Q3 What are your views on the administrative efficiency of the ETS?

In your response we would be interested in comments on:

- a. compliance costs associated with the ETS (including brokerage fees)
- b. complexities of ETS reporting requirements (such as accounting methodologies)
- c. penalties for breaching ETS obligations
- d. the organisation of this administration across government, including the role of the Environmental Protection Authority.

In assessing compliance costs, the panel should be careful to separate transaction costs from the price on carbon. The purpose of emissions trading is to place a cost on emissions and this cost should be high enough to cause discomfort for firms so that they change behaviour (or their customers do).

The New Zealand ETS is a relatively complex form of regulation and delivers uncertain outcomes. Because New Zealand has an ETS that lacks a cap it is unable to deliver certainty on either price or emissions. The emissions trading scheme should gain a cap.

The ETS is yet to apply to agriculture and if applied at the farm-gate level, is likely to be relatively complex. If the Government's objective is to change behaviours then regulation at the farm gate is the most potentially effective tool, but is not necessary. Applying pricing at the processor level will change the relative economics of different land use (primarily by reducing the environmental subsidy for agriculture) which will encourage changes in behaviour by land owners/managers. Processors will also have an incentive to drive changes in behaviour from their suppliers.

An alternative approach to pricing emissions for agriculture could be to price proxies (such as fertiliser use or stocking rates) or use more traditional direct regulation. This may be theoretically less 'efficient' in economic terms but which may prove to be better in practice because of potentially lower transaction costs and greater certainty with direct regulation.

A key factor in the agriculture sector is the existence of significant non-price barriers to change. These barriers are primarily attitudinal (beliefs that climate change is not happening, or if it is, the agriculture sector shouldn't have to do anything and / or that there is little the agriculture sector can do) and are exacerbated by attitudes within the civil service. Even the discussion document provided by the panel says that there are only limited options for the agriculture sector to reduce emissions.

Geoff Bertram and Simon Terry have however shown that this is not correct in their book the Carbon Challenge. They articulate that the agricultural sector has a range of options available to it, particularly to reduce nitrous oxide such as:

- Moving to low input agricultural systems that require much reduced amounts of fertiliser and have a high profitability per animal
- Using nitrification inhibitors
- Changing land use (eg planting trees on the property)
- Better land management generally (stand-off pads, avoiding soil compaction etc)

Q4 In your opinion, are the modelling results in paragraph 62 of the Issues statement (page 21) likely to reflect the actual macroeconomic impacts of the ETS? If not, in your opinion, how will the ETS affect New Zealand in overall economic terms?

Greenpeace has serious concerns with the modelling approach used by the Government to date. The macroeconomic impacts of the ETS will depend largely on the quality of Government decision making around complimentary measures.

Decisions that limit the availability of substitutes for polluting activities will increase the macroeconomic cost of the ETS while decisions that increase the availability of substitutes will lower the macroeconomic cost of the ETS. For example, if the Government over-invests in roading and under-invests in public transport, households will face increased transport bills but will lack the ability to do anything about it.

Excessive free allocation and a low carbon price are likely to lock in investment with on-going high emissions and make the economy less adaptable. This will result in costs that would have otherwise been avoided (through the cost of emissions and the cost of fossil fuels) that is unlikely to be captured by the modelling approach the Government has used to date.

A blunt and cynical view of the modelling to date is that it reflects the macroeconomic cost of climate change policy in the presence of incompetent policy making.

There will be winners and losers from emissions pricing. Some areas of economy should contract (those with high emissions) while others should expand (those with low emissions). To minimise the macroeconomic cost of adjustment, Government policies should assist this process of adjustment rather work against it. Examples of this include:

- Early intervention in the labour market to deliver employment security to workers affected by the changes
- Investment aimed at lowering non-price barriers (such as encouraging attitude changes within the agriculture sector, filling information gaps, capital barriers for households, investing in public transport, rail and shipping)
- Removing subsidies to polluting activities (including hidden and indirect subsidies) such as free access to water for agricultural production, subsidies for irrigation, fossil fuel and mineral exploration subsidies (including direct investment in geotechnical research)
- Removing free allocation from sectors where lower emission alternatives to high emissions products and services exist.

Q5 Do you agree/disagree with the Panel's assessment of the impact of the ETS after 2012? If not, why not?

The international price on carbon can be expected to increase over time, but whether this results in significant behaviour change will depend on the availability of substitutes and the extent of free allocation (which may make increased carbon prices more easily absorbed by firms). At present Greenpeace has seen no evidence that firms are intending to change behaviour in a way that would reduce emissions post 2012.

Submitter name: Geoff Keey on behalf of Greenpeace NZ

Q6 What impacts do you expect to experience after 2012 (given the current design settings of the ETS)?

In your response we would be interested in:

- a. how impacts will change once the transitional phase ends
- b. whether any significant business risks are created by uncertain carbon prices, and if so, how these risks could be mitigated
- c. any competitiveness risks and therefore risks of carbon leakage
- d. any business opportunities and benefits that may arise
- e. how you expect abatement technologies to develop by 2015 and beyond
- f. comparison between carbon prices and abatement costs
- g. how you expect the ETS to affect New Zealand socially and environmentally in the long term.

The New Zealand economy will become increasingly inefficient over time. Subsidies to emissions intensive firms and other domestic policy settings (such as the present road building programme, irrigation subsidies and support for fossil fuels) will lock in investment in polluting activities (such as lignite to diesel and urea, coal-fired, car and truck transport at the expense of other modes) for long periods of time. The New Zealand economy will then become increasingly dependent on these activities, even as the relative economic value of these activities in global terms declines. As fossil fuel prices increase with increasing scarcity and the global price on emissions, New Zealand decision makers will be under greater pressure to increase subsidies to polluters (either directly or indirectly through lowered environmental standards, continued free access to public resources or inadequate industrial relations laws). Eventually this will be fiscally and economically unsustainable.

Other countries, even where they are reluctant to internationalise commitments (such as China), are getting on with the job of developing the levers and technology to reduce emissions. And it is not surprising that China is emerging as the world's clean energy powerhouse and for the first time took the top spot for overall clean energy finance and investment in 2009. Other key markets are Germany, South Korea, India, the UK and Japan - many of whom New Zealand has key strategic trading agreements – which have also earmarked multi-billion dollar investments in clean energy to deliver the benefits that transitioning to a low carbon economy will bring. In Japan, for example, the long-awaited fourth economic stimulus package was finally announced last year, with the Government committing US\$22billion to be spent on the “low-carbon revolution”.

Other examples include:

- As part of China's 12th Five Year Programme, the government is focusing on both commercialisation of technology and on cleantech R&D. The Ministry of Finance has decentralised the R&D process by using policies such as preferential tax treatments, favourable financing policies, government procurement policies and the implementation of technology standards to encourage R&D institutions to partner more with the private sector.

China also has a specific programme to seek out and enhance cooperation agreements¹ with a focus on new energy and renewable energy development, wind energy resources assessment, large high-efficiency wind turbines, offshore turbines and wind farms. This is being driven by measures both to promote international collaboration on clean tech; firstly by diversifying the sources of technology imports and expediting technology transfer processes between China and other countries and secondly promoting technology exports through motivating enterprises, research institutes and universities to go global.

- The United States government has formulated a \$787 billion economic stabilisation and jobs growth package including \$83 billion for cleantech spending and tax plans. The measures target doubling renewable energy generating capacity - sourced largely by wind, solar and geothermal – as well as targeting efficiency, expanded electricity transmission networks and modernisation of electricity grids including advanced metering, energy management software, and usage monitoring sensor.
- The UK has set a clear policy target of achieving 15 percent of its energy needs from renewables by 2020, which has cross party support and a Climate Change Bill that has legally binding targets for emissions reductions. To leverage the necessary investment to stimulate the move to a clean economy, they have also set up the independent Green Investment Bank Commission to advise the government on how to best increase investment in low carbon infrastructure and technologies. This green investment bank could provide funding in many

¹ Wan Gang 2009. Relying Science and technology to tackle climate change. <http://www.ccchina.gov.cn/cn/NewsInfo.asp?NewsId=12193>

forms such as grants, equity co-investments, insurance projects, wholesale capital and long-term carbon price underwriting. Importantly cleantech, as with in China, is also embedded in the UK academia.

Notably, the United States is now challenging Chinese subsidies to its domestic renewable energy industry because it considers that Chinese firms are gaining an unfair advantage. Even if the United States succeeds eventually in breaking into this market, Chinese firms will have gained first mover advantage.

- Q7 As forestry is New Zealand's largest source of carbon credits and has a significant influence on emissions reduction in New Zealand, do you think the ETS provides enough incentive for forestry investments? If not, why not.

Forestry occurs in the context of competing land uses. The emissions trading scheme needs to be supported by other land-use policy settings that presently tip the playing field in favour of competing land uses.

Central and local government presently subsidises agricultural production through a range of means including free access to water, subsidies for irrigation, absent, low or inadequate environmental regulations, support in export promotion. Examples of inadequate regulation include:

- **No regulation controlling stocking levels per hectare in the dairy sector**
- **No regulation controlling fertiliser inputs per hectare especially in the dairy sector which is the largest user of nitrogen fertiliser.**
- **No regulation on nitrogen loading of the farming system within the supplement feed, effluent management and fertiliser inputs areas of the dairy sector which directly impacts on nitrous oxide emissions.**

In some respects New Zealand could be considered a pollution haven for agricultural production with low environmental standards and free exclusive use of public resources a means of maintaining competitive advantage for agriculture at the expense of other sectors. Changing these settings (including the ETS) so that agriculture faces the true cost of production would generate a lower-emissions land use profile for New Zealand.

Any changes need to be careful to not create an incentive for inappropriately located plantation forestry such as in sensitive high country ecosystems.

- Q8 Do you agree with the Panel's assessment of the impacts of the ETS on Māori? If not, why not?

- Q9 In your opinion, what impacts of the ETS have Māori experienced to date?

- Q10 In your opinion, how will the ETS affect Māori in the longer term?

Q11 Do the scenarios in table 4.1 in the Issues statement (page 28) capture the most likely outcomes for the international framework after 2012? If you answered no, what other scenario(s) do you suggest the Panel should consider?

The scenarios are a reasonable assessment of the options for post 2012 negotiations. Most of New Zealand's trading partners, including developing countries will be undertaking domestic mitigation action at least to position themselves for the eventuality of commitments. The main factor locking the negotiations at present is the state of US domestic politics.

A significant risk for New Zealand, given its current approach, is that there may be limits to the availability of international credits, even with new binding commitments. A majority of countries in the climate change negotiations are wanting to see caps on supplementarity. It would be prudent for New Zealand to re-focus the scheme on domestic reductions rather than its current emphasis on offsetting.

New Zealand also faces a risk that it will misread a lack of willingness to agree to binding commitments by most countries at present as a lack of commitment to taking action on climate change. Much climate change mitigation action appears to be 'under the radar' and major emitting developing countries are reluctant to disclose the full scope of emission reductions available to them in order to minimise binding commitments. New Zealand may discover that trading partners are restricting aspects of their economy in order to reduce emissions in the long term while New Zealand locks in high-emissions activities. This could place New Zealand at a strategic disadvantage once the negotiations unlock.

The current trade dispute between the US and China over Chinese subsidies for clean development is a sign of the way countries are positioning themselves to be in a strong strategic position in the long term.

Over the medium term, New Zealand's 2050 target is unlikely to be tenable. A cut of 50% in net emissions (relative to gross 1990 emissions under current Kyoto rules) by 2050 represents the general developed country position for global emission cuts by 2050. New Zealand is proposing to do the 'global average' despite New Zealand's per-capita emissions and GDP being considerably higher than an overwhelming majority of people in the world. As a consequence, New Zealand can expect to face demands for much stronger action in future than the Government currently anticipates. A prudent approach to risk would suggest that a more stringent target, rather than less stringent target, will be expected in future.

Q12 How might the objective(s) of the ETS change under each of these scenarios? In particular:

- a. what do the different scenarios imply about the costs New Zealand should be imposing on its economy through the ETS in the short term?

The different scenarios have no impact on the costs the ETS should pose on the New Zealand economy. In all scenarios, the Government should avoid imposing costs on the New Zealand economy by subsidising polluters. Assumptions that a price on carbon will impose costs on the New Zealand economy are simplistic as it may be more likely to move costs around within the economy.

- b. what considerations should influence how the costs of any international obligation New Zealand faces should be shared between different sectors of the economy such as the split between emitters and taxpayers and the relative abilities of different sectors to reduce emissions?

Subsidies to enable a transition should wherever possible be separated from the price signal and should be aimed at vulnerable individuals and workers needing to transition to new employment. Emitters should pay the cost of emissions rather than taxpayers. The relative abilities of different sectors to reduce emissions is not relevant to whether they should face the price signal as the

products of firms that cannot reduce their emissions should become more expensive than the products of those that can; it defeats the purpose of emissions *trading* to exclude sectors because they cannot reduce their emissions or don't find it cost effective to do so. A key factor in non-agricultural emissions is the need to start reducing New Zealand's reliance on fossil fuels because of the rising costs associated with peak oil.

Providing free allocation to emissions intensive industry where lower emission alternatives exist is counter-productive to the purpose for the scheme as it provides a competitive advantage for emissions intensive firms, not only in relation to emissions intensive firms overseas, but also low emission firms in New Zealand and overseas.

- c. what is the role of the ETS in preparing New Zealand for the international obligations and other drivers for action it may face in the long term?

The ETS should be one of a range of tools the Government should use to prepare New Zealand for the drivers of action it will face in the medium and long term (including further international obligations). The ETS should have a sufficient carbon price to act as a barrier to new emissions intensive development, particularly development that will lock-in polluting activities for the long term.

If the price of carbon is too low firms will invest in polluting activities and use political and economic leverage to engage in rent seeking behaviour in future. Greenpeace notes that a significant amount of current free allocation (such as to agriculture) reflects rent seeking behaviour that cannot be justified in economic terms. In the case of agriculture for example, pollution subsidies simply create a rise in the price of land.

- d. should the ETS design be changed in order to strengthen the incentives for domestic abatement? If so, how?

Yes, by establishing a cap, auctioning credits rather than free allocation and limiting the availability of international credits. A lack of incentive for domestic abatement will mean that New Zealand will consistently overshoot its target imposing an external cost on the New Zealand economy as credits are purchased to make up the difference. Reliance on forest planting over the long term is a risky strategy because of the basic principle that what goes up gets chopped down.

- e. how important is continuing access to international carbon markets?

This is much less important than setting in place a cap to drive emission reductions. If New Zealand wants to maintain access to international carbon markets, it should push fellow Umbrella Group countries to fulfil their obligation to take on a second commitment under the Kyoto Protocol.

- f. how do you see domestic and international carbon markets developing beyond 2012?

International carbon markets are in a state of uncertainty at present because of uncertainty over post 2012. The main area of relative certainty is the future of the EU emissions trading scheme, which the EU appears committed to continuing. New Zealand is unable to link to the European system primarily because of New Zealand's treatment of forestry. Large developing countries are likely to develop their own forms of emissions pricing over time but the extent to which they will link to international markets and other domestic markets, or whether they use trading or taxing to price emissions is unclear. US emissions pricing is unlikely in the short (and possibly) medium term. Australia is developing emissions pricing, but not trading at this stage.

Q13 Under what conditions should the ETS scale up to a full obligation? In particular:

- a. Should the fixed price option of \$25 continue beyond the current transition phase (ie, after 2012)?

No, emissions pricing should send as strong a signal as possible as soon as possible in order to drive investment decisions. Current pricing appears unable to drive significant changes in investment decisions.

b. Should the one-for-two obligation continue beyond the current transition phase?

The ETS should scale up to a full obligation as soon as possible with any Crown revenues used to assist the transition to a clean economy by helping drive the development of new clean development industries and supporting those who are vulnerable through the transition (particularly noting that emissions trading acts like a regressive tax, with those with low incomes paying a higher proportion of their income).

Q14 To what extent, if any, should abatement options be relevant in determining the extent of a sector's participation in the ETS?

Abatement options should not be relevant in determining the extent of a sector's participation in the emissions trading scheme. Where firms cannot reduce their emissions, their costs relative to lower emission substitutes should rise so that people consume less of the higher emission products and services relative to the lower emission products and services. The prospect of this should then help drive investment decisions in favour of lower emission products and services.

Given that most firms appear to be passing the cost of emissions onto consumers (according to MED research), changes in consumer behaviour may be the main way that the emissions trading scheme reduces emissions in the medium term.

Options to reduce emissions often appear to be understated. For example, the panel's discussion document providing guidance to submitters states that abatement options for agriculture are more limited than other sectors even though this is not correct.

Simon Terry and Geoff Bertram (the Carbon Challenge) have reviewed the abatement cost curves for agriculture provided by MAF and concluded that agriculture is New Zealand's sector with the largest potential for low cost abatement. They note that the abatement cost curves used by the Government understate the level of low (and no) cost abatement by adding technology uptake factors to technical potential. In other words, their abatement cost curve for agriculture assumes nothing is done to address the non-price barriers to uptake of technology. Non price barriers appear to be significant because of the presently low uptake of profitable abatement technologies (such as nitrogen inhibitors).

In the medium term the agriculture sector could move to low-input systems. These systems aim to enhance profitability by lowering the cost of inputs required to farm (such as fertiliser and veterinary costs). Such an approach would also significantly reduce emissions by resulting in lower stocking rates (while returning more profit for the farmer) and reduced emissions from nitrous oxide as a result of better land management and reduced need for fertiliser.

Q15 Under what conditions should new sectors enter the scheme and incur surrender obligations?

All sectors should enter the scheme as soon as it is technically feasible for them to do so. Sectors should not be exempt from the scheme on the grounds that it is politically difficult or that it is costly for them to reduce emissions. Firms that cannot reduce emissions should buy credits from those that can.

Q16 Should allocation of NZUs continue as planned under current design settings after 2012?

In your response we would be particularly interested in:

- a. the effectiveness of allocation in reducing competitiveness risks
- b. the impact of allocation on incentives to reduce emissions
- c. whether the allocation thresholds should be amended
- d. whether the process to determine allocative baselines should be changed
- e. whether the allocation of units to small and medium sized enterprises (SMEs) is the most administratively efficient way for protecting impacted sectors either for SMEs or government.

The purpose of climate change mitigation policy (such as the emissions trading scheme) is to reduce emissions. As a result, it should encourage substitution, with emissions intensive industries being replaced by low emission industries. Providing free allocation to emissions intensive industry where lower emission alternatives exist is counter-productive to the purpose for the scheme as it provides a competitive advantage for emissions intensive firms, not only in relation to emissions intensive firms overseas, but also low emission firms in New Zealand and overseas. In assessing claims for free allocation, the panel should consider whether lower emissions substitutes exist and the extent to which free allocation for emissions intensive firms may act as a barrier to substitution.

Following a review of emissions trading schemes, including New Zealand's, the IEA recommends that emissions trading schemes should:

- Set ambitious targets because strong investment signals are needed to stabilise atmospheric temperature rise, trading schemes with modest targets do not function well and will result in only small changes at the margin
- Not have free allocation to electricity generators as free allocation leads to windfall profits and does not prevent electricity price rises for end users. Instead the IEA recommends compensating consumers directly.
- Set long term investment signals. This is can be achieved by signalling caps far in advance and political commitment to the scheme's long term duration. Greenpeace notes that New Zealand firms do not believe there is long term political commitment and New Zealand cannot signal caps far in advance because there is no cap in the New Zealand emissions trading scheme.
- Allow flexibility to make changes in the early years because there is a significant risk of insufficient targets and an oversupply of allowances. The IEA clearly anticipates that reviews like this one should be aimed at increasing the stringency of the emissions trading scheme rather than the reverse.
- Cost impacts should not be overestimated. The IEA considers that the economic costs and competitiveness issues arising from pricing emissions are expected to be small compared to ongoing economic growth rates. The IEA argues that overly generous support to maintain current production patterns slows the pace of transition to low carbon economy and that the cost (or opportunity cost) of free allocation should be considered carefully against alternative uses that could have a greater positive impact on employment and other economic outcomes.

Where the Government wishes to maintain employment, consideration should be given to directly assisting and compensating workers, rather than assisting firms. This would prevent subsidies from weakening the price signal while assisting with the adjustment process. For example, rather than offering free allocation to polluters, the Government could provide start-up support to clean technology firms where they are able to employ workers currently employed in polluting activities.

Q17 Should the ETS cover synthetic greenhouse gases (SGG) from 2013, as currently legislated?

- a. if no, what other policy tools or what combination of policy tools should be used to encourage reduction in SGG emissions?

- b. if yes, are there supporting measures or amendments to the ETS that could support implementation and reduce administrative and compliance costs?
- c. if the ETS should be amended to cover only some SGG-using sectors: which ones, why, and what policies should be developed for the others?

In your response we would be interested in

- d. estimated impacts of the ETS coverage of SGGs (such as compliance costs for direct participants, on rates of gas recovery and recycling or destruction, and on management of leakage)
- e. arguments for or against alternative policy tools
- f. estimated impacts, including behavioural impacts in terms of incentives to reduce emissions, of alternative policy tools.

Q18 Are there any other issues, in particular any related to the matters set out in section 160(5) of the Act as summarised in Chapter 1, you think the Panel should consider? If so, please provide details of your view on them.

Submission Form

This form should be read in conjunction with the *ETS Review 2011: Issues statement and call for written submissions* (the Issues statement).

This form contains fields to allow you to directly enter your answers to all of the Panel's consultation questions that you wish to answer. The fields will expand as you type. If you wish to submit data and other supporting information please send these as separate attachments to this form and clearly label them with your name.

The use of this form is optional. However, if you do use it, it will enable the Panel to more quickly and easily analyse the issues raised in your submission.

Please email your completed submission to etsreview2011@climatechange.govt.nz.

Submissions must be received by 5.00pm Wednesday 6 April 2011

Things to consider when making your submission

Request for evidence-based submissions

As far as possible, the Panel intends to base its conclusions and recommendations on the evidence available to it. Please provide evidence, analysis or data to support the points made in your submission. The Panel is likely to attach more weight to those submissions which have provided evidence than those which have not.

Publication of submissions

The Ministry for the Environment may publish all or parts of any written submission on the Government's climate change website at <http://www.climatechange.govt.nz>. We will consider you to have consented to such publishing by making a submission, unless you clearly specify otherwise in your submission.

Requests for official information

The content of submissions is subject to the Official Information Act 1982. Copies of submissions sent to us will normally be released in response to an Official Information Act request from a member of the public.

If you object to the release of any information contained in your submission, please clearly state this in your submission, including which part(s) you consider should be withheld, together with the reason(s) for withholding the information. We will take into account all such objections when responding to requests for copies of, and information on, submissions to this document.

Privacy

If you do not wish your name and any identifying details in your submission to be recorded in the summary of submissions or released in response to a request, please clearly state this in your submission. At your request, we will make your submission anonymous in the summary of submissions and remove your name from the list of submitters before they are published on the ETS Review 2011 website. However, please note that the Ministry for the Environment will not be able to withhold any information if doing so would contravene the requirements of the Official Information Act.

Submitter details

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Before answering the Consultation questions on the next page please take a moment to answer the questions below.

Publishing your name and details

	Yes	No
Do you agree to your name (and your organisation's name) and contact details being included in the summary of submissions?	√	☐

Comment

Do you agree to your name (and your organisation's name) being included in the list of submitters on the website?	√	☐
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Comment

Do you agree to your name (and your organisation's name) and contact details being released in response to an official request?	√	☐
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Comment

Panel meetings with stakeholders

The Panel intends to meet with a selection of stakeholders after the deadline for written submissions. However, given the number of submissions, it is unlikely the Panel will be able to meet with all submitters. Please indicate below if you would like meet with the Panel if possible and which date would be most suitable.

	Yes	No
Do you wish to meet with the Review Panel in Wellington?	√	☐

Which of these three dates would suit you best – 13, 15 or 20 April? 20th April

The Panel will notify directly those stakeholders it determines are most appropriate to meet.

Submitter name (please insert): Horticulture New Zealand

Horticulture New Zealand represents New Zealand's 6,500 commercial fruit and vegetable growers on industry wide issues for industry good.

Consultation Questions

Q1. Do you agree/disagree with the Panel's assessment of the current impact of the ETS? If not, why not?

The panel's assessment of the typical business energy costs being equivalent to 1% of revenue does not apply to most horticulture growers' businesses. The costs of energy incurred by these businesses includes their direct energy costs as well as those indirect costs passed on to them through the prices of the inputs they purchase (packaging, fertiliser, machinery etc), and costs passed to them by post harvest operators such as pack houses, cool stores, and freight companies.

MAF orchard model data shows that direct (fuel and electricity) energy costs alone (excluding post-harvest costs) are around 1.8% of total on-orchard expenses for pipfruit and 3.5% for kiwifruit. Direct energy costs for outdoor vegetable production are around 2.5-2.9% of production costs. If indirect and post harvest energy costs were taken into account, these percentages would be higher again.

For the greenhouse vegetable industry direct energy costs are much higher than the 1%. Energy is the second highest single input cost in greenhouse expenses behind wages. In climate controlled greenhouses (excluding those houses that either do not heat or only have frost control) energy costs are around 20% of expenses or between 15% to 18% of revenue. If energy costs for the majority of NZ businesses are 1% of revenue (paragraph 46) this graphically highlights just how vulnerable NZ's greenhouse vegetable production systems are to rising energy costs and additional energy related taxes.

The budget summary below has been prepared by our Greenhouse Grower ETS Working Group. The budget, for greenhouse tomatoes post the ETS, is presented on a per square meter basis. Energy costs are 17% of revenue and can be up to 20%. Cucumbers and capsicums have similar budgets, so for simplicity we have used tomatoes as being representative of greenhouse vegetable production costs.

Greenhouse Budget	\$/m ²	% of total expenses	Comments
Revenue	\$100	-	Based on a net price of \$2.00/kg. To the greenhouse door. This is equivalent to a gross price of \$2.80 for a packed and freight product including sale commissions and industry levies. Yield of 50 kg/m ² . This is generally a top performing grower.
Expenses			
wages	\$33.00	43%	
ENERGY	\$14.60	19%	Based on a North Island grower using 1,500 MJ/m ² of natural gas. A coal burning South Island grower has similar costs. The cost per unit of energy is slightly lower but SI growers require more heating (1,800 MJ/m ²)
ETS	\$2.00	3%	Coal \$3.00/m ² and 3.9% of expenses (2.9 – 3.5 % revenue)
transplants	\$6.90	9%	

growing media / fert. / sprays / pollination	\$9.40	12%	
clips / R&M / rates / water	\$7.00	9%	
communication / legal / other admin.	\$3.70	5%	
Total expenses	\$76.60		Total expenses are 74% to 76% of revenue (excluding depreciation / interest & principle / tax / drawings)

Production of fresh tomatoes, fresh capsicum and fresh cucumber are eligible for NZU's under the Industrial Allocation Scheme. Tomatoes are the biggest of these three sectors, representing approximately 70% of the value of greenhouse vegetable production and 60% of grower numbers. The cost of the ETS for greenhouse growers using natural gas is approximately 2.0% of revenue, or an additional 2.5% added to the costs of production. For coal users the ETS is approximately 2.9% of revenue and 3.9% of additional costs. The allocative baseline is approximately 1.3% of revenue, assuming small bundles of NZU's can be aggregated and traded at a reasonable net price (less administration and brokerage).

Q2. What impacts of the ETS have you experienced to date?

In your response we would be interested in:

- a. *financial impacts you have experienced and how you have managed these (eg, passed them on to consumers)*

Growers are unable to pass on the extra ETS costs; these become absorbed as part of the total costs of doing business. Horticulture is a commodity based business, being price takers rather than cost plus. The horticulture industry in New Zealand operates in a global market with over 60% of our production exported and we face strong competition here in New Zealand from imports from Asia particularly for processed products such as frozen vegetables and canned fruit and vegetables. The ETS impacts on the global competitiveness of the whole horticulture industry – our costs are already high when compared to our key competitors in other Southern Hemisphere countries (Chile, South Africa) and across Asia. Most producers in these countries do not face a cost of carbon.

Fresh tomatoes, capsicums and cucumbers in particular face direct competition with Australian product, both on the New Zealand domestic market and in the Australian market, which is not currently subject to a carbon tax. As is evident in the budget presented above that the impacts of the ETS generated energy price changes are having a significant impact on the costs of greenhouse vegetable growing. These costs have been absorbed by growers rather than passed on to consumers.

- b. *how significant the impact of the ETS has been relative to other changes, such as GST increase, consumer demand changes and oil price increases*

Increased energy prices on their own are significant without the added costs of the ETS. Between 2008/09 and 2009/10 (before the ETS) coal prices rose by 3%, from around \$146 to \$150/tonne. Between 2009/10 and 2010/11 (post the ETS) energy costs for coal rose by 22% (to approximately \$183/t), 85% of which was due to the ETS. Likewise natural gas prices rose by 10% following the introduction of the ETS, 75% of which was due to the ETS. Energy costs have

been steadily rising, but the additional costs imposed by the ETS have been completely out of proportion and beyond the ability of greenhouse businesses ability to respond.

The effect of the GST increase has been minimal in comparison to the effect of ETS.

- c. *whether the ETS has yet influenced your investment decisions (eg, on low-carbon technologies, and land development)*

There has been considerable talk about the ability to switch fuel sources, in particular among South Island greenhouse vegetable producers with coal boilers and the idea that they could convert to wood fuel. While some growers have converted, it is not an industry wide solution. For many growers the logistics of stockpiling the quantity of wood required, transporting a bulky low energy density product, resource consent requirements for storage facilities and the scarcity and inconsistency of supply precludes this as a viable option for most. The capital cost of conversion to alternative fuels is high, particularly for small and medium sized operations.

Greenhouse growers' are delaying future investment in New Zealand, until there is some determination as to the future of the ETS. This is not just a South Island phenomenon, as there has been no significant investment in increased greenhouse production facilities in the whole of New Zealand in the last 3 to 4 years. Consequently no new jobs have been created. Likewise with no new production area, increasing food demands will likely be met by imports from countries with significantly higher greenhouse gas emitting production systems. The uncertain future of the ETS and the scarcity of capital are the key factors holding back investment in alternative technologies and any new investment in greenhouse vegetable production.

It is vital that the government provides more certainty about long-term ETS policies, and that those policies are cautious, not aggressive, given uncertainty over the future actions of our international competitors in this area. For this reason **the current price cap (combined with the 1:2 surrender obligation) should be retained for a period of 10 years**, or until carbon pricing and emissions schemes in other jurisdictions are at least comparable to the NZ scheme.

- d. *whether the ETS has yet influenced your operating decisions (eg, input sourcing, supply chain, choice of energy supply)*

A 10% to 20% plus increase in fuel costs has naturally had growers reviewing both how they currently use energy and investigating alternative options. The result has reinforced the view that the majority of the industry is currently using the most economic and logistically sound heating options, and that there are currently no economically viable alternatives. Greenhouse growers currently operate at world's best practice, with current energy efficiency technology already well adopted and no new technologies on the horizon. For outdoor fruit and vegetable growers there are very few options available to reduce or avoid the costs imposed by the ETS. The outdoor vegetable industry and some parts of the fruit industry are already investing in minimum tillage and GPS based technologies which minimise fuel usage.

Most growers are faced with no choice but to continue using existing production methods.

- Q3. *What are your views on the administrative efficiency of the ETS?*

In your response we would be interested in comments on:

- a. *compliance costs associated with the ETS (including brokerage fees)*

The compliance costs are considered low, although there is considerable uncertainty about carbon trading, unit aggregation, and likely brokerage fees, particularly among the majority of "smaller" (<1 ha) operations.

The application process for industrial allocations has been cumbersome and difficult to understand. There was also a time-gap between growers paying carbon tax and being included in the industrial allocations scheme, a financial impact that had to be carried by businesses, impacting on cash flow.

b. complexities of ETS reporting requirements (such as accounting methodologies)

No issues

c. penalties for breaching ETS obligations

Has required management systems to be put in place to cope with deadlines and claim accuracy.

Q6. What impacts do you expect to experience after 2012 (given the current design settings of the ETS)?

In your response we would be interested in:

a. how impacts will change once the transitional phase ends

The impact of removing transitional assistance will be significant and will certainly deter any future investment in New Zealand greenhouse vegetable production. The first issue is simply that the market growers operate in has no ability to pass ETS costs on to consumers. Secondly the international market places we export to either do not have schemes placing a value on carbon or, are likely to provide exemptions to their domestic growers, who are our competitors. Therefore the commencement of **the allocation phase-out should be deferred for at least five years.**

b. whether any significant business risks are created by uncertain carbon prices, and if so, how these risks could be mitigated

Yes there is uncertainty created by future carbon prices being unknown. Most growers accept that the ETS will not go away, but strongly believe that the scheme should be no more aggressive. The chance of complete business failure is significant; with many "smaller" greenhouse vegetable grower operations reporting ETS related cost increases of up to \$30,000 per year. If this doubled these businesses would not survive. Likewise the large greenhouse vegetable growers operations are equally in no position to absorb a doubling in ETS costs. These risks cannot be mitigated in an economically viable way. Our competitors both in export markets and imports into NZ are unlikely to be incurring these same carbon costs.

These risks should be managed by continuing carbon price moderation and continuing the industrial allocation at present levels beyond 2012.

c. any competitiveness risks and therefore risks of carbon leakage

This is a very real risk. Greenhouse growers continue to explore offshore opportunities. Given the significant cost component that energy represents for the greenhouse industry (see Q1 budget), and consequently the additional burden of the NZ ETS, mitigating exposure to this risk by moving offshore is a very real possibility.

Product substitution from Asian countries with overall lower production costs as well as no ETS is also a very real possibility.

d. any business opportunities and benefits that may arise

Australia and Japan are the two biggest export markets for fresh tomatoes and fresh capsicum. By volume in 2010, Australia took 56% of tomato and 33% of capsicum exports, and Japan took 16% of tomato and 54% of capsicum exports. Total export value for the two products to all export markets in 2010 was \$50.9m (Statistics NZ).

The international market places where NZ exports to places little if any value on the fact that we participate in a carbon reduction scheme. They are looking for the best product at the cheapest price. The ETS scheme is reducing our opportunity to deliver on this. Furthermore Australian growers who have no ETS obligations compete against us in Australia and export here in New Zealand.

g. how do you expect the ETS to affect New Zealand socially and environmentally in the long term.

If the international marketplace does not come on board with similar charges and cost structures, firstly there will be no effect on the environment and secondly, there will be a transfer of jobs and business investment from countries that have ETS schemes to those who do not. Our main market and competitor Australia does not have an ETS and is unlikely to in the foreseeable future.

Reference to the European ETS has little bearing on the greenhouse industry as they are neither a market nor significant competitor of the greenhouse sector. In addition they are predisposed to subsidies that protect their businesses, particularly agriculture. Feedback from our growers with extensive European contacts is that despite what is commonly reported, in reality very few European growers are yet paying anything towards the cost of carbon.

The impact will be negative from both an environmental and social perspective. The NZ greenhouse industry is a significant employer with over 300 intensive growing operations. These range from husband and wife teams through to the large companies that can employ as many as 350 full time staff.

Q.13 Under what conditions should the ETS scale up to a full obligation? In particular:

a. Should the fixed price option of \$25 continue beyond the current transition phase (ie, after 2012)?

Yes.

The preference is for a lower cap, but \$25 should be the absolute maximum. Our largest trading partner Australia has once again stopped their planned introduction of an ETS. In Australia a carbon tax may be introduced. Currently the tax is planned to start on the 1st July 2012, but is still relying upon the Greens to agree on the details and the Independents to support it. A Coalition government has vowed to repeal the carbon tax. The proposed ETS that is supposed to flow on from the carbon tax is even less certain and even if adopted will not be operating until 2016 at the earliest. It is likely that in a few years time Australia could have neither a carbon tax nor an ETS.

It should not be forgotten that NZ was partially sold the benefits of an ETS as it was based on Australia's scheme, our largest trading partner.

New Zealand businesses and potential investors need certainty and long term predictability. Given the negligible progress in many other countries including many of our competitors and

trading partners we need to limit our exposure at this stage. The current price cap should therefore be retained for a period of 10 years unless a significant number of other jurisdictions have in place similar obligations on their producers. This will create the certainty that we will not be out of step with others nations and give global and at risk businesses more confidence going forward.

b. Should the one-for-two obligation continue beyond the current transition phase?

Yes. For many of the reasons outlined above.

Greenhouse businesses have struggled under the current conditions facing an additional 10% to 20% plus increase in energy costs on top of generally rising energy costs of 2 to 3% per year. A further 10% to 20% plus increase is unsustainable and will result in many businesses closing.

Q16. Should allocation of NZUs continue as planned under current design settings after 2012?

In your response we would be particularly interested in:

a. the effectiveness of allocation in reducing competitiveness risks

Allocation of NZUs to greenhouse vegetable growers should continue at the current level after 2012, due to the significant ETS costs impacts that have been illustrated, and the difficulties of further improving energy efficiency due to a lack of new technologies, and the costs and practicalities of conversion to alternative fuels.

For the majority of greenhouse businesses they have not yet or are only just now receiving allocations. Most have not investigated how they could be sold and what their value is. Some of the larger businesses have arrangements with their energy suppliers to transfer their allocations to directly offset against the ETS charges.

Where sales or transfers have occurred the allocations have helped reduce the impact of the ETS scheme and the costs to business. For most businesses however this is still an unknown. If they are able to sell their NZU's it may come at high brokerage and administration fees, significantly reducing the realisable value of their units.

It must be remembered that many horticultural producers are facing very real competitive pressure in global markets and here in New Zealand. While the additional costs related to the ETS for outdoor horticultural producers are small relative to those for greenhouse growers, they make a real difference with businesses that have very tight margins.

Most horticulture businesses do not receive an allocation but do compete directly in global markets with suppliers that do not face a cost for carbon. Most of our members (excluding greenhouse vegetable growers) will not relocate offshore due to the ETS rather they will simply be less competitive eventually losing their place in export markets.

Further consideration and support needs to be given to the wide range of New Zealand businesses that do not receive an allocation, cannot pass costs on in the international market, but are trying to compete internationally with an added cost that our competitors do not face.

b. the impact of allocation on incentives to reduce emissions

The incentive to reduce emissions has not been reduced by the allocation to greenhouse vegetable growers. The key issue is that there is still a significant impact on most businesses receiving an allocation even with the price moderation and an allocation. The main barriers to change are the practicality of alternative fuels and lack of new energy efficiency technologies.

For Auckland greenhouse businesses the only current low carbon heating method is natural gas and most growers already use this fuel. Wood chips are not logistically feasible and there are no ready sources of "waste" heat near to their businesses. The logistics and economics of changing from coal to wood may work for some growers, but for the 10% who produce 80% of NZ's volume of tomatoes, capsicums and cucumbers, it's simply not viable. In which case, the ETS simply becomes an additional tax on the greenhouse sector with no substantial reduction in emissions. Note this is the same around the world.

e. whether the allocation of units to small and medium sized enterprises (SMEs) is the most administratively efficient way for protecting impacted sectors either for SMEs or government.

The industry would like to further explore ways of incentivising investment in low carbon technologies and energy efficiency measures. The allocation of small parcels of units is not efficient and does not enable small growers to make investments in new lower carbon technology. The cost of the ETS is putting significant financial strain on many greenhouse growers (particularly South Island growers using coal) and accessing capital to make changes is not easy for these growers.

We would like to see a scheme where greenhouse vegetable growers have the option to somehow access future allocations to fund investments in low carbon technologies or significant energy efficiency measures. For some growers this could mean that they can make a positive change rather than simply facing a continued worsening financial situation until they go out of business.

We are also concerned that some of the grants available from ECCA are not available to many of our members. For example the New Technology Grants are limited to businesses that spend more than \$250,000 pa on energy. Many of our greenhouse vegetable growers operate under this level.

For many "small" growers, being unable to sell small bundles at a reasonable price may make small allocations worth considerably less than the going carbon price (which they are exposed to when purchasing fuel) that larger businesses can command.

Q18

Other Issues

Many growers are interested in the issues related to soil carbon and sequestration related to the plants and trees that our members grow.

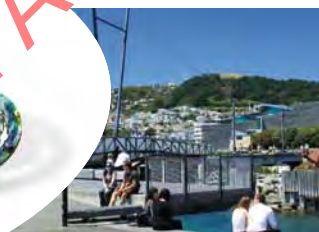
We understand that there is a considerable amount of work being done internationally on the issue of soil carbon. We are also aware that some of the changes in production practices adopted over the past 10 years in the outdoor vegetable industry around minimum tillage and precision agriculture have significant benefits in terms of building up soil carbon. Consideration needs to be given to how soil carbon can be included into the ETS.

Many fruit trees and vines have a longer economic life than New Zealand's forest trees that receive an allocation under the ETS. While we accept that the amount of carbon absorbed may be less than pine trees, we would like the Panel to look at the question of why some plants receive an allocation and others do not.

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**Local Government
New Zealand**
te pūtahi matakōkiri



Submission to the
Ministry for the Environment
on the Emissions Trading Scheme Review 2011

From Local Government New Zealand
6 April 2011

TABLE OF CONTENTS

INTRODUCTION	2
RECOMMENDATIONS	2
LGNZ POLICY PRINCIPLES	2
COMMENTS	3
Landfill Emissions - Unintended outcomes	4
Cost implications	4
Who will pay?	5
Proposed adjustments.....	6
Tree weed exemption.....	7
CONCLUSION	7

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INTRODUCTION

1. *Local Government New Zealand* (LGNZ) thanks the Emissions Trading Scheme Review Panel for the opportunity to make this submission in relation to the Emissions Trading Scheme (ETS) Review 2011.
2. LGNZ makes this submission on behalf of the National Council, representing the interests of all local authorities of New Zealand.

It is the only organisation that can speak on behalf of local government in New Zealand. This submission was prepared following consultation with local authorities. Where possible their various comments and views have been synthesised into this submission.

In addition, some councils will also choose to make individual submissions. The LGNZ submission in no way derogates from these individual submissions.

3. LGNZ prepared this submission following:
 - an analysis of the ETS Review 2011
 - analysis of all feedback from councils.
4. This final submission was endorsed by Eugene Bowen, Chief Executive, LGNZ.
5. LGNZ would be pleased to meet with the ETS Review Panel for further discussion on points raised in this submission.

RECOMMENDATIONS

6. LGNZ makes the following recommendations:
 - A threshold should be identified for exemption from the ETS obligations for landfill gas or Government funding, similar to the free allocation of units to other sectors, should be made available to off-set unintended outcomes of the ETS in small or isolated communities.
 - A central government lead investigation into viable alternatives to landfills should be undertaken.
 - The exemption from ETS obligations for the clearance of tree weed species should be maintained for two more Kyoto commitment periods (or the equivalent of two commitment periods given the uncertain future of the Kyoto agreement).

LGNZ POLICY PRINCIPLES

7. In developing a view on the ETS Review we have drawn on the following high level principles that have been endorsed by the National Council of LGNZ. We would like the ETS Review Panel to take these into account when reading this submission.
 - **Local autonomy and decision-making:** communities should be free to make the decisions directly affecting them, and councils should have autonomy to respond to community needs.

- **Accountability to local communities:** councils should be accountable to communities, and not to Government, for the decisions they make on the behalf of communities.
- **Local difference = local solutions:** avoid one-size-fits-all solutions, which are over-engineered to meet all circumstances and create unnecessary costs for many councils. Local diversity reflects differing local needs and priorities.
- **Equity:** regulatory requirements should be applied fairly and equitably across communities and regions. All councils face common costs and have their costs increased by Government, and government funding should apply, to some extent, to all councils. Systemic, not targeted funding solutions.
- **Reduced compliance costs:** legislation and regulation should be designed to minimize cost and compliance effort for councils, consistent with local autonomy and accountability. More recognition needs to be given by Government to the cumulative impacts of regulation on the role, functions and funding of local government.
- **Cost-sharing for national benefit:** where local activities produce benefits at the national level, these benefits should be recognised through contributions of national revenues.

COMMENTS

8. LGNZ considers climate change is an important issue facing New Zealand communities. We acknowledge the need for New Zealand to decrease/offset emissions to reduce the impacts of climate change and to meet international obligations. We have consistently stated however that an understanding of the full impacts of any solutions on key sectors, communities and households is essential. The inclusion of landfill gas emissions in the ETS has largely failed to take into account the true cost of ETS obligations and the potential for perverse outcomes, particularly for small or isolated communities.
9. While the Ministry for Environment (MfE) waste technical advisory group on the ETS acknowledged the "*special circumstances of remote communities*" in discussion on coverage of the ETS¹, no further work has been undertaken to identify a participation threshold below which a local authority might be exempt from ETS obligations.
10. Work undertaken by LGNZ to prepare this submission suggests the potential for inequitable distribution of the costs of this legislation are greater than at first thought. Given the complexity of the issue and the time available to prepare this submission, however, we can only propose that the Review Panel undertakes further work before finalising recommendations. We would be happy to assist further with this.

¹ Recommendations for methodologies for ETS landfill gas emission reporting. Ministry for Environment, 2010.

Landfill Emissions - Unintended outcomes

11. In previous submissions to the Climate Change (Waste) Regulations 2010, local authorities have expressed concern about the potential for unintended outcomes due to obligations to pay for green house gas emissions from landfills.

In summary the potential for unintended outcomes include:

- an increase in illegal dumping and associated risk to the environment due to increasing landfill costs. This includes farm pits and disposal of green waste on river beds. In New Zealand, 75 per cent of plant pests and 50 per cent of freshwater weeds are garden escapes². A paper prepared for Cabinet Economic Growth and Infrastructure Committee³ (2010) cites the cost of managing existing pests in New Zealand as \$36.9 million for regional councils and \$407 million for the private sector, a total of \$443.9 million
 - early closure of landfills servicing low population, geographically isolated communities. Ongoing management of closed landfills is a cost to these communities however. Management costs are additional to the cost of transporting residual waste to alternative landfills and disposal fees at these landfills
 - impacts on community support for waste initiatives as solid waste becomes someone else's problem ie disposed of in another district or region and hence invisible
 - shifts from waste minimisation initiatives to pay for emission units in order to avoid increases in the delivery of waste services and subsequent risks of illegal dumping.
12. Councils work hard on educating local communities on appropriate reduction and disposal of waste. This includes kerb-side collections for waste and recycling and involvement in other initiatives such as composting. Together with improved landfill management systems and the installation and operation of landfill gas recovery technology, this has contributed to a reduction in landfill greenhouse gas emissions from 2.1 million tonnes carbon dioxide equivalent in 1990 to 1.3 in 2008.⁴

Cost implications

13. Existing landfill operators include local authorities, particularly in low populous areas. Discussions with local authorities on ETS obligations suggest that many of the smaller landfills will close when existing consents expire. Alternatives for residual waste disposal will have to be found.
14. In July 2009, the cost of the provision of waste services increased with the introduction of the Waste Minimisation Act (2009) levy of \$10.00 per tonne of waste disposed of at landfill and in 2013/14, obligations under the ETS will see a further increase. There is no way of generalising the increase in cost to users of landfills from ETS obligations however.

²<http://www.doc.govt.nz/getting-involved/volunteer-join-or-start-a-project/know-your-weeds-and-animal-pests/weeds/garden-escapes/>

³ MAF *Managing Pests in New Zealand: Discussion Paper and Legislative Changes*.
<http://www.biosecurity.govt.nz/biosec/pol/biosecurity-act-review>

⁴<http://www.mfe.govt.nz/issues/climate/greenhouse-gas-emissions/project-greenhouse-gas-emissions-from-waste.html>

Emissions from landfills are influenced by gas collection systems and the composition of the residual waste stream. This in turn is influenced by the incentives and infrastructure for waste diversion, competition from other landfills and the management policies and priorities of the landfill owner.

15. Furthermore, the ETS is linked to the international markets to ensure liquidity and alignment of the price of units to international prices. Exposure to the international market introduces a degree of uncertainty in the cost of emission units that local authorities find difficult to make provision for in the long term planning process required under the Local Government Act.
16. Local authorities are accountable to their communities. In a budget constrained environment it is possible that some existing waste services such as kerb-side collections and composting will be reduced to off-set the cost of ETS obligations.
17. From previous experience with increasing the cost of waste disposal local authorities know that this comes with an increase in illegal dumping incidents. The cost to local authorities of illegal dumping includes administration, investigation (often in remote locations), protective clothing, transport, staff time, surveillance and site clean-up. If fines are not paid a collection agency becomes involved and receives 20 percent of the total fine. As examples of the cost of illegal dumping, Christchurch City Council reported that they spend \$800,000 a year, Whangarei District Council estimates costs in the order of \$50,000 - 70,000 and Queenstown Lakes District \$20,000 per annum.

Who will pay?

18. Acknowledging uncertainties, it is clear that the greatest impact of the ETS obligations will fall on small and hence less well resourced, local authorities. The communities these local authorities service are often geographically isolated and the option of utilising larger landfills where landfill gas is captured, is an additional cost in the provision of waste services. Additional costs include transport and an increase in disposal fee. Even with gas capture there is an obligation to estimate and pay for the net amount of actual emissions post the destruction process. There is also a risk that with the dominance of the waste sector by EnviroWaste and TransPacific, the provision of landfills will likewise be captured by a small number of providers and result in unreasonable waste disposal charges.
19. The same characteristics of isolation and small population suggest that alternatives such as river banks and farm pits are readily accessible alternatives for anyone not inclined to pay disposal fees. This will have subsequent environmental impacts.
20. While the impact of the ETS on small local authorities is self evident, preliminary results indicate that where waste volumes are in the order of 20,000 tonnes or less per annum or the remaining consenting period is up to 15 years, the installation of gas capture and destruction infrastructure is not cost effective at this time⁵. These communities will have to pay the

⁵ A number of factors such as the price of emission units and/or the cost of gas destruction systems could change the outcome of cost benefit analysis in future.

obligation of 1.10 tonnes of CO₂ per tonne of waste at \$25 per tonne for NZ units, or \$21 per tonne on the secondary market.

21. Taupo and Queenstown fall into this category. These communities will carry an additional financial burden up to \$462,000 per annum from 2013 ie 20000 tonne residual waste x 1.1 x \$21.00.
22. New Plymouth District Council has documented the implications of the ETS on options for disposal of residual waste as a case study for this submission (see Appendix 2). The Colson Road landfill was opened by New Plymouth District Council in 2002. Since 2006 it has operated as a regional landfill taking waste from New Plymouth, South Taranaki and Stratford District Councils. The case study documents the influence of the following factors on the cost effectiveness of capturing gas:
 - waste volume
 - waste composition
 - gas capture/ re-use including unique emissions factor
 - gas capture to generate electricity
 - further waste minimization initiatives to extend the life of the landfill.
23. At 65,000 tonne per annum and 14 years left on the existing consent, the installation of a gas capture and destruction system is not cost effective for New Plymouth District Council. Obligations under the ETS will cost these communities an additional \$1,501,500.
24. Detail on annual tonnage of waste to landfill and the landfill consenting period is provided in Appendix 2 for a range of local authorities. Time available to prepare this submission did not allow us to develop the complete picture.

Proposed adjustments

25. We consider an exemption from the ETS obligations or Government funding, similar to the free allocation of units to other sectors, should be made available to the local authorities with low population and/or geographic isolation (including island communities) to avoid incurring other costs such as illegal dumping and early closure of small landfills. Additional benefits of an exemption is the opportunity for local authorities and their communities to maintain control over the waste stream as required under provision in the Waste Minimisation Act (2008).
26. At its simplest, adjustments could be made until the existing landfill consents expire for communities most disadvantaged by the ETS. Consideration should also be given to permanent exemption from ETS obligations for some communities, with the option of linking to the deprivation index as per drinking water standards.
27. Longer term, consideration must be given to social and environmental impacts of the ETS and it is equally clear that for these same communities, viable alternatives to landfills do not currently exist. Any imposition that increases the cost of services will inevitably be equalled by social and environmental costs e.g. pest management. Given the fiscal constraints of

these communities we suggest central government investigate alternatives for the disposal of residual waste, small scale incineration for example⁶.

28. We acknowledge further work is required to finalise possible thresholds for any proposed adjustments to ETS obligations and suggest that we work with the Review Panel to undertake more in depth analysis on this.

Tree weed exemption

29. Local authorities strongly support the exemption from obligations for landowners undertaking clearance of tree weed species eg pinus contorta. The exemptions were made available for the existing Kyoto commitment period 2008-2012. In effect this means tree weed clearance must be completed by 2012. It is important that the option of applying for an exemption is maintained for two more commitment periods (or the equivalent of two commitment periods given the uncertain future of the Kyoto agreement) before making any decisions on how the ETS may have changed landowner behaviour.

CONCLUSION

30. LGNZ is supportive of a review of the ETS obligations for landfill emissions.
31. Preliminary cost benefit analysis undertaken by councils suggests that where the remaining landfill life is 15 years or less and the total annual tonnage to the landfill is less than 20,000 tonnes, installing gas capture system is too expensive and these communities will have to pay the obligation of 1.10 tonnes of CO2 per tonne of waste.
32. An exemption from the ETS obligations or Government funding, similar to the free allocation of units to other sectors, should be made available to the local authorities with low population and/or geographic isolation (including island communities) to avoid incurring other costs such as illegal dumping and early closure of small landfills. Additional benefits of an exemption is the opportunity for local authorities and their communities to maintain control over the waste stream as required under provision in the Waste Minimisation Act (2008).
33. At its simplest, adjustments could be made until the existing landfill consents expire for communities most disadvantaged by the ETS. Consideration should also be given to permanent exemption from ETS obligations for some communities, with the option of linking to the deprivation index as per drinking water standards.
34. Given the fiscal constraints of these communities we suggest and the potential for negative environmental outcomes, central government should investigate alternatives for the disposal of residual waste, small scale incineration for example.
35. We acknowledge further work is required to finalise possible thresholds for any proposed adjustments to ETS obligations and suggest that we work

⁶ Recent experience advising the NZ Aid programme suggests that investigations on alternatives to landfill would also assist the Governments aid programme in the Pacific.

undertake further work with the Review Panel before ETS review recommendations are finalised.

36. LGNZ thanks the ETS Review Panel for the opportunity to comment on the ETS Review 2011.

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New Plymouth District Council: Implications of the ETS on Landfill Planning and Management

Purpose

The purpose of this discussion paper is to outline the process of analysis undertaken by New Plymouth District Council regarding the implications of the Emissions Trading Scheme (ETS) on the planning and management of Colson Road Landfill.

Before ETS: snapshot of Colson Road Landfill in 2010

- Landfill opened by NPDC in 2002. Designed volume approx 1.17 million m³
- Originally calculated to hold 800,000 tonne and estimated to be “full” some time in 2016. Current resource consents expire June 2025.
- Landfill currently accepts 65,000 tonnes per year¹
- Financial information for NPDC solid waste operations:
 - Annual operating expenditure approx \$2.4 million
 - Includes \$650,000 waste minimisation levy; and Colson Rd operations contract \$400,000
 - Annual revenue approx \$3.4 million
 - Includes Colson Rd gate charges \$1.75 million; municipal and MGB - \$1 million
 - Annual operation surplus of approximately \$1million goes to “development fund”
- Since 2006 Colson Rd Landfill has operated as a regional landfill for NPDC, South Taranaki District Council (STDC) and Stratford District Council (SDC). An understanding between these three councils means it is most likely that all three will utilise another regional landfill post closure of Colson Rd (new regional landfill still to be scoped/designed but most likely to be about 60km from NP Transfer station)

Review of Implications of ETS on NPDC (timeline)

NPDC has been considering likely implications since 2005:

- Since 2005, study reports have been commissioned by NPDC to identify opportunities for capture and re-use of Landfill Gas (LFG). The most recent study was jointly funded by Venture Taranaki Trust

¹ Approximately 50,000 tonnes from New Plymouth District and 15,000 tonnes from South Taranaki and Stratford Districts

New Plymouth District Council: Implications of the ETS on Landfill Planning and Management

- Originally the favoured option was to utilise landfill gas (LFG) as a replacement for the natural gas used in the thermal drying facility at the New Plymouth Wastewater Treatment Plant
- A further study report commissioned in 2010 expanded options to allow two further alternatives (LFG to electricity via GenSet; or LFG to vehicle fuel)

Development of NPDC Financial Model after Promulgation of Regulations

With the release, in July 2010, of the draft Climate Change (Waste) Regulations 2010 and Climate change (Unique emissions Factors) Amendment Regulations 2010 NPDC was able to start financial modelling to assess the financial impact of ETS obligations, with a view to the timeline as below:

- From 1 January 2012 mandatory reporting
- From 1 January 2013 liability for ETS charges

The NPDC financial model was constructed to help understand the financial implications of ETS on the operation of the Colson Road Landfill and thus to allow allocation of sufficient funds in the long term the Solid Waste operating and capital expenditure budgets.

1. Basic analysis

The first phase of the financial model was set up to calculate financial obligations for the most basic compliance with ETS:

- Waste volume considerations only
- Waste volume and composition considerations

At the time the model was constructed (July 2010), the current cost of the ETS levy was \$18.00/NZU and there was indication that the ETS levy would be capped at \$25.00/NZU until 31 December 2012. For simplicity of presentation in this document, results of the model relating to calculation of ETS levies have been presented based on the higher figure and then with the lower figure in brackets. The model allows the ETS levy to be varied, so the sensitivity of any ETS levy value can be assessed.

Waste volume only

- Default emissions factor = 1.1
- 65,000 tonnes per annum
- Annual cost of the ETS levy equates to \$1,787,500 (\$1,287,000)

Waste volume and composition only

- Results of 2010 Solid Waste Analysis Protocol (SWAP) used (refer to Appendix 1)
- Calculated emissions factor = 1.098
- 65,000 tonnes per annum

New Plymouth District Council: Implications of the ETS on Landfill Planning and Management

- Annual cost of the ETS levy equates to \$1,784,000 (\$1,285,000)
- Cost of running SWAP assumed to be \$50,000² every three years

Evaluation

While there is certainty of the cost for the “waste volume only” option, the extra cost of undertaking SWAPs might actually make the second option more expensive. There is also the possibility that any future SWAP results might change the waste composition parameters and thus affect the unique emissions factor (UEF) utilised in the financial model

The financial model allows different waste compositions to be added to assess the effects on the UEF if used. The financial model also allows the cost of running a SWAP to be altered.

The annual cost of the ETS levy appears to be approximately \$1.8 million for both of the options. The extra annual cost of ETS levy equates to about \$27/tonne of waste.

2 Adding in gas capture / re-use

The next component to be added to the NPDC financial model allowed calculation of the UEF allowable for a scenario of gas capture and destruction or re-use.

Calculating UEF

Information given on the Climate Change website was reviewed, including the draft regulations, the Waste TAG discussion papers and the links to the IPCC website. The spreadsheet³ provided by the IPCC website was then modified to use as the basis for and NPDC financial model.

The IPCC calculations are based on utilising the spreadsheet to calculate the theoretical LFG yield, which is based on waste volumes and compositions. The UEF allowed is then based on the ratio of:

actual gas captured : theoretical gas yield

This means that it is not possible to know what the UEF would be until you have actually set up a system which captures gas and measures the flow rate of the captured gas.

NPDC has estimated a “best case” ratio (or gas capture efficiency) of 75% and a worst case of 20%.

Presenting both of these possibilities, and utilising the 2010 SWAP compositions and the 65,000 tonnes per annum, the model calculates the following UEFs:

- 75% efficiency – UEF = 0.2745
- 20% efficiency – UEF = 0.8784

The financial model allows “best” and “worst” case ratios to be varied. Note that the regulations stipulate a maximum ratio of 90%. NPDC is not even sure that 20% is a low enough worst case –

² Approximate value noted by NPDC during ETS workshops late 2010 – value needs to be substantiated

³ IPCC Guidelines (and spreadsheet) at <http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html>

New Plymouth District Council: Implications of the ETS on Landfill Planning and Management

especially based on a small landfill which was not designed for gas capture and which therefore may not be amenable to capping off discrete areas for effective gas capture.

Resulting ETS costs

The UEFs calculated above equate to the following annual ETS costs:

- 75% efficiency – \$446,000 (\$321,000); or \$7/tonne (\$5/tonne)
- 20% efficiency – \$1,427,000 (\$1,027,000); or \$22/tonne (\$16/tonne)

Other resulting costs

The studies commissioned by NPDC since 2005 have yielded CAPEX and OPEX estimates for different scenarios to capture and re-use the LFG. The following capital project scenarios were added to the financial model:

Option	CAPEX cost	Annual Opex Cost
Install LFG collection system and flare only	\$1.9 million	\$200,000
Install LFG collection system and flare <u>plus</u> GenSet to generate electricity	\$4.6 million	\$360,000
Install LFG collection system and flare <u>plus</u> pipe LFG to NPWWTP to utilise gas in thermal drying facility	\$7.5 million	\$430,000

The bottom two options could also result in a revenue stream – which was factored into the financial model. The revenue factors haven't been included here as they are dependent on the volume and quality of the gas collected as well as the price which could be obtained by NPDC for electricity generated, or the price which could be saved by NPDC for not using natural gas in the thermal drying facility. The financial model allows CAPEX costs, OPEX costs, and revenue figures (such as electricity prices etc) to be varied to assess the sensitivity

The range of uncertainty increases because it is no longer appropriate to review the analysis on the basis of one year, as the situation has become a "project" with the capital expenditure in year 1 and then operating expenditure and maybe operating revenue in subsequent years.

Analysis of Options Until 2016

Initially, it was calculated that the Colson Rd landfill would run only until 2016 and so it was quickly evident that capital expenditure to install gas capture and re-use was not economically feasible due to the high capital cost and limited time to recoup these costs. There was also the high degree of uncertainty regarding likely gas capture efficiency from an existing landfill.

New Plymouth District Council: Implications of the ETS on Landfill Planning and Management

Refer to the excerpts below from the NPDC financial model to compare the financial implications of 1/ No Capital Expenditure and 2/ Installation of a GenSet. Both of these scenarios are based on the Colson Road Landfill closing in 2016

1/ Excerpt from Financial Model - No Capital Expenditure – Project Analysis at end of 2016:

		Comments
Sub Total - "current" operation of landfill	\$2,418,100	Includes all current (as at 2010) solid waste operations costs (including waste minimisation levy)
Sub Total - "enhanced" operation of landfill	\$1,787,500	ETS charges
TOTAL ANNUAL EXPENDITURE	\$4,205,600	
Sub Total - "current" operation of landfill	(\$3,442,600)	Includes all current (as at 2010) solid waste revenue
Sub Total - "enhanced" operation of landfill	\$0	Any revenue from re-use of LFG
TOTAL ANNUAL REVENUE	(\$3,442,600)	
TOTAL ANNUAL SOLID WASTE	\$763,000	DEFICIT
Cumulative Total Since 2012	\$2,027,500	

2a/ Excerpt from Financial Model – Install GenSet (20% capture efficiency) – Project Analysis at end of 2016 - \$4.6million CAPEX in 2012

		Comments
Sub Total - "current" operation of landfill	\$2,418,100	Includes all current (as at 2010) solid waste operations costs (including waste minimisation levy)
Sub Total - "enhanced" operation of landfill	\$1,594,776	ETS charges (\$1.4 million), extra operating expenses related to GenSet
TOTAL ANNUAL EXPENDITURE	\$4,012,876	
Sub Total - "current" operation of landfill	(\$3,442,600)	Includes all current (as at 2010) solid waste revenue
Sub Total - "enhanced" operation of landfill	(\$119,703)	Any revenue from re-use of LFG
TOTAL ANNUAL REVENUE	(\$3,562,303)	
TOTAL ANNUAL SOLID WASTE	\$450,573	DEFICIT
Cumulative Total Since 2012	\$5,421,062	

New Plymouth District Council: Implications of the ETS on Landfill Planning and Management

2b/ Excerpt from Financial Model – Install GenSet (75% capture efficiency)– Project Analysis at end of 2016 - \$4.6million CAPEX in 2012

		Comments
Sub Total - "current" operation of Solid Wastes	\$2,418,100	Includes all current (as at 2010) solid waste operations costs (including waste minimisation Levy)
Sub Total - "enhanced" operation of Solid Wastes	\$611,651	ETS charges (\$0.45 million), extra operating expenses related to GenSet
TOTAL ANNUAL EXPENDITURE	\$3,029,751	
Sub Total - "current" operation of Solid Wastes	(\$3,442,600)	Includes all current (as at 2010) solid waste revenue
Sub Total - "enhanced" operation of Solid Wastes	(\$448,886)	Any revenue from re-use of LFG
TOTAL ANNUAL REVENUE	(\$3,891,486)	
TOTAL ANNUAL SOLID WASTE	(\$861,735)	SURPLUS
Cumulative Total Since 2012	\$272,711	

Evaluation

As discussed at the beginning of the document, the current (2010) operating surplus for solid waste operations is approximately \$1 million per year, which goes to a landfill development fund.

The table below compares the scenarios above with the current situation

Scenario	Annual surplus / deficit	Total <u>cost</u> to NPDC at end of 2016	Extra total cost over 2010 baseline
Current (2010)	\$1 million surplus	\$3 million surplus	-
Scenario 1	\$0.76 million deficit	\$2 million deficit	\$5 million
Scenario 2a	\$0.45 million deficit	\$5.4 million deficit	\$8.4 million
Scenario 2b	\$0.86 million surplus	\$0.3 million deficit	\$3.3 million

There is a certainty that, by the end of 2016, Scenario 1 would result in an extra \$5 million expenditure over the current (this equates to three years of ETS levy).

There is a high level of uncertainty regarding Scenario 2 which involves the installation of gas capture and a GenSet to produce electricity. Depending on the assumptions about the percentage efficiency of the gas capture and re-use, the result could range from an extra \$3.3 million to an extra \$8.4 million over the current. It was determined that Scenario 1 was the only feasible option for such a short project due to the high uncertainty in Scenario 2

3 Further Review

Analysis of Options – extended life of landfill

Towards the end of 2010 the input parameters to the financial model were revised to better reflect the current engineering practices in the landfill, which allowed re-assessment of how many tonnes of waste could be expected to fit in the remaining volume of the landfill. The financial model was updated to allow calculation of the expected closure date of the landfill – based on using up the nominated volume of approximately (1,170,000 m³), and allowing the compression ratio to be varied in accordance with the better results obtained recently.

Further, the option of closing the Colson Road landfill early was put into the mix as a possible political option. One of the implications of the higher compaction ratio in the landfill due to better engineering practices would mean that the total tonnage to the landfill might exceed 1 million tonnes. It is possible that this might result in the landfill moving out of a “small landfills” category, with the result that higher levels of monitoring and compliance would be needed.

With an extended life, the financial viability of a capital expenditure project to capture and re-use landfill gas is more likely to be favourable. The financial model allows the wide range of variables to be altered to give sensitivity analysis of different scenarios.

Extend the analysis to review the costs of using alternative landfills

The long term financial implications of any decisions also have to take into account the costs after Colson Rd Landfill is no longer used. The financial model was extended to a 20 year analysis which also analyses the costs once Colson Rd is no longer used. The financial model calculates the closing date of Colson Road (either because it is full or because the decision has been made to close early). After the close date, the annual costs of solid waste operations incorporate transport and gate fee costs associated with using an alternative landfill. The spreadsheet model allows gate fees and transport costs per km to be varied.

At this stage, the following parameters have been added to the financial model for NPDC to use an alternative regional landfill for the 50,000 tonnes per annum from the New Plymouth District:

- Gate fees of \$100/tonne⁴ = \$5 million per annum
- Transports costs to an alternative landfill approx 60km from the existing New Plymouth Transfer station approximately \$1 million per annum
- Residual costs for operating NPDC solid Wastes operations \$1.5 million per annum (includes operation of transfer stations, kerbside collection etc)

⁴ The gate fees at \$100/tonne have been inflated over current likely charges to take into account the \$20 - \$30 per tonne for ETS levies for a new landfill

New Plymouth District Council: Implications of the ETS on Landfill Planning and Management

There would be reduced operating revenue for the whole of solid waste operations also, with the loss of any revenue from Colson Road Landfill.

Waste Minimisation considerations

Based on the analysis above, there is indication that the cost of solid waste operations would increase significantly if an alternative landfill was used. Therefore NPDC has been focussing on investigating projects which could reduce volume into Colson Rd and thus extend its life and defer the more expensive option of transporting waste. The Waste Minimisation Levy was also introduced as a variable in the financial model as there is indication that this might change significantly in the future.

Ongoing work

The financial model is currently being modified to add in the expenses to NPDC of alternative collection and disposal of waste streams which might be diverted from landfill. Diversion of waste streams, while extending the life of the Colson Road landfill, could incur other solid waste operating costs such as separate collection and disposal of the diverted waste streams.

In May 2011, a workshop will be held with NPDC councillors to discuss the complexity of the decisions to make regarding the future of solid waste operations, plus the likely follow-on affects of possible decisions.

Possible Issues

The following last issues have been raised over the course of the analysis, but have not been addressed directly in this discussion paper

- Will any assistance be available to help undertake the IPCC calculations (or approved equivalent) to make application for the UEF relating to gas capture?
- Does the effective operation of a landfill with gas capture systems become too complex for some existing landfill operators?
- Are there any significant implications in keeping landfill volume below 1 million tonne?

New Plymouth District Council: Implications of the ETS on Landfill Planning and Management

Appendices

Appendix 1: Overall summary from 2010 SWAP

WATSON & CO CONSULTING

CONFIDENTIAL – CONTAINS COMMERCIALLY SENSITIVE INFORMATION

Appendix 15 – Overall waste to landfill

Overall waste to Colson Rd landfill – 18-24 February 2010		% of total	Tonnes week
Paper	Recyclable	8.9%	106 T/week
	Multimaterial/other	2.0%	23 T/week
	Subtotal	10.9%	129 T/week
Plastics	Recyclable	1.1%	13 T/week
	Multimaterial/other	10.9%	129 T/week
	Subtotal	11.9%	141 T/week
Putrescibles	Kitchen waste	17.8%	210 T/week
	Greenwaste	9.1%	107 T/week
	Multimaterial/other	3.0%	35 T/week
	Subtotal	29.8%	353 T/week
Ferrous metals	Primarily ferrous	1.6%	15 T/week
	Multimaterial/other	1.3%	16 T/week
	Subtotal	2.6%	31 T/week
Non ferrous metals		0.5%	6 T/week
Glass	Recyclable	6.4%	76 T/week
	Multimaterial/other	0.8%	10 T/week
	Subtotal	7.2%	86 T/week
Textiles	Clothing/textiles	1.4%	16 T/week
	Multimaterial/other	3.1%	37 T/week
	Subtotal	4.5%	54 T/week
Nappies and sanitary		5.8%	69 T/week
Rubble	Concrete	2.6%	30 T/week
	Other	6.7%	79 T/week
	Subtotal	9.2%	109 T/week
Timber	Unpainted & untreated	3.2%	37 T/week
	Fabricated	2.5%	30 T/week
	Multimaterial/other	7.5%	89 T/week
	Subtotal	13.1%	156 T/week
Rubber		0.7%	9 T/week
Potentially hazardous		3.5%	42 T/week
Total		100.0%	1,185 T/week

Totals/subtotals may not add due to rounding

APPENDIX 2

Local Authority	Averaged tonnes waste pa	Total cost CO2 equivalent emission units @ \$21	Landfill consent/life	Alternative landfill	Other comments
Tokoroa District Council	6000	\$138,600	2020	Hampton Downs, North Waikato	Rotorua does not accept waste from out of the district
Dunedin City Council Waikouaiti	68	\$1,570.80	2016	Green Island, Dunedin	
Far North District Council Ahipara	5000	\$115,500	2014	Redvale Landfill, Auckland or Whangarei	Waste from southern part of the district already goes out of the district – 13000 tonne
Central Otago District Council Tarras Landfill Patearoa Landfill		Both the Tarras and Patearoa landfills close next year		Victoria Flats Landfill Queenstown	
Queenstown-Lakes District Council Victoria Flats Landfill	17000	\$392,700	2071 – landfill life	Green Island, Dunedin	Currently evaluating options to meet ETS obligation. Landfill volumes will increase with waste from Central Otago.
Auckland Council Great Barrier Island Claris landfill	less than 1000	\$23,100	2027	Redvale Landfill ,Auckland	
Taupo District Council Broadlands Rd Landfill	19000	\$438,900	2038	Tirohia Landfill, Paeroa Hampton Downs, North Waikato	Rotorua does not currently take waste from out of the district.
Grey District Council McLeans Pit Landfill	8500	\$196,350	2032	Nelson	
Gisborne District Council	1000	\$23,100	2026	Tirohia Landfill, Paeroa	

Waiapu Landfill					
Waitaki District Council Oamaru Landfill Palmerston Landfill	9400 360	\$217,140 \$8,316 Total \$225,456	2027 2016	Green Island, Dunedin	
Waitomo District Council	10,000	\$231,000	2033	Tirohia Landfill, Paeroa Hampton Downs, North Waikato	
Tararua District Council Pongaroa Landfill Eketahuna Landfill	48 65	\$1108.80 \$1505.50 Total \$2610.30	2026 2030	Central Hawkes Bay DC	Pahiatua and Dannevirke landfills closed in November 2010. Waste now going to Central Hawkes Bay District Council. CHBDC not sufficient waste volumes for gas capture.
Central Hawkes Bay District Council	4500	\$103,950	2030	Bonny Glen, Martin	Hastings does not accept waste from out of district at this time
Tasman District Council	27500	\$635,250	2015 but landfill life to 2061 approx	Nelson City York Valley Landfill	Early discussions with Nelson City on shared service option
Clutha District Council Mount Cooee Landfill	10,000	\$231,000	2023	Green Island, Dunedin or Invercargill	
Buller District Council Karamea Refuse Tip Maruia / Springs Junction	105 25	\$2425 \$578 Total \$3003	2034		
Westland District Council Butlers Landfill, Hokitika	2500	\$57750	2044	Grey District McLeans	Transporting waste from South Westland

Haast landfill	10.8	\$250 Total \$58,000	2038	Landfill or Nelson	but not Haast as too expensive to transport small volumes of waste. In process of closing smaller landfills to leave only Butlers and Haast.
Ruapehu District Council	4000	\$92,400	2021	Bonny Glen, Martin	
New Plymouth District Council	65,000	\$1,501,500	2025	Taranaki regional landfill (c. 2016) or Bonny Glen, Martin	The decision to construct another Taranaki regional landfill post closure of Colson Rd has not yet been confirmed

Submission from the New Zealand Fertiliser Manufacturers' Research Association Inc (Fert Research)

Submitter Details

The New Zealand Fertiliser Manufacturers' Research Association Inc (Fert Research) is a trade organisation representing New Zealand manufacturers and suppliers of mineral fertilisers. The Association also operates under the name Fert Research.

The Association has two member companies – Ballance Agri-Nutrients Ltd and Ravensdown Fertiliser Co-operative Ltd. Ballance Agri-Nutrients Ltd manufactures urea at its Kapuni plant in Taranaki. Both member companies import nitrogen fertiliser products and both companies manufacture superphosphate.

Both member companies are farmer co-operatives with some 45,000 farmer shareholders. Between them these companies supply approximately 95% of all fertiliser used in New Zealand and employ about 150 field representatives whose function is to provide fertiliser advice and recommendations to farmer shareholders. Field staff are tertiary qualified and use a range of tools, including nutrient budget models (e.g. Overseer®), the Code of Practice for Nutrient Management, and the Code of Practice for the Placement of Fertiliser in New Zealand to assist them in making fertiliser recommendations and addressing production and environmental issues, including GHG emission issues.

This submission has been prepared with consultation of our member companies and is submitted on behalf of the fertiliser industry.

Background

The focus of this submission is on the agriculture sector. The agriculture sector is currently scheduled to enter the ETS in 2015 – this is associated with both risks and opportunities for the sector.

Risks come in the form of increased costs and a potential decrease in competitiveness relative to countries whose agricultural sector is not covered by an ETS or who do not face a carbon cost. Opportunities come in the form of stimulation of the uptake of least cost mitigation technologies and farm management systems, as well as increased competitiveness in global agricultural markets through the production of food products with a reduced carbon footprint, something which is increasingly desired by major global food retailers (eg, Walmart, Marks & Spencer and Tesco).

For the agricultural sector the key issue is weighing up the balance between these risks and opportunities in terms of the design of the ETS, including time of entry of the sector into the ETS, the allocation regime, the point of obligation and incentives for change. NZFMRA is of the opinion that the economic future of the agricultural sector in New Zealand will be best served by an ETS that protects the sector's ongoing competitiveness by pro-actively shifting the balance from risks to opportunities. We believe that the best way to achieve this for the agricultural sector is to:

- Shift the point of obligation in the proposed ETS from the processor level to the farm level as soon as possible;

- Develop and implement measures which will encourage farmers to take up mitigation technologies which exist at the present time but which require sufficient incentive to encourage their application.

These points will be dealt with in greater detail below.

Timing of Entry

As mentioned above, the agriculture sector is scheduled to be a full participant in the ETS in 2015. There is, however, considerable uncertainty within the agriculture community that this schedule will actually be adhered to by Government, since it is rightly dependent on various pre-conditions, the actions taken by our competitors, and the outcome of present and future reviews of the ETS prior to 2015.

The consequential effect therefore of a lack of an economic driver is discouragement of investment in the commercialisation and uptake of agricultural mitigation technologies, thereby hindering the sector to take timely and full advantage of the opportunities available to it within the framework of an ETS. Opportunities that are immediately available include, among others, optimisation of nitrogen fertiliser use by taking full advantage of nutrient management planning advice and tools used by the fertiliser industry; the widespread use of nitrification inhibitors which have clearly been shown to be able to reduce nitrous oxide emissions by more than 55% on average across all regions of the country; and the uptake of best practice farming systems presently employed by New Zealand's best farmers and that, if taken up by more farmers across the board, would significantly shift farm efficiency and emissions to "best practice" levels.

With this in mind, and in light of the present uncertainty of timing of entry of the agriculture sector into an ETS, it is important that the agriculture sector is provided with appropriate signals to encourage early action and innovative approaches to establish emissions intensity reduction.

Allocation

Under the present legislation the allocation of free units to agriculture starts out at 90% of baseline emissions and phases out at 1.3% per year starting in 2016. This allocation regime is appropriate at this time given the need to protect the competitiveness of our agricultural sector. However, it would be good protection for the ongoing competitiveness of the sector to couple such an allocation regime with policy instruments that encourage and reward proactive action on emissions mitigation.

Point of Obligation

Under the present ETS design, the point of obligation within the agriculture sector sits with fertiliser suppliers and food processors. The rationale for this is that placing the point of obligation at the processor level would reduce administrative complexity. However, this is a poor trade-off between administrative efficiency and actually realising the opportunities offered by an ETS.

The position of the NZFMRA is that, if the agriculture sector enters the ETS, the point of obligation should be at the farm level and that preparations should be taken now to facilitate this. A point of obligation at the farm level has some distinct advantages for the sector:

- It incentivises farmers to take direct action to address emissions cost effectively;

- It allows farmers to benefit financially from on farm emissions reductions;
- It allows for a site specific approach in implementing mitigation technologies;
- It is the mechanism most likely to result in a lowering of greenhouse gas emissions intensity.

The tools and processes already exist to measure and report on emissions at farm level and so a shift of the point of obligation to farms or farmer groups could be implemented quite quickly. These tools and processes include:

- Fertiliser industry field staff can, if required, deliver emissions reports as part of their current nutrient management services offered to farmers using the Overseer[®] tool;
- The Overseer[®] model is designed in a way that allows farm level emissions reports to be produced, along with nutrient budgets and/or nutrient management plans, while using the same input data.

Farmer Incentives

As it stands, the ETS does little to encourage farmers to be innovative, change their behaviour, take-up new technologies, reduce their emissions and actually become more competitive in global agriculture markets.

The NZFMRA is of the opinion that officials need to develop and implement some policy measures that will incentivise and reward farmers for taking timely action to adapt to climate change and that will increase their competitiveness in global markets.

For a start, the government could consider a mechanism to share the gains of reduced agricultural greenhouse gas emissions between state and farmer. Lowered agricultural emissions will be reflected in the national inventory and reduce the nation's emissions liability and it would be appropriate to share a portion of this benefit with farmers.

Conclusion

In its present form, the ETS, if implemented, would impose a high level of complexity and compliance on the agricultural sector for modest gains in terms of technology uptake, behaviour change, and emissions abatement. To address this situation the NZFMRA advocates:

- Shifting the point of obligation in the proposed ETS from the processor level to the farm level as soon as possible;
- Developing and implementing measures which will encourage farmers to take up existing mitigation technologies and farm management systems.

The NZFMRA would be available to meet with the Review Panel in Wellington.

We agree to have our name and contact details included in the summary of submissions, included in the list of submitters on the website, and our contact details being released in response to an official request.

Contact details:

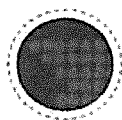
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6 April 2011

Released under the Official Information Act 1982



Emissions Trading Scheme REVIEW 2011

Submission Form

This form should be read in conjunction with the *ETS Review 2011: Issues statement and call for written submissions* (the Issues statement).

This form contains fields to allow you to directly enter your answers to all of the Panel's consultation questions that you wish to answer. The fields will expand as you type. If you wish to submit data and other supporting information please send these as separate attachments to this form and clearly label them with your name.

The use of this form is optional. However, if you do use it, it will enable the Panel to more quickly and easily analyse the issues raised in your submission.

Please email your completed submission to etsreview2011@climatechange.govt.nz.

Submissions must be received by 5.00pm Wednesday 6 April 2011

Things to consider when making your submission

Request for evidence-based submissions

As far as possible, the Panel intends to base its conclusions and recommendations on the evidence available to it. Please provide evidence, analysis or data to support the points made in your submission. The Panel is likely to attach more weight to those submissions which have provided evidence than those which have not.

Publication of submissions

The Ministry for the Environment may publish all or parts of any written submission on the Government's climate change website at <http://www.climatechange.govt.nz>. We will consider you to have consented to such publishing by making a submission, unless you clearly specify otherwise in your submission.

Requests for official information

The content of submissions is subject to the Official Information Act 1982. Copies of submissions sent to us will normally be released in response to an Official Information Act request from a member of the public.

If you object to the release of any information contained in your submission, please clearly state this in your submission, including which part(s) you consider should be withheld, together with the reason(s) for withholding the information. We will take into account all such objections when responding to requests for copies of, and information on, submissions to this document.

Privacy

If you do not wish your name and any identifying details in your submission to be recorded in the summary of submissions or released in response to a request, please clearly state this in your submission. At your request, we will make your submission anonymous in the summary of submissions and remove your name from the list of submitters before they are published on the ETS Review 2011 website. However, please note that the Ministry for the Environment will not be able to withhold any information if doing so would contravene the requirements of the Official Information Act.

Submitter details

Title: Mr (Please type the appropriate title(s))

My/our full name(s): Simon Linge

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Home fax:

Before answering the Consultation questions on the next page please take a moment to answer the questions below.

Publishing your name and details

	Yes	No
Do you agree to your name (and your organisation's name) and contact details being included in the summary of submissions?	YES	☐

Comment

Do you agree to your name (and your organisation's name) being included in the list of submitters on the website?	YES	☐
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Comment

Do you agree to your name (and your organisation's name) and contact details being released in response to an official request?	YES	☐
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Comment

Panel meetings with stakeholders

The Panel intends to meet with a selection of stakeholders after the deadline for written submissions. However, given the number of submissions, it is unlikely the Panel will be able to meet with all submitters. Please indicate below if you would like meet with the Panel if possible and which date would be most suitable.

	Yes	No
Do you wish to meet with the Review Panel in Wellington?	YES	☐

Which of these three dates would suit you best – 13, 15 or 20 April? **20th**

The Panel will notify directly those stakeholders it determines are most appropriate to meet.

Consultation Questions

Q1 Do you agree/disagree with the Panel's assessment of the current impact of the ETS? If not, why not?

In point 46 it states that "For the majority of New Zealand Businesses, their energy costs are likely to be equivalent to about 1% of their revenue". For NZ Steel this figure is around 28% so the impact of higher energy costs due to ETS is significant. This is a bigger cost to the business than labour.

The estimated full cost imposition on the NZ Steel business of \$25/t CO₂ for Scope 1, 2 & 3 is s 9(2)(b)(ii) [REDACTED] After the free allocation of units the nett cost impact is s 9(2)(b)(ii) [REDACTED]

(
Given that the EBIT for the NZ Steel Glenbrook steel manufacturing sector business is in the 2)(b)(ii) [REDACTED] impact is significant and if it were not for the free allocation of units this business would no longer be viable.
)
(
i
)

Q2 What impacts of the ETS have you experienced to date?

In your response we would be interested in:

- a. financial impacts you have experienced and how you have managed these (eg, passed them on to consumers)

For financial details see Q1 above.

As an Emissions Intensive, Trade Exposed (EITE) company, NZ Steel is not able to pass on ETS related costs to our customers in either the domestic or export markets. The costs that have been imposed on NZ Steel are therefore required to be entirely absorbed by the company.

The continued allocation of permits to NZ Steel, while inadequate to fully offset the loss of competitiveness imposed on the company by the ETS, is an essential measure if the company is to maintain and continue to invest in its iron and steelmaking operations in New Zealand.

- b. how significant the impact of the ETS has been relative to other changes, such as GST increase, consumer demand changes and oil price increases

The important issue for NZ Steel is that ETS imposes costs onto the company that are not faced by our international competitors. NZ Steel is not exposed to the net impact of GST, and any changes in oil prices impact all steelmakers equally. **NZ Steel is the only steel company in the world exposed to a carbon cost on its direct emissions.**

- c. whether the ETS has yet influenced your investment decisions (eg, on low-carbon technologies, and land development)

Iron and Steelmaking is a capital intensive business and NZ Steel has invested heavily in the past in technologies to improve energy efficiency at Glenbrook Steelworks. Investment in further abatement will require considerable capital investment – see Q6.

Capital investment requires business certainty, and rather than acting as an incentive to investment, the ETS has made NZ Steel a more difficult place to attract investment.

By way of example, the Steel Plant Optimisation Project (SPO) is a significant growth project for NZ Steel with an investment cost of \$200m. This would double the output of vanadium slag, a valuable co-product to the iron making process, and increase steel production by 5%. As result of uncertainties around the ETS our parent company announced in 2008 that this investment would be deferred. At the time of writing this submission, with the medium term impact of the ETS still uncertain, this investment remains deferred.

- d. whether the ETS has yet influenced your operating decisions (eg, input sourcing, supply chain, choice of energy supply)

As an energy intensive manufacturer, NZ Steel energy costs represent a high proportion (30%) of our cost base. We therefore have a long standing focus on energy efficiency, have invested heavily in the past (<http://www.nzsteel.co.nz/responsibilities/-environment>) and are continually seeking to optimise our production processes to consume less energy.

Coal is used by NZ Steel as an essential chemical reductant to transform ironsand into molten iron as the first stage of the process to manufacture steel. The emissions from this process are determined by the chemistry of the process, and it would simply not be possible to move from coal to a different source of energy.

Research is underway in New Zealand, Australia and USA to examine the potential of using charcoal as a replacement for a proportion of the coal used in the process. While trials may be undertaken in the next 5 years, commercial adoption of this technology is likely to take longer and will depend on an assessment of the impact of the material on the sensitive ironmaking process and our ability to source sufficient quantities of high quality charcoal to replace coal.

NZ Steel is currently investigating the replacement of imported coke, used in the steelmaking process, with local charcoal. The main constraint is the availability of suitable quantities of high density charcoal. If this charcoal was available commercial operation could be achieved within 12 months – potentially 'saving' 15,000t CO₂/yr.

NZ Steel has previously sourced coal from Indonesia. Using this coal NZ Steel would not be exposed to costs related to FEM that are imposed on domestic suppliers. These additional costs are not included in permit allocation baselines and represent a significant additional Scope 3 cost to NZ Steel on top of direct Scope 1 & 2 liabilities.

NZ Steel is giving serious consideration to importing coal from overseas in the near future in order to mitigate this cost imposition. The ETS scheme design should be changed to ensure that trade exposed companies like NZ Steel are not forced to absorb this cost or source product from overseas to avoid the cost, at the expense of local employment.

The current allocation methodology preserves the incentive to abate subject to technology and capital availability. However if compliance costs increase to a level that compromises our ability to re-invest then closure is the only outcome.

Investment certainty is important, and policy must recognise the very long time horizons for investment in the steel industry, including for potential next generation lower emissions iron and steelmaking technology.

Breakthrough technology is under investigation which could significantly reduce our CO2 emissions but it is unlikely to be commercially available within the next decade. Adoption of this technology is currently considered to be high risk and would require significant capital (>\$500m) that would be unlikely to be made available without a degree of certainty in regulation.

Increasing the cost impost of the ETS on NZ Steel would not facilitate the earlier adoption of this technology, rather this would be a disincentive to investment in NZ Steel. As part of BlueScope Steel, NZ Steel competes for capital investment with other parts of the company, which include assets in Thailand, Vietnam, Malaysia and China. Producers and assets in these regions currently face no prospect of direct carbon regulation.

- e. other impacts of the ETS (eg, social, environmental).

No comment

Q3 What are your views on the administrative efficiency of the ETS?

In your response we would be interested in comments on:

- a. compliance costs associated with the ETS (including brokerage fees)

With the new SEIP regulations NZ Steel was required to establish an agreed activity definition for Iron and Steel manufacturing and then prepare the Industrial Allocation Submission. Over this one year period total expenses incurred for these activities were in the region of \$500k. This cost would have been higher if it had not been for the extensive work our parent company, BlueScope Steel, had done to establish an Iron and Steel manufacturing Activity Definition under the Australian CPRS regulations which was used as the basis for the New Zealand one.

NZ Steel expects an ongoing annual expenditure of at least \$200k in order to protect the interests of the business going forward given the legislation reviews and ongoing international negotiations on climate change

The ongoing cost for collecting and verifying the data and reporting on annual basis is estimated to be \$50k

NZ steel is currently not participating in the trading of NZU's

- b. complexities of ETS reporting requirements (such as accounting methodologies)

The on line reporting requirements are very simple and easy to use. A compliment must be passed onto those that developed this system and the engagement they had with users.

There are issues with the lack of International accounting standards (taxation etc) for units which are expected to take 2-3 years to resolve. Costs associated with this are expected to be \$50k per year until finalisation.

- c. penalties for breaching ETS obligations

The penalties proposed in the legislation seem to be onerous in relation to the nature of the breach when compared with other statutory requirements

- d. the organisation of this administration across government, including the role of the Environmental Protection Authority.

Not concerned about current operation or move to EPA. Only concern from a governance viewpoint is that there is separation of policy & administration.

- Q4 In your opinion, are the modelling results in paragraph 62 of the Issues statement (page 21) likely to reflect the actual macroeconomic impacts of the ETS? If not, in your opinion, how will the ETS affect New Zealand in overall economic terms?

Our belief is that the modelling study assumed there would be a second commitment period under the Kyoto Protocol, that our trading partners (USA, Australia, Japan, China, Korea) would have a similar ETS schemes and that there would be a liquid international market with stable pricing. We now know that none of these things are about to happen. A new modelling study needs to be commissioned taking into account the actual conditions and expectations as of now.

Further to the above modelling carried out at a whole of economy level is unlikely to show the impact on NZ Steel or the steel sector where we compete as a business. When assessing the impact of a proposed policy on NZ Steel analysis at this sectoral level is essential. The statement in footnote 49 that the impact of allocation is small at the carbon price of \$25 per tonne is absolutely not the case from a NZ Steel perspective. Without an adequate level of allocation to offset the loss of competitiveness relative to our international competitors that the ETS has introduced, the future of NZ Steel would look very bleak – see Q1.

Apart from international Climate Change negotiations, individual country government or EU policy changes can also have a significant impact on the price of emission units – NZ is a price taker so has no control over the individual actions of other countries.

- Q5 Do you agree/disagree with the Panel's assessment of the impact of the ETS after 2012? If not, why not?

Yes, the ETS impact will be greater after 2012 if the transitional measures are removed on schedule. However, the panel downplays the impact of international factors. There is huge uncertainty about future international agreements, with a CP2 agreement under the Kyoto Protocol most unlikely and equal uncertainty about the likelihood of carbon pricing taking hold in our key competitors' economies (USA, China, Japan). There is also, in our view, reason for serious concern about NZ companies being exposed to very high international carbon prices post-2012.

Given the uncertainty there needs to be a mechanism whereby government can exercise some control over policy settings if the ETS develops in such a way that it's impacts are not in New Zealand's national interest. Government needs to be able to exercise some control over the cost of Carbon and its impact on the economy.

One way of achieving this is to extend the current transitional arrangements for another 3 years until 2015 when they can be revisited as part of the 2014 ETS review.

Q6 What impacts do you expect to experience after 2012 (given the current design settings of the ETS)?

In your response we would be interested in:

- a. how impacts will change once the transitional phase ends

The end of the transitional phase would immediately double the impact of the ETS on New Zealand Steel, or more if the carbon price was to climb above \$25/t. As a trade exposed business, NZ Steel would not be able to pass this cost on to customers. As discussed previously (Q1) the current cost impost on NZ Steel s 9(2)(b)(ii) s 9(2)(b)(ii) Once the transitional phase ends the cost impact will be

One of the drivers for the transitional arrangements was to recognise the impact of the global financial crisis, while it could be argued that many sectors (most notably resources) have exited the crisis, this is not the case for international iron and steel industry. In addition to this the projected growth in NZ is low and the significant economic impact of the Christchurch Earthquake. Therefore it is our view that the conditions for the transitional arrangements have not changed and that it is necessary to extend them to 2015 and be revisited as part of the 2014 ETS review.

- b. whether any significant business risks are created by uncertain carbon prices, and if so, how these risks could be mitigated

All modelling is based on the assumption of a deep liquid market and this is currently far from the case and participants in the ETS currently face significant price risk. Under Government's current plans our business faces increasing exposure to this price risk, leading to a significant risk to the business in the medium to long term. Mitigation is best achieved by maintaining a price cap and the transition arrangements until the market becomes liquid, our international competitors are exposed to comparable carbon prices, and the economic health of the global iron and steel sector improves.

- c. any competitiveness risks and therefore risks of carbon leakage

As long as our steel manufacturing competitors do not face comparable carbon costs then NZ Steel's competitiveness will continue to be impaired in both domestic and export markets. The current transitional phase is partly mitigating this loss of competitiveness. As a minimum this should be extended until such time as our competitors face an equivalent cost. Any assessment of International action needs to be based on a sectoral level at steel companies that compete with NZ Steel – Asia & USA. The Australian CPRS legislation proposed a sectoral test of international action that would have mitigated the impact of the scheme on trade exposed entities until 70% of their international competitors faced comparable carbon costs.

- d. any business opportunities and benefits that may arise

Steel is a key input into most renewable energy sources and breakthrough technologies expected to facilitate the decarbonisation of the New Zealand and other economies. If the cost impact of the ETS makes domestic production uncompetitive to untaxed imports then these investments will take place using imported steel and offshore emissions

e. how you expect abatement technologies to develop by 2015 and beyond

As discussed previously, the current Allocation methodology preserves the incentive to abate subject to technology and capital availability. However if compliance costs increase to a level that compromises our ability to re-invest then closure is the only outcome. Policy must recognise the very long time horizons for investment in the steel industry, including for potential next generation lower emissions iron and steelmaking technology.

Breakthrough technology is under investigation which could significantly reduce our CO2 emissions but it is unlikely to be commercially available within the next decade. Adoption of this technology is currently considered to be high risk and would require significant capital that would be unlikely to be made available without a degree of certainty in regulation.

Increasing the cost impost of the ETS on NZ Steel would not facilitate the earlier adoption of this technology; rather this would be a disincentive to investment in NZ Steel. As part of BlueScope Steel, NZ Steel competes for capital investment with other parts of the company, which include assets in Thailand, Vietnam, Malaysia and China. Producers and assets in these regions currently face no prospect of direct carbon regulation.

f. comparison between carbon prices and abatement costs

Since energy is the single biggest cost to NZ Steel there has been a constant drive over many years to minimise its use and improve energy efficiency. The single biggest cost component is coal used as a chemical reagent to make iron and due to the nature of the process this is not able to be changed in the near term. Many of the lower cost/high payback improvement initiatives have already been completed, including co-generation, and those that remain have minimal CO2-e savings for a high capital cost.

Three current projects in our pipeline of work are:

Title	Electricity Saving	Capital cost
Roll coolant pump switching	1400MWh/yr= 750tCO2-e/yr	\$1.5m
Kiln Spray pump upgrade	1300MWh/yr = 675tCO2-e/yr	\$0.5m
Melter gas flare reduction	generates 22,000MWh/yr 11,400tCO2-e/yr	\$4.0m

These projects, if implemented, would contribute towards reduced CO2 emissions by either saving electricity or producing electricity. To justify the capital investment to implement them purely from CO2 reduction would require a carbon price of \$300-2000/t CO2. However in all cases there are other benefits to the business (safety, operability, maintenance etc) which may well justify the projects going ahead. In the case of the melter gas project there are technical barriers to overcome as well.

Given the above it can be seen that doubling the price of carbon would not have any significant impact on abatement or emissions at NZ Steel. Total Scope 1 & 2 emissions at NZ Steel are >2million t CO2-e.

- g. how you expect the ETS to affect New Zealand socially and environmentally in the long term.

If NZ continues to implement the scheme and exposes the economy to the full impact of the ETS, and this is not followed by similar moves by our trade competitors then the inevitable result will be a significant reduction in manufacturing in NZ and the loss of employment as manufactures close or relocate overseas.

This will not have any global benefit to the environment as emissions are outsourced, but will have a significant deleterious impact on New Zealand's economy.

- Q7 As forestry is New Zealand's largest source of carbon credits and has a significant influence on emissions reduction in New Zealand, do you think the ETS provides enough incentive for forestry investments? If not, why not.

No comment

- Q8 Do you agree with the Panel's assessment of the impacts of the ETS on Māori? If not, why not?

No comment

- Q9 In your opinion, what impacts of the ETS have Māori experienced to date?

No comment

- Q10 In your opinion, how will the ETS affect Māori in the longer term?

No comment

- Q11 Do the scenarios in table 4.1 in the Issues statement (page 28) capture the most likely outcomes for the international framework after 2012? If you answered no, what other scenario(s) do you suggest the Panel should consider?

While reflecting genuine possibilities, scenario (1) looks very unlikely at this stage

- Q12 How might the objective(s) of the ETS change under each of these scenarios? In particular:

- a. what do the different scenarios imply about the costs New Zealand should be imposing on its economy through the ETS in the short term?

NZ should take a conservative approach and maintain existing settings until it has been demonstrated that international competitors face similar carbon costs to NZ at a sectoral level.

- b. what considerations should influence how the costs of any international obligation New Zealand faces should be shared between different sectors of the economy such as the split between emitters and taxpayers and the relative abilities of different sectors to reduce emissions?

Agriculture is not the only sector which has limited ability to reduce emissions due to technological limitations. In the case of NZ steel, 90% of our direct emissions result from the use of coal as a chemical reductant in the manufacture of iron from ironsand.

To significantly reduce these emissions it would require a major technological breakthrough which is unlikely to occur within the next decade.

In an interview with the *NZ Herald's* Brian Fallow, Dr Smith reiterated the Government's preparedness to further postpone the entry of agricultural gases into the ETS.¹ The Minister said while he did not wish to pre-empt the decision of the review, and a lot could happen in the next few years, the Government had no interest in simply imposing an additional cost on the country's most important export industry if abatement options were not available:

"I would want to signal that a National-led Government will not be including agriculture unless there are practical technologies that farmers can employ to reduce their emissions and there has been significantly greater progress than we have seen to date by our key trading partners in pricing emissions."

He also indicated the Government was "only interested in a pricing instrument if there are going to be practical ways in which farmers can respond to that price and reduce emissions"

Given the above position stated by Dr Smith as a key reason why agriculture is not included in the scheme then this also a strong argument why that current transitional arrangements as they apply to NZ steel should not be changed.

In addition NZ Steel should not face increased costs until competitors in our import and export markets also face comparable costs

Overall policy should be comprehensive, including all sectors of the economy (and imports where appropriate), and be transparent.

- c. what is the role of the ETS in preparing New Zealand for the international obligations and other drivers for action it may face in the long term?

Climate change policy is intended to reduce global GHG emissions. The ETS should demonstrably contribute to achieving this aim. It is not in NZ's interest to reduce domestic emissions at any cost while other countries are not doing the same thing.

- d. should the ETS design be changed in order to strengthen the incentives for domestic abatement? If so, how?

No, the scheme should continue to facilitate lowest cost international abatement and scheme participants should continue to have full access to international units.

- e. how important is continuing access to international carbon markets?

This is very important to minimise costs – the NZ market is a small market with low liquidity - access to lowest cost units important to NZ Steel and New Zealand generally.

- f. how do you see domestic and international carbon markets developing beyond 2012?

As discussed in Question 4&5 of this document, the international outlook remains very uncertain and it is very difficult to make accurate predictions beyond 2012. New Zealand should therefore adopt a conservative approach.

¹ *NZ Herald*, 22 January 2011, *Drawing a line on climate commitment*.

Q13 Under what conditions should the ETS scale up to a full obligation? In particular:

- a. Should the fixed price option of \$25 continue beyond the current transition phase (ie, after 2012)?
- b. Should the one-for-two obligation continue beyond the current transition phase?

Yes.

NZ is still ahead of the world in terms of implementing an ETS scheme which when fully implanted will cover all gases & all sectors. This has imposed additional costs on the consumer at the time of GFC/low economic growth.

The continuation of all elements of the transitional phase is an essential risk mitigating action given short and medium term uncertainty in global climate action, the strong headwinds continuing to be faced by the global iron and steel sector, low projected growth in NZ and the domestic economic impact of the Christchurch Earthquake.

NZ Steel is the only steel company in the world that is paying carbon costs for our direct emissions. None of our competitors are expected to face similar charges in the foreseeable future. EU steel producers do not compete with NZ Steel so changes to the EU ETS are not relevant in our market

Q14 To what extent, if any, should abatement options be relevant in determining the extent of a sector's participation in the ETS?

Policy should be comprehensive, including all sectors of the economy (and imports where appropriate), and be transparent.

Q15 Under what conditions should new sectors enter the scheme and incur surrender obligations?

Policy should be comprehensive, including all sectors of the economy (and imports where appropriate), and be transparent.

Q16 Should allocation of NZUs continue as planned under current design settings after 2012?

In your response we would be particularly interested in:

- a. the effectiveness of allocation in reducing competitiveness risks

For NZ Steel the allocation methodology has not fully offset the costs of ETS and therefore the competitiveness of the business has been impacted.

s 9(2)(b)(ii)

a major component of this is Coal FEM's which is not included in the allocation baselines. Allocation does not fully cover NZ Steel's Scope 1&2 liabilities.

With decay planned to start in 2013 allocation to NZ Steel will reduce and the business will therefore face increased costs year on year. Decay should not start until NZ Steels competitors face comparable carbon cost. Under the proposed Australian CPRS a test was proposed that froze decay until 70% of competitors faced comparable carbon costs, this model could be adopted by the NZ government to mitigate loss of competitiveness in trade exposed sectors.

- b. the impact of allocation on incentives to reduce emissions

This allocation methodology preserves the carbon cost signal and the incentive to reduce emissions is maintained

- c. whether the allocation thresholds should be amended

No comment

- d. whether the process to determine allocative baselines should be changed

No comment

- e. whether the allocation of units to small and medium sized enterprises (SMEs) is the most administratively efficient way for protecting impacted sectors either for SMEs or government.

No comment

Q17 Should the ETS cover synthetic greenhouse gases (SGG) from 2013, as currently legislated?

- a. if no, what other policy tools or what combination of policy tools should be used to encourage reduction in SGG emissions?
- b. if yes, are there supporting measures or amendments to the ETS that could support implementation and reduce administrative and compliance costs?
- c. if the ETS should be amended to cover only some SGG-using sectors: which ones, why, and what policies should be developed for the others?

In your response we would be interested in

- d. estimated impacts of the ETS coverage of SGGs (such as compliance costs for direct participants, on rates of gas recovery and recycling or destruction, and on management of leakage)
- e. arguments for or against alternative policy tools
- f. estimated impacts, including behavioural impacts in terms of incentives to reduce emissions, of alternative policy tools

NZ Steel does not have a view on this issue. However, if the ETS is extended to cover SGG, the point of obligation for liability should be as far upstream as possible to minimise compliance complexity and cost.

NZ Steel does report its installed capacity of SGG and a consumption of 1-2kg per year which equates to 50tCO₂-e

Q18 Are there any other issues, in particular any related to the matters set out in section 160(5) of the Act as summarised in Chapter 1, you think the Panel should consider? If so, please provide details of your view on them.

Currently Solid energy surrenders units for coal used by NZ Steel at an emission factor of 90.64 tCO₂-e/TJ. The coal NZ Steel uses, however, undergoes combustion processes which mean that the component attributable to nitrous oxide N₂O and methane CH₄ present in the exhaust gases will be considerably less than what is used as part of the total factor. Given that NZ Steel has not opted in it seeks redress to rectify this inconsistency.

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Submission to the Emissions Trading Scheme Review 2011

INDEX

Page 2	Introduction
Page 2	Terms of Reference
Page 2	Section 1: Background Information
Page 3	Section 2: International Relations
Page 4	Section 3: Competition Issues
Page 4	Section 4: Impact on the New Zealand Economy
Page 5	Section 5: Mitigation/Adaptation and Research
Page 6	Section 6: NZ Steel Industrial Allocation for the activity of 'Iron and Steel manufacturing from iron sand'
Page 6	Section 7: Formal Submission Form Questions
Page 6	Section 8: Recommendations



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Submission to the Emissions Trading Scheme Review 2011

by

**New Zealand Steel Limited
6 April 2011**

Introduction

New Zealand Steel Limited (NZ Steel) presents this submission to the Emissions Trading Scheme Review Panel.

New Zealand Steel wishes to appear before the Review Panel on 20 April and will be represented by its President, Mr. Simon Linge and the Vice President, Strategic Projects, Dr. Norm Clark. Matters relating to this and previous submissions should be directed to Norm Clark at norm.clark@bluescopesteel.com or telephone 09 375 8955.

Terms of Reference

NZ Steel's submission specifically responds to the Emissions Trading Scheme Review 2011: Issues statement and call for written submission. Emissions Trading Scheme Review Panel. Wellington: Ministry for the Environment

Section 1: Background Information

Company Profile

New Zealand Steel Limited (NZ Steel) operates a fully integrated steel mill at Glenbrook, South Auckland. It is a wholly owned subsidiary of BlueScope Steel Limited of Australia.

NZ Steel produces a range of iron and steel products from raw materials at its mill at Glenbrook on the southern shores of the Manukau Harbour which lies in the Franklin District near the town of Waiuku. It began production in 1968 and major expansions completed in 1987 created an integrated steel mill.



NZ Steel produces a range of flat steel products for both domestic and export markets. Slabs are rolled into hot and cold rolled products, which are then on-sold or further, processed into products like pipe, galvanised steel, ZINCALUME® steel and COLORSTEEL® steel.

Section 2: International Relations

NZ Steel normally exports about 50% of its product, worth approximately \$280m in 2010 (\$310 in 2007). These exports compete, amongst others, with producers from China, Brazil and Indonesia. Due to a significant contraction in domestic demand in 2008, due to the effects of the Global Financial Crisis, the proportion of products exported rose to in excess of 70%, accentuating the exposure of the Company to international competitors who will not be subject to carbon charges.

We are wholly owned by BlueScope Steel Limited, an Australian company. New Zealand's position on Emissions Trading legislation in relation to other countries is therefore doubly important to us as there is potential flow onto Australian legislation.

Without a legally-binding international treaty to combat climate change that imposes comparable carbon costs on our international competitors New Zealand must ensure that the NZ ETS does not result in unfair trade exposure, possible job losses, lower investment and carbon leakage.

Presently however, no other country requires their iron and steelmaking industry to pay direct carbon emission charges. This is because they recognise that CO₂ is an unavoidable consequence of the chemical reaction involved in manufacturing iron and steel. It is not an incidental by-product. Steel cannot be made from iron ore or ironsand without emitting CO₂ and there is currently no carbon free alternative technology worldwide for making new steel.

Since eighty percent (80%) of NZ Steel's emissions are directly from the iron and steelmaking process any charges incurred under an ETS do not result in decreased emissions. These charges are effectively just a deadweight tax. The only behaviour changes that will result in reduced emissions are reductions in the volume of iron and steel produced or cessation of production.

Both the European Union (EU) and Australia have, and are facing similar issues, especially regarding the place of iron and steel in these regimes.

The EU ETS, the largest multi-national emissions trading scheme operating in the world, has provided free carbon credits to steel producers during Phase 1. Under the second phase, iron and steel manufacturers receive 100% free permits for their direct emissions, in effect an exemption, until at least 2012.

New Zealand is radically out of step with the rest of the world as it has included iron and steelmaking in its Emissions Trading Scheme and NZ Steel is facing a direct cost impost as a result.



Section 3: Competition Issues

Steel is a globally traded product and NZ Steel is heavily exposed to international competition as a price taker. In 2010 0.04% of the world's steel was manufactured in New Zealand.

In its export and domestic markets, NZ Steel competes with steelmakers in countries such as China, Brazil, Korea and Indonesia that do not impose a CO₂ emission cost on their steelmakers. Under the China FTA there is no duty on imports from 1 Jan 2012.

All steel products imported to New Zealand come from countries that have yet to subject their iron and steel industries to emissions charging. EU steel is not a competitor for NZ Steel so what happens in the EU ETS is irrelevant to NZ Steel. Our competitors are Asian and the Americas.

Prior to the Act being passed, the New Zealand Institute of Economic Research (NZIER) analysed the impact of the Scheme on NZ Steel. Its conclusion was quite simply that *"the future of the plant will be negatively impacted"*.¹

Under the current ETS scheme, once fully implemented without allocations, at a carbon price of \$25/tonne, NZ Steel's steel manufacturing sector EBIT will reduce by about ^{s 9(2)(b)} _(ii) million per annum. Were it fully implemented in 2011, this imposition would turn NZ Steel from a profitable into a loss making business.

NZIER was very clear on the future of NZ Steel if it is required to compete with countries who are not subject to a carbon charge:

"In our view, it is very unlikely there would be any significant investment in the Glenbrook plant if it is required to compete with plants in other countries not subject to the same costs of carbon. It is likely the plant would be mothballed or closed in the event of a major plant failure or when any significant capital component required replacement. Glenbrook's steel production would shift overseas, and this would incur consequential impacts on jobs, incomes and exports in the local and New Zealand economies."

Section 4: Impact on the New Zealand Economy

NZ Steel is a major employer, exporter and contributor to economic activity.

In 2010, NZ Steel's national contribution to the economic output was worth almost \$2 billion. The company's 2010 steel manufacturing sector earnings before interest and tax (EBIT) were \$42 million

NZ Steel's export revenues were worth \$280m in 2010 (\$310 in 2007). Currently the company exports to the USA, Australia, Japan, China, Malaysia and the South Pacific.

¹ NZIER report 17 October 2007

NZ Steel employs 1200 people directly, making the company the largest single-site manufacturing employer in New Zealand. Overall, NZ Steel was assessed by NZIER as being responsible for the indirect employment of 4800 people throughout New Zealand.

All of these significant contributions to the NZ economy are now under pressure on multiple fronts:

- The increased competition from China which now produces more than 44% of world steel – total world steel production in 2010 was 1,414million tonnes. China became a net exporter of steel around 2006 and according to World Steel Association² its steel production grew 9.3% between 2009 and 2010 alone.
- Steel manufacturing is a capital intensive business which requires continual reinvestment to stay competitive in a world market. Failure to do so could result in the failure of major key equipment which could trigger a shutdown of part or the whole operation. Capital required to maintain current operations is around s 9(2)(b)(ii) per year. In addition to this the annual maintenance spend is around s 9(2)(b)(ii)
- Costs attributable to ETS, currently s 9(2)(b)(ii) s money not available to the business to reinvest for the future.
- Capex which could have improved efficiency and long term competitiveness has been postponed in response to the uncertainty surrounding the impact of the ETS on investment returns

Accordingly, the business is in a sensitive position and unlikely to survive in the long term due to the extra bottom-line costs from the existing ETS scheme if other countries do not impose a similar carbon cost on their steelmakers.

Section 5: Mitigation / Adaptation and Research

NZ Steel invests in activities to mitigate the environmental impacts of its activities and has a number of research projects underway and is one of the few New Zealand companies to be accredited the ISO 14001 environmental standard. It has undertaken a number of energy conservation and waste management initiatives recently, including:

- Having invested \$150 million in the late 1990's in off gas recycling waste heat generation, which generates 60% of our electricity demand
- Reducing Hot Strip Mill Furnace natural gas use by 10%, or 5000t CO₂
- Reducing material to landfill by 50% (vs. 2005) by recycling 80% of plastic waste, and 90% of paper (as well as a range of other measures)
- Having established a Community Environmental Committee in the 1970s that meets with local community and Iwi representatives to review our environmental performance and compliance

² <http://www.worldsteel.org/?action=newsdetail&id=319>

In addition, NZ Steel is also working on a number of long term research projects designed to further increase energy efficiency, reduce CO₂ emissions and utilise renewable energy. Some of these projects include:

- Replacing the Kiln Process to reduce coal consumption by up to 40%. This is still in the very early stages of research and is unlikely to be commercially available within the next decade. Capital cost to implement is likely to be >\$500m. However, imposition of a domestic carbon price on NZ steel is likely to make it extremely difficult to finance capital investment of this nature as the allocation level reduces over time
- Examining the potential of using charcoal as a replacement for a proportion of the coal used in the ironmaking process. While trials may be undertaken in the next 5 years, commercial adoption of this technology is likely to take longer and will depend on an assessment of the impact of the material on the sensitive ironmaking process and our ability to source sufficient quantities of high quality charcoal to replace coal.
- Working with Lanzatech to produce 2nd generation biofuels from CO/CO₂ in waste gases
- Investment and active involvement for three years in a research consortium (with Fletchers, BRANZ, Scion and Waitakere City Council) called Beacon Pathway, which has had considerable success in researching ways to make residential buildings more sustainable and energy efficient.

These programmes were all initiated without the incentive or imperative of an Emissions Trading Scheme, and are simply part of our usual business practices.

Section 6: NZ Steel Industrial Allocation for the activity of 'Iron and Steel manufacturing from iron sand'

In late 2010 NZ Steel reached an agreement with the Ministry of the Environment for the allocation of NZU's to cover the iron and steel manufacturing at Glenbrook as defined in the Regulations.

s 9(2)(b)(ii)

s 9(2)(b)(ii)

Section 7: Formal submission form Questions

This document is an Appendix to this submission.

Section 8: Recommendations

We ask the Review Panel to:

- 1 Recommend a continuation of the existing transition arrangements, fixed price of \$25, two-for-one surrender obligation and postpone phase-out of allocation, until such time as our key trading partners (China, USA, Indonesia, Japan) impose a similar cost of carbon on their steel industries.
- 2 Review the scheme details to allow coal FEM's to be eligible for free allocation of NZU's or for NZ Steel to receive an allocation to cover these costs.

6 April 2011



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30 March 2011

ETS Review Panel
Ministry for the Environment
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Dear Mr Caygill

Transpower Submission to the Emissions Trading Scheme Review 2011

Thank you for the opportunity to make this submission on the issues statement and call for written submissions dated March 2011. Our submission focuses on the issue of the ETS coverage of synthetic greenhouse gases and in particular sulphur hexafluoride (SF₆). Our submission is that we do not believe that the ETS should cover the synthetic greenhouse SF₆ from 2013, as currently legislated.

In the remainder of our submission we identify:

- Transpower's current SF₆ management practices and the focused efforts made to reduce emissions to atmosphere;
- Outline why we believe the ETS as currently legislated is inappropriately focused on a cost penalty against all SF₆ imports rather than focusing on emissions of gas to atmosphere; and
- What alternative policy tools could be used to encourage reduction in SF₆ emissions, which include fiscal obligation for emissions to air.

1 Transpower's Current Management of SF₆ Gas

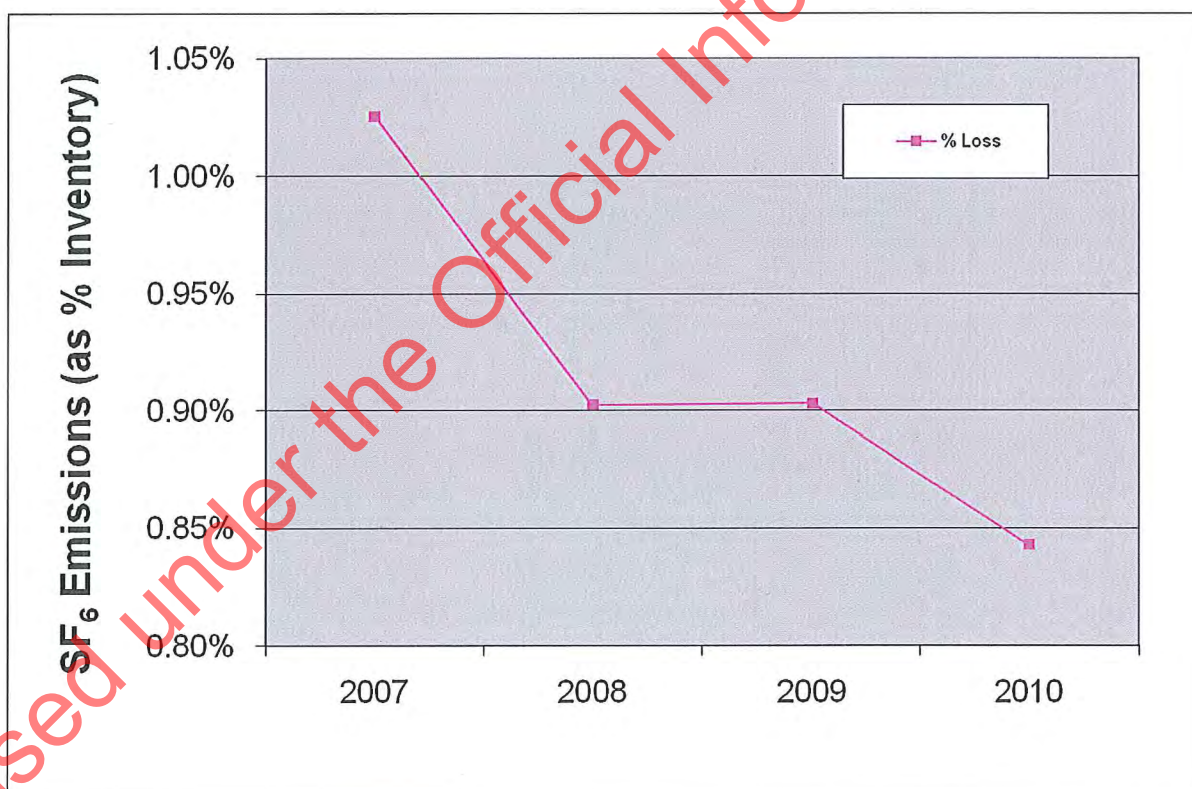
You will be aware that Transpower holds 80% of the national inventory of SF₆ and it represents (in our 09/10 carbon footprint report) 56% of our greenhouse gas emissions. SF₆ is used as an electrical insulating gas in switchgear and circuit breakers.

In 2004 Transpower signed up to a non-binding Memorandum of Understanding (MoU) with the Crown regarding SF₆ emissions. Under this MoU, Transpower agreed to:

- Adopt best practice to minimise SF₆ emissions.
- Limit emissions of SF₆ to < 2% of our inventory.
- Provide an annual inventory of SF₆ stock and losses in accordance with internationally recognised guidelines.

In turn, the Government exempted Transpower from costs arising from the use of SF₆ under climate change policies. Under this MoU Transpower has a proven record of reporting on our emissions and meeting the emission target. Most of the MoU expires on 31 December 2012, however the requirement for Transpower to assess our performance against our target and to monitor and report our inventory continues until 30 April 2014.

Transpower has always met the terms of the MoU and we moved beyond it in developing our own internal target of limiting SF₆ emissions to < 1% of our inventory, which we now have an established track record of meeting as shown in the graph below.



Despite this, we have recognised that further improvements can be made to reduce SF₆ emissions, which make up 56% of our carbon footprint (in 2009-10). To this end, an SF₆ working group was established to focus on how we can further reduce our SF₆ emissions, which result from equipment leaks and handling errors during filling.

There are several ways in which we are moving to reduce our losses, including:

- Reducing the time taken to identify and fix leaks including the recent purchase and employment of a high technology SF₆ leak detection camera and gas sniffers.
- Increasing funding for repairing/replacing leaky equipment.
- Improving policies and processes so that the worst performing equipment is repaired or replaced first.
- Purchasing new filling equipment to reduce handling errors and losses during top-ups of equipment.
- Implementing a system of ongoing training and internal accreditation for contractors involved in SF₆ equipment top-ups.

The working group established and is working towards an additional target to achieve a 40% reduction in SF₆ losses from circuit breakers in the period to June 2012, based on 2008/2009 emissions. As such Transpower considers that the MoU with MfE has been highly successful in incentivising proactive management of SF₆ releases and provides a basis for ongoing control of SF₆ releases.

2 Why the ETS is inappropriate for reducing SF6 emissions

In Q17 of your issues statement and call for written submissions you ask, 'Should the ETS cover synthetic greenhouse gases (SGG) from 2013, as currently legislated'?

In Transpower's view, it is appropriate that SF₆ gas be regulated in order that the minimisation of releases of this potent greenhouse gas is appropriately incentivised.

We do not believe that this is achieved by the ETS as currently regulated because:

- The ETS is not directed at reducing emissions specifically but at reducing importation of SF₆.
- This is a blunt tool as very little of the SF₆ imported is actually released to air but the environmental cost is borne on all imported SF₆ making some technologies inappropriately expensive.
- For a number of applications, there are no suitable alternative technologies; and
- For gas insulated switchgear reduced landscape and land-use impacts may be forgone if the ETS makes the technology prohibitively expensive. (The cost of SF₆ will rise dramatically under the ETS).

We outline these issues in more detail below.

2.1 The focus on imports of gas

Importers of SF₆ will have an obligation to surrender 'emissions units' from 1 January 2013 for every tonne of CO₂ equivalent that they import, rather than on the basis of gas released to the environment. Based on MfE's predicted market price of \$50 per tonne of CO₂ equivalent, (tCO₂e), for 2013 and beyond, and the SF₆ Global Warming Potential of 23,900, the cost of SF₆ under the ETS would rise from \$30/kg to

\$1225/kg. The market price for carbon will be variable so we can't be certain that this will be the future price, however we do know the SF₆ price increase will be very large.

Less than 1% of our installed SF₆ might leak and be released to atmosphere per year. The majority of the SF₆ will never be released, it will be used in equipment which has a typical installed life of 35 years, and then be recycled or destroyed. Although credits can be gained for destroying or exporting SF₆, Transpower is not likely to take these actions within the next 50 years or so because the SF₆ will be held in equipment and reused. Therefore, the upfront cost of the ETS regulation is considered to be very high.

2.2 Absence of Alternative Technologies

The ETS in its current state provides a strong incentive to move away from using SF₆ in high voltage electrical equipment due the considerable increase in the cost of the gas under the scheme. SF₆ is the preferred insulator because it has excellent insulating and arc-quenching properties, which enable much more compact equipment design than would otherwise be possible. At present few suitable alternative insulators are available so moving to alternative technologies is not currently possible for a range of applications. The NZ market is not significant enough to change the pattern of transmission technology development of manufacturers.

2.2.1 Circuit Breakers

As regards the use of SF₆ in circuit breakers, (which currently accounts for 40% of Transpower's SF₆ inventory) the current lack of alternative technology means that this ETS obligation will have little impact on the level of SF₆ imports related to that asset.

The leading alternative technology for circuit breakers available at 33 kV and below is vacuum interrupter circuit breakers using air insulation. This is below the voltages used on Transpower's network, which is predominantly 110 kV and 220 kV. Even at 33 kV and below, SF₆ is widely used by manufacturers to enable the physical size of the equipment to be reduced.

There is currently only one manufacturer who has developed a commercially available vacuum circuit breaker which is rated to 145 kV, however these circuit breakers have not yet been widely accepted due to their limited electrical performance.

A number of other manufacturers are currently developing this technology, however it is expected to be many years before this technology is commercially available at Transpower's network voltages. This may in time provide an alternative but would not dramatically reduce our existing footprint of SF₆ and there is little indication that this technology will cater for the higher 220 kV transmission voltage.

An older technology, air blast circuit breakers are obsolete and are no longer available from manufacturers. In addition although 'environmentally friendly' with

respect to carbon emissions they create noise issues. They are also complex to maintain, parts are expensive, and generally contractors no longer have the skills to adequately maintain them.

Another older technology is bulk oil circuit breakers. Again these are obsolete and are no longer available from manufacturers. These circuit breakers have associated environmental, safety and health issues. A typical 110 kV bulk oil circuit breaker contains more than 6,000 litres of oil. Major servicing requires complete removal of this oil to temporary storage, and maintenance on the interrupter must be carried out in a tightly confined space within the circuit breaker tanks.

In summary, vacuum interrupter circuit breakers are the most promising technology for moving away from the use of SF₆. However, it seems that this will not be a viable option for Transpower in the medium term as it is not yet an available technology at high voltages.

2.2.2 Gas Insulated Switchgear and potential loss of other environmental improvements

There are two main types of switchgear. These are Air Insulated Switchgear (AIS) and Gas Insulated Switchgear (GIS). For AIS systems, the electrically - live external connections are exposed to the atmosphere and rely on air to provide phase to phase and phase to earth insulation clearances. In contrast, GIS has most, sometimes all, live parts enclosed in tubes containing pressurised SF₆ insulating gas. GIS equipment enables compact substations to be designed. Typically GIS substations occupy around one-quarter of the land area required for AIS, this is particularly useful for inner city substations where land availability and visual intrusion impacts would not permit the use of AIS equipment. The high cost of all imported SF₆ gas may affect the opportunity to reduce such impacts by employing GIS technology and in other cases where space means we have to use, it will just affect an increase in the technology cost. By way of example, Transpower's current Hobson Street GIS substation development in the Auckland CBD is only possible using GIS equipment due to constraints on space.

The table below summarises the pro's and cons of AIS versus GIS.

Description	AIS	GIS
Relative Equipment Cost (without ETS)	1	1.5-2.5
Visual impacts	Greater Visual impacts due to: • Larger footprint • Equipment is difficult to conceal • Dense coverage of equipment	Less visual impacts due to: • Smaller footprint • Easier to visually mitigate • Equipment housed within building • Easier to screen with landscape screens & vegetation

Operational considerations	- Noisy during switching operations - Operation vulnerable to atmospheric pollution - Higher metallic corrosion - Higher maintenance costs	- Low noise - Unaffected by atmospheric pollution - Low corrosion due to enclosure - Low maintenance costs
Property costs	Additional property costs	Lower property costs
Civil works	Increased civil works due to: - Larger footprint - Greater volume of cut fill required	Reduction in civil works due to: - Smaller footprint - Smaller volume of cut and fill
Community acceptance	Less acceptable due to relatively high impacts.	More acceptable due to low footprint, low noise and lower visual intrusion.

The increased cost of SF₆ under the ETS will further increase the cost difference between AIS and GIS equipment. The influence of this cost increase on GIS investment decisions will depend on the size of the equipment cost relative to the overall project budget. On a current GIS investment at Otahuhu the installed cost would have been increased by 33% due to increased SF₆ costs if constructed after 2013 under the ETS.

In some marginal cases the increased cost of SF₆ may result in an AIS solution being chosen with it's associated detriment as indicated in the table above.

3 What are the alternative policy tools

3.1 Policy Tools for encouraging reduction in SF6 emissions

3.1.1 Building on the existing MoU

We propose that any exclusion from the ETS for SF₆ is coupled with a continuation and or 'ramping up' of the existing MoU. This could include:

- Changing the MoU from voluntary to mandatory;
- Ongoing reporting on our inventory and emissions;
- An annual review of the emission target, currently 2% of our inventory; and/or
- An obligation to buy emission units (NZU's) for any SF₆ released to atmosphere in a given year.

We believe that moving to a mandatory form of the ETS would provide public confidence that SF₆ releases to atmosphere were being appropriately controlled, while removing the disadvantages of current ETS legislation identified above. It

would maintain the incentives to reduce emissions and these could be increased over time either through tightening the target or through the increasing value of NZU's.

3.1.2 Inclusion in a mandatory accreditation of SGG handlers

The issues paper identifies the potential for mandatory accreditation of SGG handlers. Such a scheme could be made applicable to SF₆ handlers. As identified in section 2.1 above, Transpower are currently improving the training and competency of contractors who undertake gas handling operations and we have already recognised the value of implementing such quality mechanisms in this area.

3.1.3 Periodic review of alternative technologies

We also believe it may be of value to introduce a mandatory requirement to assess and report on alternative circuit breaker and switchgear technologies. This could include review of commercial availability at high voltages. This could be a bi-annual requirement for example.

Transpower can confirm that it can be available to discuss this submission with the panel on any of the indicated dates

Yours sincerely



Matthew Walker
Senior Environmental Advisor



SUBMISSION TO

The Ministry for the Environment

on

***Gazetting New Zealand's 2050
emissions reduction target***

By

Beef + Lamb New Zealand
Deer Industry New Zealand
Meat Industry Association

28 February 2011

1. Introduction

- 1.1 Beef + Lamb New Zealand Ltd (B+LNZ), Deer Industry New Zealand (DINZ) and the Meat Industry Association Incorporated (MIA) welcome the opportunity to make a submission on the gazetting of the 2050 emissions reduction target for New Zealand.
- 1.2 B+LNZ is an industry-good body funded under the Commodity Levies Act through a levy paid by producers on all cattle and sheep slaughtered in New Zealand. B+LNZ's activities aim to increase preference for New Zealand beef and sheep meat internationally and domestically; to maintain and extend trade access for New Zealand red meat; and to fund research and development to help improve the profitability of New Zealand farmers.
- 1.3 DINZ is responsible for promoting and assisting the development of the New Zealand deer industry. Deer Industry New Zealand has a worldwide co-ordination role through research and promotion of quality products derived from deer - especially venison, velvet and co-products.
- 1.4 MIA is a voluntary trade association representing New Zealand meat processors, marketers and exporters. It is an Incorporated Society (owned by members) that represents companies supplying virtually all of New Zealand sheepmeat exports and all beef exports, consigning 15 percent of our nation's exports by value (26 percent of New Zealand's primary sector export revenue). The New Zealand meat industry earned \$5.7 billion in export revenue in the year ended June 2010.
- 1.5 B+LNZ, DINZ and MIA (collectively 'the industries') continue to be actively engaged in climate change and other environmental issues that affect the pastoral production sector.

2. The submission process

- 2.1 The industries note that publicity surrounding the gazetting of the 2050 target has been limited, comparatively little supporting information has been made available and the time period that has been allowed for the preparation of submissions is not satisfactory.
- 2.2 When considered collectively, these observations suggest that the Ministry may view this particular consultation exercise merely as a requirement dictated by process, rather than a genuine attempt to allow stakeholder opinion to influence decision making.
- 2.3 In response, the industries' submission must therefore also consider conditions and other context into which any 2050 emissions reduction target must sit despite being opposed to the setting of any target for 2050 at this point.

3. Evidence based policy making

- 3.1 The industries are gravely concerned that there appears to have been no analysis undertaken to inform the setting of the 2050 50% reduction target. Without detailed analysis of the potential impacts of this target on the New Zealand economy, society and pastoral sector in particular, We are unable to make adequately informed comment on this level of emissions reduction.
- 3.2 Further, we submit that it is wholly inappropriate for the Ministry to set a target in legislation prior to undertaking and presenting such analysis, owing to the substantial impacts potentially associated with such a target. It would seem that in the context of the significance of the target for the New Zealand economy, Treasury advice provided at the time the 2020 target was set remains pertinent:

"Setting the [2020] target is possibly the most important decision Ministers will make [this year], because of the economic and fiscal costs it will end up imposing on New Zealand."¹

- 3.3 Point 3.1 notwithstanding, the industries are concerned about the magnitude of the proposed reduction target. We question the wisdom of setting such a high figure when approximately half of New Zealand GHG emissions come from agriculture and where cost-effective reduction interventions do not, and may never, exist.

¹ Paragraph 78 <http://www.mfe.govt.nz/issues/climate/emissions-target-2020/cab-paper-2020.html> Accessed 2011-02-24

3.4 In light of the absence of any analysis surrounding the 50% reduction target, we wonder if the apparently arbitrary '50 by 50' approach, as proposed here and adopted by some other nations cited in the consultation pamphlet, has more to do with media friendly messaging than robust economic and climatic modelling.

3.5 The industries strongly recommend that no target for emissions reduction is set before rigorous analysis of the likely impacts and feasibility of a range of GHG reduction scenarios has been undertaken and presented to stakeholder groups.

4. Target setting and international comparisons

4.1 The industries acknowledge that it is important for New Zealand to be seen to do its "fair share" to reduce global emissions. However, we also submit that it is unfair and unwise for New Zealand to seek to arbitrarily match emissions reduction commitments made by certain other developed nations with radically different emissions profiles.

4.2 Indeed, regarding the international reputation driver that appears to be evident in setting the proposed target, the industries have concerns about what impact failing to meet or renouncing a target that later (either following adequate analysis or experience) proves to be too ambitious.

4.3 We note that the consultation material continues to reference New Zealand's comparatively high emissions production per capita as a reason to set an 'ambitious' target. In attempting to compare various nations' emissions per capita, measures of emissions *consumption* are a much more equitable indicator of a nation's contribution than measures of emissions production. This is the accepted approach adopted for large exporters of fossil fuels and it is inconsistent that this is not similarly applied to primary production.

4.4 The industries wish to draw attention to recent research that calculated per capita emissions consumption by nation that found New Zealand 25th amongst the nations studied². This study showed that a New Zealander's carbon footprint is only 50% and 75% the size of the average person living in the Australia or the United Kingdom, respectively. Put another way, our emissions reduction efforts are already about 50 per cent ahead of those of Australia.

4.5 Therefore, In developing and publicising New Zealand's future commitments to emissions reductions, the industries recommend that

² Hertwich, E., Peters, G., (2009) *Carbon Footprint of Nations: A Global, Trade-Linked Analysis*. Environmental Science and Technology.

much more emphasis is placed on comparisons between nations in terms of consumption, rather than production.

5. Target setting: limits or intensity

- 5.1 Recently completed research has shown that New Zealand's beef and lamb have comparable or more favourable carbon footprints than any of those so far undertaken for other countries. Setting absolute targets in this context is wholly counter-productive, as the likely result of reducing production in New Zealand will be to increase comparatively inefficient production of goods elsewhere, and thereby increasing global emissions.
- 5.2 The industries would also like to bring the potential conflict between reducing total emissions and world food security to the Ministry's attention and suggest that intensity targets are much more suitable for applying to food products than approaches that rely on absolute limits.

6. Any 2050 emissions reduction target must be conditional

- 6.1 As set out above, the industries do not agree that it is appropriate to gazette a 2050 emissions reduction target without presenting adequate supporting analysis. However, if the Ministry insists on doing so, the industries submit that it is essential that the same conditions that were applied to the 2020 target be associated with any future target.
- 6.2 In addition, the industries assert that a further condition must be associated with any 2050 emissions reduction target that:
- recognises the uniqueness of New Zealand's emissions profile among developed countries
 - ensures the global environment is protected by incentivising production in the most carbon efficient locations
 - recognises the importance of food security

Accordingly, the industries recommend that this additional condition reads:

"That mitigation technologies are available, and economical, which allow New Zealand to meet the reduction target without limiting food production in New Zealand"

7. Recommendations

- 7.1 The industries strongly recommend that no target for emissions reduction is set before rigorous analysis of the likely impacts and feasibility of a range of GHG reduction scenarios has been undertaken and presented to stakeholder groups.
- 7.2 In developing and publicising New Zealand's future commitments to emissions reductions, the industries recommend that much more emphasis is placed on comparisons between nations in terms of consumption, rather than production.
- 7.3 The industries recommend that the Ministry work with primary production industry representatives to develop intensity based targets for GHG emissions, subject to conditions surrounding changes in technical and economic feasibility of reducing per unit emissions that occur as technologies develop.
- 7.4 The industries strongly recommend that the conditions that were applied to the 2020 reduction target are also applied to any 2050 target, also including a further condition reading: *"That mitigation technologies are available, and economical, which allow New Zealand to meet the reduction target without limiting food production in New Zealand"*

8. Contact Details

For further information, please contact:

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28 February 2011

2050 Emissions Reduction Target Consultation
Ministry for the Environment
PO Box 10362
Wellington 6143
(via e-mail to 2050target@mfe.govt.nz)

DairyNZ submission on New Zealand's 2050 Emissions Target for Greenhouse Gases

DairyNZ welcomes the opportunity to comment on New Zealand's 2050 emissions target for greenhouse gases.

DairyNZ is the industry good organisation representing New Zealand's dairy farmers. Funded by a levy on milk solids and through government investment, our purpose is to secure and enhance the profitability, sustainability and competitiveness of New Zealand dairy farming. We deliver value to farmers through leadership, influencing, investing, partnering with other organisations and through our own strategic capability. Our work includes research and development to create practical on-farm tools, leading on-farm adoption of best practice farming, promoting careers in dairying and advocating for farmers with central and regional government.

As noted in our submission on the 2020 emissions target to greenhouse gases (dated 24 July 2009), DairyNZ counsels a cautious and conditional approach to target setting, particularly given the uncertainty that surrounds the treatment of agriculture emissions from competitive food producing nations such as New Zealand.

Setting a 2050 target is a complex undertaking requiring thorough analysis and consideration

Setting a greenhouse gas emissions target for New Zealand is an extremely complex undertaking. As with setting our 2020 emissions target, there are many interests (both public and commercial) that must be taken into account whilst also being conscious of the signal our target may send internationally. There is a lot at stake for the commercial sector and thus the New Zealand public if we get this target wrong.

We are therefore disappointed at the lack of analysis underpinning the proposed 2050 emissions target of a 50% reduction in New Zealand's greenhouse gas emissions from 1990 level (or "-50 by 50").

As is noted in the Minister's Position Paper on Gazetting New Zealand's 2050 emissions target, it is appropriate for New Zealand to do its "fair share" in terms of international climate change action. The paper also suggests that this target is comparable with targets set by other developed nations.

However, there is insufficient information provided to enable us to evaluate what our competitors, trading partners and other major emitters are doing in this space in order to draw conclusions on what our fair share should be, or how comparable our target actually is.

There is also an absence of analysis on what this target would mean for our economy, either at a national or sectoral level. Research prepared by Infometrics for the Greenhouse Policy Coalition¹ during the process of setting the 2020 target for greenhouse gas emissions highlighted the significant economic impacts these targets can have: an emissions reduction target of 40% by 2020 (such as has pushed by some NGOs) would potentially reduce every person's income by \$3,200 by 2020 and double the price of energy, thereby having an extremely deleterious impact on New Zealand's standard of living.

In the absence of such analysis, it is not possible to evaluate whether the proposed target is appropriate for New Zealand. Further detailed analysis of the target, including how it could be achieved and the consequent impact on the economy, is required before any such decision could be made. We suggest that it would be appropriate for such analysis to occur either as part of, or following, the current review into the emissions trading scheme. Therefore, DairyNZ considers that it is not appropriate to gazette a 2050 emissions target for greenhouse gas reduction at this time.

New Zealand's fair share in a global context

We must also bear in mind that climate change is not independent from other global issues. Food security is a grave concern for many countries, and UN Food and Agriculture Organisation forecasting suggests that global food production will need to double from 2005 levels in order to meet global food demand in 2050. Ensuring that both of these global imperatives are met demands an approach that supports agriculture and food production continuing to occur in the parts of the world that can produce food in the most carbon efficient manner possible.

DairyNZ considers that there is a need for a more sophisticated approach to long-term target setting. Limits on emissions (and therefore on production) of goods that are traded globally will not necessarily result in net reductions of emissions. The flow of traded goods around the world means that only increases in global efficiency of production will result in mitigation of emissions. The World Economic Forum² noted that significant benefits could be derived from switching agricultural production to more carbon efficient locations, with a potential abatement of 178 million tons of CO₂-equivalent if 10% of traded food production was moved to more efficient locations. The gains would be even greater if the location of all agriculture was optimised to enable low carbon sourcing.

When considering the conceivable reductions across the sectors of New Zealand's economy, we consider that it is important to understand that NZ dairy farmers, with our pasture-based systems, already have one of the lowest carbon footprints of any dairy industry around the world. Simply transitioning New Zealand's economy away from producing tradable goods in order to reduce emissions will therefore not result in global emissions reductions. Production of primary goods will

¹ "General Equilibrium Analysis of a 40% Reduction in Emissions by 2020", Infometrics Limited, July 2009. Prepared for the Greenhouse Policy Coalition

² "Supply Chain Decarbonization", World Economic Forum, 2009.

simply move to other, less efficient geographies, with the potential to increase total global greenhouse gas emissions.

We therefore suggest that the Government should work with the various agricultural sectors to agree long-term intensity based targets. These industry intensity targets could sit alongside the government aggregate target and provide context should New Zealand agricultural exports continue to rise.

Any targets should be conditional

Notwithstanding our principle that a 2050 emissions target should not be gazetted at this time, DairyNZ considers that any emissions target should include conditions that reflect the changing global context for greenhouse gas emissions. Therefore, we recommend that the conditions were applied to New Zealand's 2020 target should be applied to any 2050 target. These conditions required that a comprehensive global agreement existed that:

- Set the world on a pathway to limit temperature rise to not more than 2°C;
- Required developed countries make comparable efforts to those of New Zealand;
- Required advanced and major emitting developing countries take action fully commensurate with their respective capabilities;
- Included an effective set of rules for land use, land-use change and forestry (LULUCF); and
- Enabled full recourse to a broad and efficient international carbon market.

As noted above, efforts to reduce emissions from the agricultural sector need to balance the twin global issues of climate change and food security. Actions to reduce greenhouse gas emissions should therefore focus on the efficiency of production rather than capping absolute emissions levels. DairyNZ therefore recommends that a new condition be added for the 2050 target:

- That there should be practical and cost-effective mitigation technologies available for reducing agricultural greenhouse gas emissions without limiting domestic food production.

DairyNZ would like to thank the Ministry for the Environment for the opportunity to comment on New Zealand's greenhouse gas emissions targets for 2050. Please contact s 9(2)(a)

if you would like further clarification on any of the points in this submission. We look forward with engaging with you on this matter, and other climate change related issues, in the future.

Yours sincerely



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28 February 2011

2050 Emissions Reduction Target Consultation
Ministry for the Environment
P O Box 10362
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Email: 2050target@mfe.govt.nz

Dear Sir / Madam,

SUBMISSION: NEW ZEALAND'S 2050 EMISSIONS REDUCTION TARGET

Federated Farmers of New Zealand submits this government and likely any government in the future could not afford to commit New Zealand to a 2050 emissions target. Should this government proceed to gazette such a target, such a move should be delayed to have regard for broader processes and the target should be conditional in much the same way as the 2020 target.

The Minister's position paper appears to be the only material the government has released to support the „need“ for an emission target out to 2050. This four-page brochure does little more than offer vague statements, half-sentences and partial references to what a few other countries have offered around a 2050 target. The Federation has to question the level of thought the government have put into their proposed target when there is no analysis describing just how New Zealand is meant to meet such an ambitious target, nor any description of the burden New Zealanders will face in meeting that challenge.

When the government previously consulted on the 2020 target, Treasury at least undertook modelling that looked at this country's technical mitigation potential to get us to 10-20% below 1990 levels come 2020. That modelling showed reaching that target was more than a little ambitious given how far above 1990 levels this country's emissions have been assessed to have reached, and the challenges presented by a large proportion of emissions assessed as coming from agriculture and energy. Where a significant proportion of our energy generation already comes from renewable sources, agriculture is a biological system where a mechanical view of emissions reduction has no place.

Given the obvious challenge to honouring the 2020 target, one has to question how New Zealand is meant to honour the proposed 2050 target. The challenges we currently face in reducing emissions will not go away in the next 10 years, let alone the next 40 years.

The Federation also has to question why the government seems so insistent on gazetting a 2050 target now, when other processes have a clear role in informing the decision on what New Zealand should commit to the long-term. The outcome of the ETS Review has direct

relevance as regards our international obligations and the extent to which domestic efforts can honour those obligations. Similarly, the next COP in Durban should provide further understanding around the shape and nature of future commitments. Both events would helpfully fill a lot of the gaps in the Minister's position paper that need to be covered before this country can be expected to support the proposed 2050 target.

Federated Farmers is concerned that a target of 50% below 1990 levels has been proposed with little offered in the Minister's position paper to support a target at that level. Although similar targets may have been offered by a few other countries, one has to understand the cost burden on New Zealand to reach this target could be somewhat greater than those other countries. New Zealand has embraced an economic model relatively devoid of subsidies and domestic support, certainly to a level not seen most recently in Europe and the USA. The scale and breadth of inefficiency that other countries suffer can not easily be seen in New Zealand, where the pursuit of efficiency after the 1980s reforms was absolutely necessary. It is difficult to see where the low-hanging fruit will be found in this country to honour as ambitious a target as 50% below 1990 levels by 2050.

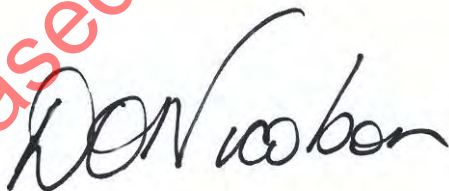
Of further concern is that the proposed 2050 target has been put forward as a blanket target. Although we previously argued against the 2020 target, that target did at least have conditions around it that ensured New Zealand would only commit to action where other countries had agreed to do so. More specifically, the target would apply where:

- *the global agreement sets the world on a pathway to limit temperature rise to not more than 2°C;*
- *developed countries make comparable efforts to those of New Zealand;*
- *advanced and major emitting developing countries take action fully commensurate with their respective capabilities;*
- *there is an effective set of rules for land use, land-use change and forestry (LULUCF); and*
- *there is full recourse to a broad and efficient international carbon market.*

These conditions should have at least been included as part of the proposed 2050 target. Ideally, an additional condition should be included requiring that "*there are mitigation technologies available which are economical and allow New Zealand to meet the target without limiting food production in New Zealand.*"

Federated Farmers takes seriously its responsibilities as New Zealand citizens. We know it is vital to use resources efficiently and wisely. We also know that communities need to be resilient to a variety of challenges both natural and created. For much of the past 20 years or so agriculture, that has often been berated, still provides the lion's share that anchors the New Zealand economy and will continue to do so for generations to come.

Yours sincerely,



Don Nicolson
President

28 February 2011

2050 Emissions Reduction Target Consultation,
Ministry for the Environment,
By email to: 2050target@mfe.govt.nz,
Wellington,
New Zealand

Dear Sir / Madam,

Re: Government Gazetting of 2050 Emissions Reduction Target

Executive Summary

1. The Government has not released any material showing sectoral analysis of emissions reduction possibilities through until 2050. Without this material Fonterra is unable to comment on the achievability of the 50 percent target.
2. The gazetting of a national 2050 emissions reduction target should be, if possible, avoided. In any event, the target must be conditional and accompanied by clear guidelines on how progress towards that target will be assessed in the short-term. Fonterra recommends that the same conditionality that accompanied the Government's 2020 emissions reduction target is applied to the 2050 target.
3. Fonterra concludes that the target can only be met with a portfolio of measures that include reductions in agricultural emissions. Fonterra is hopeful that technological advances over the next forty years will allow this to occur. However, as we must remain cognisant of food security issues while tackling climate change, Fonterra recommends an additional condition accompanies this target that requires the existence of technology which allows New Zealand to meet this target without reducing food production.
4. Fonterra proposes that for certain tradable sectors, intensity targets rather than absolute targets are set. Government should work with industry to establish these targets. Mitigation efforts for trade-exposed and food-based goods should focus on the efficiency of production, rather than restrictive caps on emissions. Placing restrictive caps on emissions on the comparatively efficient New Zealand agricultural sector will result in food production moving offshore with a resultant likely increase in global emissions.
5. Fonterra recommends the Government include clear guidelines on expectations of progress towards any target that may be set. New Zealand's emissions reduction pathway towards this 2050 target is likely to be curved. In the short-term, it may even be the case that New Zealand's emissions continue to rise. The ETS Review Panel is required to assess the contribution of the Emissions Trading Scheme towards any emissions reduction targets that are in effect. Inclusion of guidelines on the likely emissions pathway towards this target will avoid confusion on the implications of any short-term emissions trends at the time of these assessments.

Introduction

6. Fonterra thanks the Government for the opportunity to make a submission on the gazetting of the Government's 2050 emissions reduction target. This submission will begin by commenting on the level of ambition contained within the target and how this should be compared to other nation's targets. It will then suggest that conditions be placed alongside the target, note a proposal for greater use of intensity based targets for certain sectors, recommend that the final target is accompanied by guidelines on the how to gauge progress in achieving this target and conclude by asking that modelling work is released to show the reductions expected from each sector in order to achieve this target.

Level of ambition

7. The Intergovernmental Panel on Climate Change calculates that, in order to limit warming to less than 2°C above pre-industrial levels, global greenhouse gas emissions will have to reduce by at least 50 per cent by 2050¹. This target should not be applied to every nation, sector or company equally. The United Nations Framework Convention on Climate Change (UNFCCC) principle of "common but differentiated responsibilities" between nations recognises this fact.
8. Mitigation should occur where it is cost effective, equitable and does not impede basic human rights such as freedom, equality, and access to food and housing. New Zealand is a developed country, but has a unique emissions profile amongst developed nations. A large proportion of New Zealand's emissions are associated with the production of food. This food is produced in a very emissions efficient manner by world standards. An equitable and efficient target for New Zealand will therefore likely be a lower reduction from 1990 emissions levels than that expressed by other developed nations.
9. Fonterra has performed extensive modelling on the achievability of emissions reduction targets within its own supply chain through until 2030. However, we cannot predict the reductions possible from the other sections of the New Zealand economy.
10. As Fonterra does not know how the 50 percent reduction target will be spread across different sectors of the New Zealand economy, we cannot comment on the particular achievability of the proposed target as it will apply to the dairy sector. Fonterra is concerned that the Government proposes to gazette a target without releasing detailed analysis of how that target can be achieved. We urge that consideration be given to publishing such modelling before any 2050 target is gazetted.
11. Fonterra does believe a 50 per cent reduction in the emissions *intensity* of dairy production may be possible by 2050 (from a 1990 baseline). How this translates into aggregate emissions reductions for New Zealand is difficult to calculate, and moreover, is not particularly relevant in global efforts to reduce emissions². More detail on this point is provided later in this submission.

Comparing national targets

12. A nation's comparative level of emissions is determined by complex factors. Emissions from electricity production and transport fuel are directly attributable to each nation's population and wealth, and can be compared directly. However emissions from production of tradable goods are a result of each nation's unique economic profile. Nations that have

¹ Intergovernmental Panel on Climate Change Forth Assessment Report, Working Group Three, Summary for Policy Makers, Table SPM.5

² The "Greenhouse Gases and Animal Agriculture Conference" recently confirmed the importance of an intensity approach to mitigation in agricultural sector. For detail see the conference report "Roadmap to progress: Ten keys to tackle livestock emissions"

a service based economy will naturally have lower emissions than a nation with a primary sector based economy. A nation which transitions its economy after 1990 will naturally have a movement in emissions.

13. Transitioning a nation to a „low emissions economy“ will not always result in global emissions reductions. In most cases production of primary goods will simply move to other, less efficient, geographies. An example of this is the recent reduction in European Union (EU) heavy industry and manufacturing. While this has reduced EU emissions, these goods are now imported from nations such as China. The increase in emissions in other nations to produce these goods is likely to be equal or greater than the EU fall, resulting in no global emissions benefit.
14. We note that government consultation on emissions targets continues to reference New Zealand's high emissions *production* per capita as a reason to set an „ambitious“ target. In attempting to compare various nations' emissions per capita, measures of emissions *consumption* are a far better indicator of a nation's contribution to emissions reductions than measures of emissions production³.
15. Fonterra notes the research of Hertwich and Peters published in Environmental Science and Technology⁴. This research calculated per capita emissions consumption by nation and found New Zealand 25th amongst the nations studied (results included as appendix). This study showed that a New Zealander's carbon footprint is on average lower than that of someone from many nations in transition such as Estonia and Slovenia, and only about three-quarters the size of the average person living in the United Kingdom. Put another way, our emissions reduction efforts are already about 25 per cent ahead of those of the UK.
16. In summary, in order to alleviate the issues raised above, targets should be reported in more detail than the aggregate national emissions level. Fonterra suggests that intensity targets for certain trade exposed sectors are used to complement this aggregate target. This idea is expanded upon later in this submission. Fonterra also recommends, in future consultation on this subject, that the Government present both emissions production and emissions consumption figures and explain the relevance of each.

Conditionality of target

17. Fonterra recommends that conditions be placed on New Zealand's 2050 emissions reduction target. Fonterra suggests that the conditions that were applied to New Zealand's 2020 target are even more relevant for New Zealand's 2050 target. These conditions required that a comprehensive global agreement existed before the obligations inherent in the target are binding and, in particular, this agreement:
 - 17.1. Set the world on a pathway to limit temperature rise to not more than 2°C;
 - 17.2. Require developed countries make comparable efforts to those of New Zealand;
 - 17.3. Require advanced and major emitting developing countries take action fully commensurate with their respective capabilities;
 - 17.4. Include an effective set of rules for land use, land-use change and forestry (LULUCF);

³ Emissions consumption per capita measures the carbon footprint of the goods and services consumed by a nation, while emissions production per capita measures the carbon footprint of the goods and services produced by a nation.

⁴ Hertwich, E., Peters, G., (2009) *Carbon Footprint of Nations: A Global, Trade-Linked Analysis*. Environmental Science and Technology.

17.5. Enable full recourse to a broad and efficient international carbon market.

18. New Zealand's emissions of agricultural methane and nitrous oxide in 2008 equated to 57 per cent of New Zealand's total 1990 gross emissions level⁵. As a result, in order to meet a 50% target, even if all other emissions sources within New Zealand were reduced to zero, agricultural gases would still need to be reduced by 14 per cent, from 2008 levels. A target of this magnitude therefore assumes current research into new methods of agricultural greenhouse gas mitigation will be successful. A condition pointing out this assumption is therefore called for.
19. Efforts to reduce emissions from the agricultural sector need to balance the twin global issues of climate change and food security. Mitigation should therefore focus on the efficiency of production rather than absolute emissions levels in certain geographies. Placing restrictive caps on agricultural production in certain geographies via emissions limits will result in less efficient locations being used for production and an increase in global emissions.
20. The World Economic Forum picks up this concern. Their 2009 report „Supply Chain Decarbonisation“⁶ states that significant benefits can come from switching agricultural production to more carbon efficient locations. The report estimates that if just 10 per cent of internationally traded agricultural production is switched to more efficient locations global emissions would reduce in the order of 178 million tonnes of carbon dioxide equivalent emissions (almost three times New Zealand's 1990 gross emissions levels).
21. In summary, Fonterra recommends that the existing conditions be extended to the 2050 target, and that a new condition be added strictly for the purpose of the 2050 target. This additional condition should read:

“That mitigation technologies are available, and economical, that allow New Zealand to meet the reduction target without limiting New Zealand food production”

Intensity based targets

22. There is a need for greater sophistication in long-term target setting. In the case of highly traded goods, such as dairy products, complex global trade flows mean that mitigation will only be achieved through increases in the global efficiency of production, rather than caps on production in certain geographies.
23. The New Zealand agriculture sector has compiled carbon footprint studies measuring the current emissions intensity of various agricultural outputs. In all cases New Zealand compares well to other nations on an intensity basis. This suggests that reducing agricultural production in New Zealand will only serve to increase global emissions.
24. Fonterra suggests that the Government work with the industries that compiled these footprint studies and agree to suitable long-term intensity based targets. Industry intensity targets will sit alongside the government aggregate target and provide context should New Zealand agricultural exports continue to rise.

Guidelines on reporting against targets

25. Fonterra notes that reviews of the Emissions Trading Scheme (ETS) are required to consider the contribution of the ETS on any targets that are in effect.

⁵ Ministry for the Environment, New Zealand Greenhouse Gas Inventory 1990-2008, April 2010

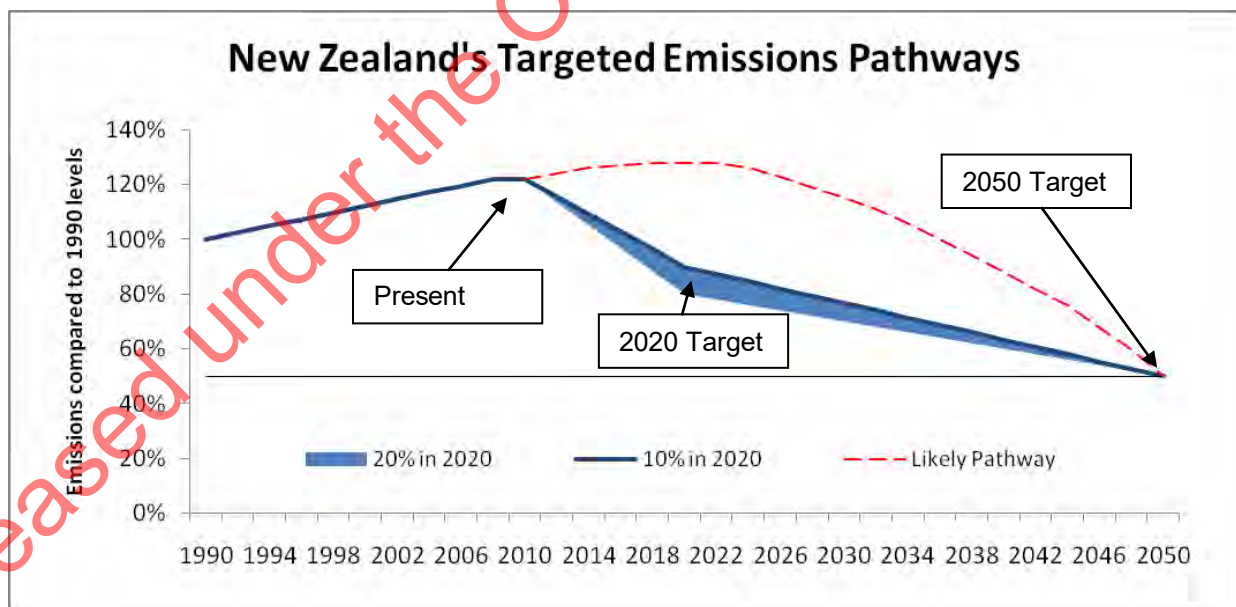
⁶ World Economic Forum, Supply Chain Decarbonisation, January 2009

26. It is Fonterra's view that progress towards a long-term target will take different forms over time. For example, in the initial period progress will be in the form of initiation of key emissions mitigation research and the introduction of an emissions pricing mechanism. Over the medium-term progress will be investment in new renewable electricity generation and new efficient transport systems. This will be accompanied with evidence of significant investment in renewable technology by the private sector. In the latter stages commercialisation of agricultural emissions reducing technology will become evident, along with major emissions reductions in other segments of the economy.



27. The trajectory of New Zealand's emissions reduction pathway will therefore be curved, rather than a straight line. It may even be that, for some time, New Zealand's gross emissions will continue to rise.
28. If the guidelines described above are adopted, the 50:50 target represents a much more pragmatic approach to emissions target setting than the existing 20:20 target. New Zealand has a very unique emissions profile amongst developed nations and is unlikely to make dramatic reductions in the short term (2010 to 2020). We note that when the 2050 and 2020 targets are plotted together, short-term reductions are steeper than long-term reductions (figure 1). We also note that the 20:20 target is a responsibility target rather than a hard reduction target. We therefore recommend that this short-term responsibility target is not used to measure emissions reduction progress.

Figure 1.



29. In summary, Fonterra recommends that the target is accompanied with clearer guidelines on the progress likely to be made in different sectors at different times. This will allow the ETS review panel to more clearly evaluate progress towards the target in the short and medium term. This is important if public confusion is to be avoided at the time of these reviews.

Distribution of reductions amongst sectors

30. National emissions reduction targets will always sit in the context of equivalent measures by other nations. The magnitude of New Zealand's target compared to that of other nations will have regard to many factors, including:
- 30.1. Global emissions reductions required to achieve long-term climate stabilisation objectives
 - 30.2. „Common but differentiated responsibilities“ amongst nations
 - 30.3. Relative cost of mitigation between different sectors, and the extent to which each nations current emissions are dominated by different sectors
 - 30.4. The relative level of emissions in 1990
 - 30.5. Population growth since 1990
31. In the lead-up to the Copenhagen Climate Conference the New Zealand Government advocated a target setting process based on bottom-up sector by sector analysis and comparative cost of mitigation as a percentage of GDP. This method recognises that different sectors face different mitigation costs. Fonterra supports such a method to target setting.
32. However, Fonterra has concern that once these targets are aggregated to a national level (for example the 2020 and 2050 targets) the methodology for determining the target is not shared with public stakeholders. Once the target is presented as a national ambition there is a natural tendency from the public to want to see equity between sectors in achieving such a target. However the targets are not based on equal mitigation from every sector. It is therefore important that the Government share methodology in determining targets in order to allow for a transparent public debate on a fair method of achieving these targets.

Key recommendations

33. Fonterra recommends:

- Any 2050 target be conditional against the same conditions as those listed against the 2020 target
- An additional condition be included which requires the target does not limit food production
- As global emissions will be determined by emissions consumption, the Government work with industry to set intensity based targets for key traded goods
- The Government provide clear guidelines for the ETS Review Panel, and the New Zealand public, on the expected shape of progress toward the target in the short and medium term
- The Government share modelling on how the target was calculated, including how it is envisaged the target will be achieved, with the public

Thank you,



Kelvin Wickham
Group Director, Supplier and External Relations
Fonterra Co-operative Group

Appendix 1 - Results from Hertwich and Peters, 2009.

Rank	State	Emissions Consumption Per Capita
1	Luxembourg	33.8
2	Hong Kong	29.0
3	United States	28.6
4	Singapore	24.1
5	Australia	20.6
6	Canada	19.6
7	Switzerland	18.4
8	Finland	18.0
9	Netherlands	16.7
10	Belgium	16.5
11	Ireland	16.0
12	Cyprus	15.9
13	United Kingdom	15.4
14	Denmark	15.2
15	Germany	15.1
16	Norway	14.9
17	Austria	13.8
18	Japan	13.8
19	Greece	13.7
20	France	13.1
21	Malta	13.0
22	Estonia	12.4
23	Slovenia	11.9
24	Italy	11.7
25	New Zealand	11.4
26	Taiwan	11.3
27	Spain	10.9
28	Portugal	10.8
29	Czech Republic	10.8
30	Sweden	10.5
31	Russian Federation	10.1
32	Hungary	9.5
33	Korea	9.2
34	Poland	8.7
35	Venezuela	8.1
36	Slovakia	8.0
37	Croatia	6.9
38	Uruguay	6.8
39	Latvia	6.7
40	Argentina	6.5
41	Bulgaria	6.1
42	South Africa	6.0
43	Lithuania	5.9
44	Mexico	5.6
45	Romania	5.2
46	Botswana	5.1
47	Chile	4.9
48	Turkey	4.6
49	Malaysia	4.2
50	Brazil	4.1
51	Colombia	3.4
52	Thailand	3.2
53	China	3.1
54	Tunisia	3.0
55	Peru	2.6
56	Albania	2.5
57	Zambia	2.1
58	Zimbabwe	2.0
59	Philippines	1.9
60	Indonesia	1.9
61	Morocco	1.9
62	India	1.8
63	Vietnam	1.7
64	Madagascar	1.5
65	Sri Lanka	1.4
66	Tanzania	1.2
67	Uganda	1.1
68	Bangladesh	1.1
69	Mozambique	1.1
70	Malawi	0.7

28 February 2011

2050 Emissions Reduction Target Consultation
Ministry for the Environment
PO Box 10362
WELLINGTON 6143

Submission on the plan to gazette a 2050 Emissions Reduction Target

The Greenhouse Policy Coalition welcomes the opportunity to make a submission on the proposal to gazette a 50% emissions reduction target for 2050 on 1990 levels. The Coalition would like to be heard in person if oral submissions are invited.

Introduction and background

In August 2009 the Government announced a 2020 responsibility target for New Zealand of 10-20% reductions below 1990 levels, which was conditional on a number of significant criteria. Following the Copenhagen and Cancun rounds of the Kyoto Protocol New Zealand remains committed to that conditional target.

Treasury analysis of the 2020 target showed that the comparative costs to New Zealand in meeting that target were high compared with other countries.

Following the latest Kyoto Protocol discussions in Cancun it is unclear whether a second commitment period will follow the expiry of CP1 in 2012 or what the nature of the international agreement(s) might be post-2012.

When the National Party adopted the "50 by 50" target back in 2007 the outlook for subsequent commitment periods under the Kyoto Protocol and a genuine and liquid global market for carbon credits was much more positive.

It is appropriate to reconsider any target for 2050 against this changed and changing international environment.

While the Coalition is not opposed to an aspirational target, any target for 2050 needs to be considered in the context of our 2020 target and should take into account the conditions around that target. Any 2050 target should be a responsibility target like the 2020 version.

This is because any target that is gazetted needs to be realistic in the context of what is achievable both in New Zealand and internationally. There is no value, and some investment risk, in promulgating a target which is out of step with the majority of our

trading partners and competitors and which may lock New Zealand into taking measures that impose an inequitable or damaging burden on the economy.

Those imposing a distant emission reduction target also need to consider the impact on long-term investment, which is inherently very risky and will be threatened by regulations that could readily be changed by future governments. We would therefore recommend that the Government retain the 2050 target as an aspirational target only. This point is discussed further under the "Business certainty" heading below.

However, if the government is determined to enshrine the "50 by 50" target in legislation then it should do so subject to the same conditions that apply to the 2020 target.

This submission highlights a number of issues presented in the "50 by 50" target consultation material:

- the concept of credibility versus competitiveness
- the challenge presented by our emissions profile
- the conditionality of the target
- giving certainty to business and long-term investors
- tracking progress towards the target
- what happens if New Zealand appears to be missing the target
- definition of a balanced target

Recommendations are listed at the end of the submission.

Credibility versus competitiveness

We accept that the Government wants New Zealand to have a 2050 target and that this is required on the grounds of maintaining environmental credibility and minimising our exposure to criticism in key markets and possible consumer resistance. However, it is essential that the target is comparable with specific countries, especially Australia, the US, Japan and China (our main trading partners/competitors) in order to ensure New Zealand businesses are not placed at a competitive disadvantage.

The consultation material shows the "50 by 50" target roughly measures up against Australia's 2050 goal (a 60% reduction on 2000 levels, equating to c50% on 1990 levels) and Canada's stated target (60-70% below 2006 levels, equating to 50-65% below 1990 levels). Japan's target (60-80% below 2005, equating to 55-80% relative to 1990) and the US goal (83% reduction on 2005 levels, equating to about 80% below 1990 emissions) appear to be significantly beyond New Zealand's proposed target. The EU's target (80-95% below 1990 levels) is likewise apparently well beyond New Zealand's.

China has no 2050 target, just an intensity-based 2020 target (to cut emissions per unit of GDP by 40-45% on 2005 levels). This intensity target cannot be expressed in terms of an emission reduction against a base year such as 1990 due to the immense variability in future GDP estimates. However, one model¹, estimating Chinese GDP in 2020 as varying between US\$1.5 and 5.1 trillion, suggests China's

¹ From the Center for International Earth Science Information Network (CIESIN), Columbia University, as referred to on the [US Climate Action Network](#) website.

intensity reduction pledge might represent anywhere from a 15% decrease to a 204% increase in emissions versus 1990 levels. This highlights the significant impact of economic growth where pledges are made relative to carbon intensity.

The raw targets themselves, however, do not tell the full story. New Zealand's "50 by 50" target is at present unconditional; gazetting it would give the target the formal status of a quasi-regulation. While it could readily be changed by a future government, the hurdle would be significantly higher. Australia's 2050 target is currently a pledge without formal legal status. Canada's target is a proposal only, as is the EU's 2050 goal. Japan's target is conditional on there being an effective international framework in which all major economies participate. The US target was part of a pathway for reducing emissions in the climate legislation that failed in the Senate last year. Currently, it has no status.

If New Zealand hardens up its commitment to a 2050 target while such a goal remains merely a proposal elsewhere, we once again run the risk of getting ahead of the rest of the world and exposing our businesses and consumers to costs that other countries do not face. The Government should be careful to frame the target in such a way that New Zealand keeps pace with key countries rather than leads them, particularly those with which we compete.

Focusing simply on the percentage targets that other countries present is also of limited use because it does not take into account the individual circumstances faced by different countries, such as population growth, and the ability to increase renewable energy generation and overcome technological blocks to emission reduction. We note this point is acknowledged in the consultation material. This issue is explored further below.

The Coalition cannot support New Zealand committing to a unilateral legally-binding target without significant conditionality along the lines of our 2020 target. We discuss the details of this conditionality later in this submission.

The challenge presented by our emissions profile

We acknowledge the three facts identified by the consultation material that make it hard for New Zealand to cut emissions: population growth, high renewable generation and agricultural emissions. The first factor means we have to struggle against an emissions growth path that most other developed countries do not have. The second suggests we are already doing our bit in terms of switching away from fossil fuels as an electricity generation source. The third raises a major challenge to any attempt to meet a reduction target.

Agricultural gas emissions make up 47% of total gross emissions – methane from stock comprising 32% and nitrous oxide from animal excreta and fertiliser making up 15%. There is no way New Zealand can meet a reduction target like 50% without slashing emissions of methane and nitrous oxide significantly. In many countries, agricultural emissions are being cut simply by implementing more efficient on-farm practices. New Zealand's farms are already perhaps the world's most efficient. Real emission cuts in this country can only be made by cutting stock numbers, which makes no sense economically, or adopting new technologies that reduce emissions. Whether New Zealand can meet the proposed "50 by 50" target will ultimately depend on the commercial availability of these technologies at farm level.

The implication of this is that achieving a 2050 target must be conditional on the availability of affordable agricultural mitigation technology at farm level.

We would also like to make a brief point here about the argument that New Zealand, as a developed country with high per capita emissions, should take on challenging emission reduction targets. The only reason New Zealand has relatively high per person emissions (we rank 11th) is because of our high methane and nitrous oxide figures. To be penalized because we are a very efficient agricultural producer, i.e. a small population producing a huge amount of food, is absurd in a world with a booming population and serious questions being raised about how they are going to be fed.

The conditionality of the target

As discussed above, any 2050 target must be conditional in line with conditions set by key countries – Australia, Japan, the US, China, Canada and the EU. The appropriate starting point would be the conditions applying to the 2020 target, which depends upon:

- there being a comprehensive global agreement that sets the world on a pathway to limit temperature rise to not more than 2C
- developed countries making comparable efforts to those of New Zealand
- advanced and major emitting developing countries taking action fully commensurate with their respective capabilities
- there being an effective set of rules for land use, land-use change and forestry (LULUCF)
- there being full recourse to a broad and efficient international carbon market

There is no reason why these conditions could not apply to a 2050 target, perhaps with some adjustment, e.g. the 2C target may not be appropriate forty years out from 2050. Given the rapid economic progress of major developing countries, the third condition is probably redundant for 2050. As the Australian Government's climate change adviser, Ross Garnaut, pointed out recently in his *Update Paper 3: Global Emissions Trends*, the progress of countries like China and India is moving them towards developed country status more quickly than expected even a few years ago.

The conditions need further definition around which countries New Zealand is comparing itself to – we recommend Australia, Japan, the US, China, the EU, Canada and South America. We also need a clear definition of what “comparable effort” means. We need, for example, to factor in New Zealand's role in leading the Global Research Alliance on Agricultural Greenhouse Gases and our role in research into agricultural emissions generally. We also need to define what is meant by “a broad and efficient international carbon market”. We interpret this as referring to there being comparable carbon pricing mechanisms among the countries and areas listed above.

Other conditions we would recommend are:

- A condition to reflect the need for affordable agricultural mitigation technology to be available at farm level before the proposed 2050 target can be achieved.
- The target should be linked to the current greenhouse gas measurement methodology, i.e. the 2011 Global Warming Potentials (GWPs) for gases

recognised by the UNFCCC. If GWPs change, especially for CO₂, methane or nitrous oxide, the 2050 target would have to be recalibrated.

- Regarding LULUCF, the target should be dependent on the continuation of the existing international rules.

Giving certainty to business and long-term investors

The consultation materials talk of a 2050 target giving "a clear long-term signal" to business. Identifying a target 40 years off can give no certainty to businesses and farmers since anything could happen in the interim. There is no way the current Government could draw up a set of rules that could not be significantly changed by the intervening dozen or so governments.

A key issue for industrial companies and larger firms which trade overseas is the impact of a 2050 target on major and long-term investment decisions, some potentially worth hundreds of millions of dollars. If the costs to be imposed in achieving a 2050 target are in excess of costs faced by competitors overseas, there would be a substantial risk of large investments being made in other countries rather than here. In order to make such investments in New Zealand, international firms need to be able to predict where Government policy is headed. It is this predictability that really helps provide business with certainty.

The Coalition accepts the value of signalling future intentions well ahead of time. However, we do not consider it desirable that long term signals such as a 2050 emission reduction target be promulgated in any form other than as aspirational, subject to periodic review and conditional upon equivalent efforts by the rest of New Zealand's major trading partners and competitors, as listed above.

Tracking progress towards the target

New Zealand's future governments will inevitably be required to measure the country's progress towards the 2050 target. Of critical importance will be the mechanisms and measures used to identify such progress (or the absence of it). The timing of such measurements is important as it is likely to be some time, perhaps well over a decade, before New Zealand can even hope to start reducing its emissions because of the challenge of agricultural gases. No real progress can be made until agricultural mitigation research yields commercial results.

It should also be noted that achieving a "50 by 50" reduction does not mean cutting our emissions in half. Given we are already over 20% up on 1990 emissions, the real reduction being sought over the next 39 years is well over 50%.

How achievement is measured is very important as simply comparing emission totals is of limited value in terms of comparing different countries' efforts. Any measurement must factor in the special aspects of New Zealand's specific emissions profile, including the need for research on mitigation of agricultural gases and the fact that emissions from this sector represent the displaced emissions of those countries we export to. Given this, there can be no reasonable expectation that any reduction in New Zealand's emissions would follow a straight trajectory.

There should be a clearly set out methodology for measuring the progress of key countries. Again, using simple emission figures is too blunt an instrument. We would advise the Government to engage an appropriate research organisation like NZIER

to establish reliable criteria for comparing countries' emissions. The Government should have particular regard to the results of the Australian Productivity Commission's research into comparing energy and emission reduction policies between that country and other countries, including New Zealand. The purpose of this research is to compare carbon prices, but the methodology and results might provide some guide for comparing countries' policies more generally. The countries to be investigated by the Commission include Australia, the US, China and Japan. This research might be useful because carbon pricing is seen internationally as a key tool in reducing emissions, and New Zealand's main policy for cutting emissions, and achieving targets, is the Emissions Trading Scheme.

What happens if New Zealand appears to be missing the target?

Another issue we would like to address is what New Zealand will do if the 2050 target is not being met. In these circumstances, there could be a temptation for the Government to reach for ready policy tools to ramp up action to cut emissions. Currently, the main policy tool would be the ETS. A sudden ramping up of the ETS, or whatever carbon pricing mechanism exists at the time, will undermine confidence in the investment community and any carbon market existing at that time. If, for example, agricultural gases were not to be brought into the ETS, this would see added and disproportionate pressure put on participating sectors – specifically industrial and energy companies. In the absence of support mechanisms like a fixed price or free allocation of emission units, the impact could be catastrophic.

Ramping up the carbon price could also hit the general public and all employers and farmers hard because it would push up power and fuel prices.

We recommend the Government be absolutely clear on what options it sees for increasing emission cuts in order to achieve the 2050 target. The circumstances under which it would take actions such as increasing, or removing, a fixed carbon price should be made clear to help businesses plan. Furthermore, we recommend the Government address the reduction of agricultural emissions of methane and nitrous oxide separately from other gases. If agricultural mitigation research is not producing results, vis à vis emission cuts, other sectors (and consumers via fuel and power price rises) should not have to carry an extra burden in order to achieve the 2050 target.

The scenario described above need not be confined to later years as we get closer to 2050. We assume that consideration of policy responses to promote emission cuts will occur at intervening points over the next 40 years. We also assume that governments will try to establish interim targets by which to measure progress. Great care needs to be given to identifying interim targets. The risk to future investment in the economy from interim targets becoming hard-and-fast, "must-meet" targets is of sufficiently serious concern that they should be avoided. We recommend the Government not have interim targets. Again, other sectors should not be penalised because cost-effective mitigation of agricultural gases proves elusive.

Here we would also like to address the issue of financial risk to the Government. If we have a commitment to a "50 by 50" target, in the absence of technological breakthroughs on agricultural gases we are almost doomed to fall short. In this case, the Government will be forced to make up the gap by purchasing carbon credits or offsets on the international markets, something which would leave the taxpayer facing a huge bill.

Definition of a balanced target

A final, brief point we would like to make is the reference to "50 by 50" as a "balanced" target. We welcome the Government's desire to take a balanced approach between environmental credibility and economic need, not least of all because this is in line with the approach of New Zealand's key trading partners and competitors like Australia. However, there is no real evidence that "50 by 50" fits the bill. Its compatibility with other countries' targets is not particularly useful since most other targets are at the "proposal" level or are highly conditional. These countries also have very different emissions profiles to ours. Furthermore, there is no rational research basis for choosing a target of -50% for New Zealand, nor is there a strategy showing how the target would be achieved.

We recommend that the 2050 target be presented simply as the Government's current policy and an aspirational goal and that it not be viewed as a "must reach" target. If the Government wishes to gazette a new target, a strong case should be presented to justify why the proposed figure has been chosen.

Thank you for the opportunity to make this submission.

Yours faithfully



David Venables
Executive Director
Greenhouse Policy Coalition

Recommendations

Topic	Recommendation
Recommendation 1 - Overall comment	The 2050 target should be aspirational.
Recommendation 2 - Responsibility target	If gazetted, the 2050 target should be a responsibility target like the 2020 target.
Recommendation 3 - Comparability	Any NZ emission reduction target must be comparable with targets in Australia, the US, Japan, China, the EU, Canada and South America in terms of both the target figure and the legal status of the target.
Recommendation 4 - Conditionality 1	Achievement of any 2050 target must be conditional on the deployment of cost effective mitigation measures for methane and nitrous oxide at farm level.
Recommendation 5 - Conditionality 2	Achievement of the target requires that there be in place a comprehensive global agreement that sets the world on a pathway to limit temperature rise.
Recommendation 6 - Conditionality 3	Achievement of the target requires that developed countries and major developing countries make comparable efforts to those of New Zealand, commensurate with their capabilities.
Recommendation 7 - Conditionality 4	Achievement of the target requires that there be a continuation of the current international rules for land use, land-use change and forestry (LULUCF).
Recommendation 8 - Conditionality 5	Achievement of the target requires that NZ has full recourse to a broad and efficient international carbon market. [This assumes the continuation of emissions trading.]
Recommendation 9 - Conditionality 6	The target must be linked to the current greenhouse gas measurement methodology, i.e. the 2011 Global Warming Potentials (GWPs) for gases recognised by the UNFCCC.
Recommendation 10 - Measurement of progress towards the target	Measuring progress towards the 2050 target should not be based solely on emission figures, but should incorporate appropriate comparability measures such as those being used by the Australian

	Productivity Commission and should have regard to New Zealand's specific emissions profile.
Recommendation 11 - Interim targets	There should be no national interim targets ahead of 2050.

Released under the Official Information Act 1982

Greenpeace Submission to the Ministry for the Environment 2050 Emissions Reduction Target Consultation

28 February 2011

By email to: 2050target@mfe.govt.nz

Carbon copy to Hon. Nick Smith, Minister for Climate Change Issues and
Minister for the Environment at: n.smith@ministers.govt.nz

And to Hon. Tim Groser, Minister Responsible for International Climate Change
Negotiations at: t.groser@ministers.govt.nz

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1. Table of contents

1.	TABLE OF CONTENTS	2
2.	KEY POINTS.....	3
3.	THE PROPOSED TARGET IS WHOLLY INADEQUATE	4
3.2	NEW ZEALAND WILL REMAIN A DISPROPORTIONATELY LARGE EMITTER	4
3.3	PROPOSED TARGET INCONSISTENT WITH AVOIDING 2 DEGREES WARMING	4
3.4	PROPOSED TARGET INADEQUATE TO AVOID CATASTROPHIC CLIMATE CHANGE	4
3.5	LACK OF BACKGROUND ANALYSIS	4
4.	THE TARGET FAILS TO ENCOURAGE LOW CARBON ECONOMIC DEVELOPMENT	5
4.2	MISSED OPPORTUNITY OF THE LOW-CARBON ECONOMY.....	5
4.3	WEAK TARGET DISADVANTAGES LOW-CARBON INNOVATION INDUSTRIES	5
5.	FAILURE TO ADDRESS MAJOR VULNERABILITIES OF NZ ECONOMY.....	6
5.2	ECONOMIC TRANSFORMATION ESSENTIAL TO PROSPERITY.....	6
5.3	ECONOMIC DISTORTIONS DRIVING UNSUSTAINABLE INDUSTRY	6
6.	THE TARGET SHOULD BE GAZETTED AS A REGULATION.....	6
7.	RECOMMENDATIONS.....	7
8.	APPENDIX	8
8.2	GREENPEACE SUBMISSION TO THE DRAFT ENERGY STRATEGY 2010	8

2. Key Points

Greenpeace supports the gazetting of a strong, long-term, legally-binding emissions reduction target for New Zealand.

We consider however that the proposed 2050 target is wholly inadequate.

The accounting basis for the target appears based on Kyoto accounting rules that are presently subject to negotiations and to which New Zealand is seeking substantial changes. The accounting approach in the National Communication closely follows what the atmosphere sees and is a more appropriate basis for setting a target.

A public discussion document has been released, but no background papers, Cabinet papers or technical analysis.

Mechanisms for achieving the target appear to be absent. The emissions trading scheme as currently in operation is unlikely to result in any significant reduction in emissions. Further the Government appears committed to promoting more fossil fuel use such as through the petroleum action plan, and there are few complimentary measures to assist people to adjust to a low carbon economy. The target should be linked to a compliance mechanism.

The ETS as the main policy tool to achieve the emissions reduction is not sufficient in its current form, particularly by its current exemption of New Zealand's largest emitting sector - agriculture.

A multi pronged policy strategy is necessary to achieve emission reductions on the scale the latest science demands.

Greenpeace has little confidence in the robustness of the Government's approach to setting this target because of the flawed and distorted use of economic modelling when setting its 2020 pledge for Copenhagen.

The target fails to act sufficiently to avoid two degrees warming – the absolute maximum warming permissible to avoid catastrophic climate change.

The target will fail to incentivize low-carbon economic development domestically. As such the weak target has an opportunity cost and continues to express the attitude that climate change action is a necessary economic burden rather than an economic opportunity for clean development, innovation and transformation of the New Zealand economy.

The target does not send the messages domestically or internationally that New Zealand intends to be on the forefront of the challenge of decarbonising the global economy. The target is not internationally credible. It is lower than those adopted by a majority of developed countries and reflects the proposed targets of climate change laggards rather than climate change leaders. As such it will harm New Zealand's reputation and success in the world's low-carbon economy.

Any target should be gazetted as a regulation.

3. The proposed target is wholly inadequate

3.2 New Zealand will remain a disproportionately large emitter

New Zealand has supported an 80% reduction in developed country emissions and a 50% global cut in emissions in 2050 in international negotiations. New Zealand's proposed target falls well short of what is required to remain consistent with these targets. This means that New Zealand will remain a disproportionately large emitter for the foreseeable future and will have emissions in 2050 that are likely to be higher than those of most other countries in the world, particularly given that most of the rest of the world's population have lower greenhouse gas emissions than New Zealand. As a developed country with unusually high greenhouse gas emissions, New Zealand has a particular responsibility to reduce its emissions.

The Government has not released information that demonstrates how this target is comparable with the efforts New Zealand expected developing countries to achieve, nor has it justified why New Zealand should be entitled to a disproportionate share of rights to pollute the world's atmosphere.

3.3 Proposed target inconsistent with avoiding 2 degrees warming

The currently proposed target is inconsistent with a goal of avoiding 2 degrees increase in warming which will require on average an 80% reduction from developed countries by 2050. Furthermore the target needs to be compatible with a long-term stabilisation goal of no more than 1.5 degrees warming over pre-industrial levels in order to avoid dangerous levels of climate change.

3.4 Proposed target inadequate to avoid catastrophic climate change

Further, the proposed target is entirely inadequate in the face of the latest scientific information indicating the shortening timeframe within which action must be taken to avoid catastrophic and runaway climate change.

For example a recently released study demonstrating the rapidity of permafrost melting in the Arctic which could, within 20 years, begin releasing as much as two-thirds of the world's gigantic storehouse of frozen carbon and push global temperatures several degrees higher making large parts of the planet uninhabitable.¹

The rapidity of climate change and severity of its impacts means there is no leeway for complacency in climate policy. With an inadequate emissions trading scheme, an almost complete lack of complimentary policies and aggressive promotion of fossil fuels, New Zealand's climate policy framework is a disgrace, even without a wholly inadequate 2050 target.

3.5 Lack of background analysis

The Government has not released any background analysis on the ease or difficulty of achieving this target. Greenpeace is concerned that, on the basis of how New Zealand set its proposed 2020 target, background analysis could be non-existent or poor. The economic modelling for New Zealand's proposed 2020 target was designed in such a manner as to exaggerate the cost of meeting any target and to considerably exaggerate the cost of meeting a 40% 2020 target.

¹ Amount and Timing of Permafrost Carbon Release in Response to Climate Warming, K. SCHAEFER, T. ZHANG, L. BRUHWILER, A. P. BARRETT, National Snow and Ice Data Center (NSIDC), University of Colorado at Boulder. Retrieved 28 Feb 2011 from: http://nsidc.org/news/press/20110216_permafrost.html

4. The target fails to encourage low carbon economic development

4.2 Missed opportunity of the low-carbon economy

The proposed target fails to embody the extent of the opportunity presented to New Zealand by the low carbon industrial revolution that is now happening globally².

While the discussion document does acknowledge the co-benefits of low-carbon economy and rightly states that, “New Zealand is well positioned to take advantage of the global transition towards clean technology,” the target will fail to send a clear signal to domestic and global industry that New Zealand is open for business and investment in the clean technology and innovation sectors. In fact it sends a clear signal to the opposite.

The Government’s traditional risk management attitude to climate change tends it towards doing the least required of it to meet international obligations. Climate change is perhaps the greatest threat humanity has faced but in such crisis is opportunity.

To see our obligations only as necessary burdens whilst failing to seize the profound opportunity they represent guarantees there will be no “sputnik moment,” for New Zealand.

A recent United Nations Environment Programme UNEP report articulated the latest wisdom on integrated economic and environmental strategies for building genuinely sustainable prosperity in our era of increasing population, resource constraint and the need to decarbonise the global economy in response to climate change.³ Recent reports by Price Waterhouse Coopers⁴ and The New Zealand Institute⁵ also point to the significant economic advantages of actively directing the New Zealand economy towards clean innovation and industry.

The Government’s weak 2050 target and fossil heavy economic strategies run contrary to this contemporary wisdom and position New Zealand as a laggard not a pioneer. In doing so the government’s actions go against our cultural tradition of innovation and invention and our history of willingness to act in the face of shared crises. This failure to utilise the skills and inclinations of the population at a time of recessionary pressure and global climate change amounts to an opportunity cost that represents a real risk to New Zealand’s potential success and prosperity.

4.3 Weak target disadvantages low-carbon innovation industries

A weak target disadvantages low-carbon innovation industries and those most progressive businesses in the clean tech and clean-green economic sectors and those in the agricultural industries pursuing lower emissions farming techniques. Investors seeking opportunities in these areas are likely to look elsewhere, particularly to China and Europe where there is a genuine interest in securing the benefits of developing low-carbon technology.

In complete contrast to New Zealand’s historic ability to grasp the opportunity provided by refrigeration for exporting agricultural products, New Zealand is poised to lose all the advantages for clean technology development that New Zealand has with its clean green reputation and ample opportunities in developing new renewable energy technology and low input/low emission agriculture. The present New Zealand Government appears determined to miss this wave of opportunity in favour of promoting archaic fossil-fuel dependant industries.

² See Appendix I, Greenpeace submission to the Draft Energy Strategy 2010.

³ extracted *Synthesis for Policy Makers of UNEP Green Economy Report 2011, Towards a Green Economy*, Retrieved 28 Feb 2011 from: http://www.unep.org/greeneconomy/Portals/88/documents/ger/GER_synthesis_en.pdf

⁴ A Clean Economy Vision for New Zealand 2025, Price Waterhouse Coopers for New Zealand Trade and Enterprise, 2009.

⁵ Actions Speak Louder Than Words: Adjusting the New Zealand economy to a low emissions world, D. Skilling and D. Boven, The New Zealand Institute, March 2008.

Coupled with the present exclusion of agriculture from the ETS, a low target disadvantages farmers by not encouraging them to equip for the future realities of a carbon-conscious global market place.

As such it undermines the cleaning and innovating of the New Zealand economy and all the benefits that brings.

5. Failure to address major vulnerabilities of NZ economy

5.2 Economic transformation essential to prosperity

Without transformation change in the environmental sustainability of the New Zealand economy, New Zealand will have to increase economic subsidies to polluting sectors to maintain production in the face of rising costs. For example:

- New Zealand's lack of efficient public transport and continued dependence on oil will leave households exposed to rising fuel costs. This will create pressure to reduce relative fuel prices by transferring more of the cost onto taxpayers through greater roading subsidies and lower fuel charges
- Development of lignite deposits for fuel and fertiliser will require subsidies in the form of free allocation under the emissions trading scheme and taxpayer liability for the failure of any CCS scheme associated with the projects
- Agriculture will seek subsidies in the form of continued free access to public resources such as exclusive use of water, low environmental standards and free allocation under the emissions trading scheme

5.3 Economic distortions driving unsustainable industry

New Zealand presently subsidises agricultural production by having lower environmental standards than many other countries, including key export markets. This economic distortion is driving the development of unsustainable industry at the expense of clean industry and innovation. For example, subsidies to the dairy industry through free access to exclusive use of public water, exemptions from liability for the cost of greenhouse gas emissions and reduced costs through low water quality standards all contribute to altering the economics of land-use in favour of unsustainable dairy practices and an oversupply of dairying at the expense of other land use activities.

This will eventually become a factor that trade partners take into account when considering the costs and benefits of opening their markets to New Zealand dairy produce. Producers in countries with higher standards than New Zealand can be expected to strongly resist opening their markets to competition from a country with such low environmental priorities.

6. The target should be gazetted as a regulation.

If the government is certain of the need and benefit of any target then the target should be gazetted as a regulation.

7. Recommendations

Greenpeace calls on the New Zealand Government to implement a regulated target of 40% emissions reductions by 2020 and 80% emissions reductions by 2050, based on a 1990 baseline.

Greenpeace calls that agriculture be brought into the Emissions Trading Scheme immediately.

Greenpeace calls on the Government to implement a 100% renewable energy by 2020 target and strategy.

Any target should be gazetted as a regulation.

The Government drop its plans to promote and expand the petroleum and coal extraction industries.

Released under the Official Information Act 1982

8. Appendix

8.2 Greenpeace submission to the Draft Energy Strategy 2010

Greenpeace submission to the Government's Draft Energy Strategy Consultation (NZES) 2010

2 September 2010

**By Carmen Gravatt
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Clean Energy policy as a driver of New Zealand's prosperity in the era of Global Climate Change

Introduction

The world is witnessing a historic, global shift in the way we power our economies, our businesses and our homes. As the sun sets on the era of fossil fuels, major, global economies are racing towards a new era of clean and renewable energy. And New Zealand is well-equipped to capitalise on this shift. We are endowed with a high level of renewable electricity infrastructure and expertise; a wealth of talent for innovation and a can do attitude and a reputation as a clean, green place to do business.

It is within this context that the Draft New Zealand Energy Strategy is being consulted on. However, the Government's Strategy fails to recognise and provide the necessary support needed to fulfil New Zealand's potential and in doing so fails to step-up to the challenge of climate change or understand the powerful influence climate change is already having on shaping our global energy future. By placing a heavy emphasis on boosting the exploitation of fossil fuels, the Draft Energy Strategy shows a particular lack of strategic vision.

In a world of depleting fossil fuel reserves and climate change there is no such thing as a low cost, high carbon economy. At this crucial time in New Zealand's energy history we need a road map towards sustainable, clean, economy and strategies to capitalise on our clean green reputation, rather than a new fossil fuel rush which threatens to erode it. A range of major infrastructure and technological investments will be needed in the coming decades. The transition will involve hard choices between a number of technology pathways and policy options. This needs to be actively managed and will require strong regulation and coordination with public policy. We set out this challenge in the submission that follows.

Background on Greenpeace

Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment and to promote peace.

It comprises 28 independent national/regional offices in over 40 countries across Europe, the Americas, Africa, Asia and the Pacific, as well as a co-ordinating body, Greenpeace International.

Greenpeace New Zealand was founded in 1974 and has over 60,000 financial supporters. The organisation has a global membership of 4 million supporters.

Greenpeace' key recommendations:

- That the Government seize upon the opportunity presented by climate change, and global recession to move to a low carbon economy and ensure, long term sustainable prosperity and energy security.
- That the Government adopt a target of a 40% reduction in greenhouse gas emissions on 1990 levels by 2020.
- That the Government adopt and communicate a target of 100% renewable electricity by 2020.
- That the Government provide clear guidance and regulation to create a level playing field and enable businesses to invest with confidence, in a low carbon economy.
- That the Government initiate and expand existing support for research and development in clean-tech and sustainability sciences.
- That the Government underpin the investment needed to grow a clean economy, the Government should set up a Green Investment Bank.
- The Government safeguard and ensure the integrity of our clean green reputation.

Key Risks:

- The stated goal of 90 per cent renewable electricity by 2025 will not be achieved by the Draft Strategy due to its failure to provide clear policy goals and incentives,
- The Strategy will fail to achieve the Government's goal for "*New Zealand to make the most of its abundant energy potential, for the benefit of all New Zealanders through the environmentally-responsible development and efficient use of the country's diverse energy resources*" due to its wrong emphasis on finite fossil fuels and lack of a clear strategic pathway.
- With investment in global clean energy eclipsing fossil fuels for the second year in a row⁶ and clean energy resisting the global financial crisis more than any other sector, there is a significant opportunity cost in not seizing upon the economic potential that is abundant in domestic renewable energy technology development.
- New Zealand is out of step and falling behind many of key trading partners such as the US and UK which are implementing specific policy initiatives and investments increasing focus on rebalancing and redirecting of multi-billion dollar investment into clean and renewable energy development and technologies to deliver the prosperity that transitioning to a low carbon economy will bring,
- There are serious threats to New Zealand's economy and wealth from failing to consolidate New Zealand's clean green identity and move away from our increasing dependence on expanding a fossil fuel economy, whereas setting clear renewables targets not only helps New Zealand achieve a strategic goal of de-carbonising its economy but helps ignite the development of cutting edge technologies; strengthens expertise and knowledge and attracts overseas investment.

⁶ Global Trends in Green Energy 2009: New Power Capacity from Renewable Sources Tops Fossil Fuels Again in US, Europe. UNEP, July 2010

- There are significant risks in further binding our economic and energy fortunes to the volatile internationally determined fluctuations in fossil fuel price and availability both as the major source of our transport energy and as an export commodity.

Greenpeace opposes:

- The expansion, further government funding or support of private investment or joint partnerships in the exploration and exploitation of new petroleum or coal industries whether for export or domestic use
- Any offshore oil drilling as proposed for East Cape, Northland or any other part of New Zealand's EEZ,
- Any reliance on potential Carbon Capture Storage (CCS) technologies for future emissions reductions. CCS is not a substitute for existing renewable energy sources. CCS is an untested and undeveloped technology. It is very risky to rely on or presuppose that this technology will be a significant or economically viable mitigator of greenhouse gas emissions from fossil fuels in the medium or long term. In a country the size of New Zealand, this is a highly expensive gamble which would starve other sectors of the economy of much needed capital resources. Given the state-owned nature of the coal industry, this would place an enormous burden on The Crown should CCS fail with the taxpayer picking up the carbon bill.

No time to burn

Before setting out Greenpeace's vision for developing New Zealand's energy potential, it is necessary to set out the context within which this consultation on the Government's energy strategy is currently taking place. The consultation sets out the premise that:

"The Government's goal is for New Zealand to make the most of its abundant energy potential, for the benefit of all New Zealanders. This will be achieved through the environmentally-responsible development and efficient use of the country's diverse energy resources, so that:

- *the economy grows, powered by secure, competitively-priced energy and increasing energy exports, and*
- *the environment is recognised for its importance to our New Zealand way of life.⁷"*

On the face of it, it seems a sound objective. However the Strategy reveals a heavy emphasis on prioritising and promoting fossil fuels as the main driver to economic development and energy security. The Strategy substantially relies on *"increasing of petroleum exploration activity and improving knowledge of our basin's...setting" a pathway to realise the potential of New Zealand's gas hydrates endowment* and the role that *"coal could potentially contribute to the economy in other ways"*.

Greenpeace believe that this dependence on fossil fuels as a driver for economic development and improving energy security will not only fail to achieve the outlined Strategy goals above but is evidence that the Government is failing to respond to the realities of a rapidly changing world. This latter point is fundamental.

In a world that is resource constrained and carbon constraining now is not the time for New Zealand to sideline our renewable energy powerbase and clean, green reputation to focus our efforts on trying to resuscitate a dying fossil fuel industry. If the Government is genuinely trying to achieve strong,

UNEP⁷<http://www.med.govt.nz/upload/73919/Developing%20Our%20Energy%20Potential%20July%202010.pdf>

sustained economic prosperity and energy security, it should build on our position as a global leader in clean renewable energy generation.

Joining the global race for clean technology

The last few years have witnessed unprecedented investment in renewable energy which presents huge opportunities for partnerships between energy suppliers, manufacturers and users⁸. As a result, the clean technology industry is experiencing rapid global growth, with investment in renewable energy surpassing conventional energy projects for the first time in 2008. With a global market of US\$284 billion, projected to increase to over US\$1.3 trillion in 2017⁹, the clean technology sector is an opportunity for New Zealand to re-define and broaden its economic focus.

Globally, concerns over energy security, climate change and economic recession have unleashed a new wave of policy initiatives and investments around the world that will fundamentally alter the way we manage and use energy¹⁰. As we stare down the barrel of a looming peak and decline in oil production, energy price spikes, [resource shortages](#), and [global environmental problems](#), we are challenged to respond and reconsider the way we structure our energy economies.

As governments across the world look to ignite the recovery of the global economy, there has been an increasing focus on rebalancing and redirecting investment in to cleaner technologies - products and services that improve performance, productivity or efficiency while reducing costs, raw materials, energy consumption and waste¹¹ - as the next engine of [economic development](#)¹². This means a radical shift away from the fossil fuel economies of yesteryear.

If New Zealand decides to underpin its economic development on fossil fuels, it risks isolating itself from the huge economic potential of harnessing and building on our renewable energy legacy and expose itself to an increasingly volatile and destabilising hydrocarbon market.

New Zealand risks missing the boat

It is important and relevant to note that the economies of some of New Zealand's key, strategic trading partners from China, Japan, the UK, to South Korea and the US, have earmarked multi-billion dollar investments in clean energy. Indeed, for the second year running, investment in clean energy eclipsed that of fossil fuels attracting \$140bn compared with \$110bn for gas, coal and nuclear power¹³. In total for the G20 countries - US\$396 billion in economic stimulus funding is going towards clean investments.

Clean energy resisted the global financial crisis more than any other sectors because the principal drivers that propel investment in the sustainable energy sector are still at work – climate change, energy security, fossil fuel depletion and the emergence of cleaner technologies.

New Zealand is well positioned to take advantage of the global transition towards clean technology. We have abundant resources for renewable energy, smart ideas and the engineering and scientific capability to deliver cost effective clean technology solutions. The Government's focus should explicitly target the development and deployment of the wealth of experience, knowledge and intellectual property that New Zealand has to secure the necessary foundation for building a sustainable, cleaner economy for the 21st Century.

⁸ Sustainable Energy Security: Strategic Risks and Opportunities for Business. Chatham House – Lloyds 2010.

⁹ *Cleantech: Current Status and Worldwide Outlook*, Fuji-Keizai, USA, Inc 2008.

¹⁰ Sustainable Energy Security: Strategic Risks and Opportunities for Business. Chatham House – Lloyds 2010

¹¹ <http://www.nzte.govt.nz/access-international-networks/explore-opportunities-in-growth-industries/new-global-business-trends/pages/cleantech.aspx>

¹² Pernick, Ron and Wilder, Clint (2007). [The Clean Tech Revolution: The Next Big Growth and Investment Opportunity](#).

¹³ Global Trends in Green Energy 2009: New Power Capacity from Renewable Sources Tops Fossil Fuels Again in US, Europe. UNEP, July 2010

New Zealand can't afford to miss out on the clean technology trend; we need to protect our environment and reputation because it is implicitly linked to tourism and exports; we can achieve massive savings as a country right now by encouraging all aspects of our economy to reduce their carbon footprint and embrace energy efficiency; and by achieving a 100% renewable energy target, we will take a huge leap towards becoming an energy independent nation.

New Zealand thrives by leading not following

New Zealand needs to show leadership. Rather than shying away from the opportunities that are presented by the global shift in priorities, New Zealand needs to recognise and embrace them, and turn them to competitive advantage, based on New Zealand's existing strengths and on sustainable values. When we lead, we put ourselves on the world map and that is good for our reputation, cultural morale and every sector of our society and economy. For example, in clean-tech and renewable energy New Zealand is already pioneering new technologies such as Designline International who are producing revolutionary hybrid turbine buses; Windflow Technology who are designing some of the world's most efficient wind turbine technologies or HTS 110 who are designing world class, super efficient systems for transmitting renewable energy.

Greenpeace's key recommendations for a New Clean Economy:

1) That the Government adopts a 100% renewable target by 2020.

Given New Zealand's existing capacity and abundant renewable electricity generation potential¹⁴ the country has a real opportunity to join Iceland as a 100% renewable electricity nation.

As a driver of economic prosperity, strong low-carbon energy targets are increasingly being introduced across the world in places such as China and Europe as effective mechanisms for incentivising industrial innovation, development and economic development through the clean-technology sector.

Indeed, at a recent EU summit, Ministers from the UK, Germany and France pushed for tougher new emission reduction and renewable energy targets to stimulate economic development in these sectors declaring that there is "no high-carbon, low-cost future for Europe"¹⁵.

Setting clear renewables targets not only helps New Zealand achieve a strategic goal of decarbonising its economy but helps ignite the development of cutting edge technologies; strengthens expertise and knowledge and attracts overseas investment.

New Zealand currently generates 65 to 70 percent of its electricity through renewable energy sources – mostly hydro, geothermal, wind, and a small amount from biomass¹⁶. Yet, there is huge potential take it beyond this, and beyond the Government's repeated target of 90%. Indeed, a recent report highlighted the potential for New Zealand to hit an energy generation mix of 100% renewable electricity system - comprising 53–60% hydro*, 22–25% wind, 12–14% geothermal, 0–12% additional peaking plant (from renewable sources such as biomass, hydro), 0.8–0.9% wood thermal and 0.2–0.3% biogas generation, were found suitable to replace the generation current system, thereby displacing 32% of fossil-fuelled thermal generation¹⁷.

As part of achieving the 100% renewable goal, Government would deliberately catalyse the deployment of existing and emerging renewable technologies by removing barriers and incentivising investment. Targeting the deployment of a domestic renewables target will not only reform and harmonises the sector, but also encourage innovation and information sharing. A diversified,

¹⁴ NIWA. (2009). *New Zealand's EnergyScape: EnergyScape basis review Section 2 – Renewable Resources*. June 2009. Auckland, National Institute of Water and Atmospheric Research.

¹⁵ <http://www.businessgreen.com/business-green/news/2264590/uk-steps-calls-eu-embrace>

¹⁶ New Zealand Energy Data File, 2008 Calendar Year Edition, Ministry of Economic Development

¹⁷ A 100% renewable electricity generation system for New Zealand utilising hydro, wind, geothermal and biomass resources. I.G. Mason,, S.C .Page, A.G.Williamson (2010).

renewables portfolio that provides both base and peak load needs could be used in marketing the low carbon advantage that attracts new high-value businesses¹⁸.

This would then act to invite investment coming forward in many key areas such as upgrading of infrastructure which has the advantage of unlocking private sector funding and partnerships¹⁹; the development of local distribution and decentralised energy networks so that communities could go “off-grid”; creating smart grids by digitizing and automating the electric power grid could greatly reduce wastage, carbon emissions and cost; investment in hyperconductive power lines to allow the efficient transmission of clean energy. In addition, introducing significant amounts of 100% renewable-electricity will generate investment in public and private transport such as “plug-in hybrid” and eventually in fully electric vehicles.

New Zealand’s investment in world class infrastructure will also attract foreign direct investment of a sustainable nature. The business climate will support the incubation of clean technologies and their international commercialisation. This will lead to increased economic prosperity for all New Zealanders. In other words, the choice and opportunities that are consistent with clean industry and a clean environment are also consistent with galvanising a more productive economy²⁰.

Increased reliance on electricity generation from renewable resources is a key and urgently required strategy for reducing anthropogenic greenhouse gas (GHG) emissions worldwide. High per capita emitting countries like New Zealand have been signalled to require 20–40% emissions reductions by 2020, rising to 80–90% by 2050, based on global equity considerations²¹.

As the combustion of fossil fuels for electricity generation accounted for approximately 22% of total global GHG emissions (10.5Gt-CO₂) in 2002²² and is rising, the displacement of fossil fuel emissions in the global electricity sector is an essential goal. Furthermore, emissions from transport at 13.1% of total global GHG emissions in 2004²³ are also significant. The New Zealand electricity and heat sector generated 8.8% of total emissions in 2007, and transport contributed 19.9% of total emissions²⁴. Given the attraction from an energetics point of view of long-term electrification of transport, renewable electricity systems offer a timely, long-term and sustainable pathway for substantially reducing GHG emissions across these two important sectors.

Recommendations:

- That the Government set the clear policy goal of achieving 100% renewables electricity by 2020 through the development of a National Policy Statement on Renewable Electricity Generation.
- The Government end perverse subsidies for fossil fuel exploration and exploitation. Fossil-fuel energy sources receive an estimated \$250 billion to \$300 billion in subsidies per year worldwide, heavily distorting markets. Subsidies artificially reduce the price of fossil fuel energy and block the uptake of renewable energy out of the market place. Eliminating direct and indirect subsidies (such funding for exploration) to fossil fuels would help to move us towards a level playing field across the energy sector.
- The Government actively supports investment in a diverse range of renewable technologies (i.e. a blend of wind, solar biomass, hydro, geothermal) by increasing financial incentives for

¹⁸ A Clean Economy Vision for New Zealand in 2025. New Zealand Trade and Enterprise, 2009.

¹⁹ Economic Stimulus: The Case for “Green” Infrastructure, Energy Security and “Green” Jobs. Deutsche Bank Group, November 2008.

* Because of nature conservation aspects, the use of large-scale hydro power will be limited and emphasis should be put on smaller scale projects, or projects expanding existing additional schemes. Additional potential can be exploited by modernising large run of- river power plants, such as the additional almost 200MW added to the Manapouri scheme through efficiency upgrades.

²⁰ A Clean Economy Vision for New Zealand in 2025. New Zealand Trade and Enterprise, 2009.

²¹ Key Elements of a Global Deal on Climate Change, Nicholas Stern 2008.

²² IPCC, 2005. In: Metz, B., Davidson, C.L., de Coninck, H., Loos, M., Meyer, L.A. (Eds.), Special Report on Carbon Dioxide Capture and Storage. Cambridge University Press, Cambridge, UK.

²³ IPCC, 2007. Climate Change 2007: Synthesis Report. Intergovernmental Panel on Climate Change, Geneva, Switzerland.

²⁴ MFE, 2009. New Zealand’s Greenhouse Gas Inventory 1990-2007. New Zealand Ministry for the Environment,

renewables developers through schemes such as a feed in tariff or guaranteed price system. Based on international experience, this is the most effective means of supporting renewable energy. A feed-in tariff provides certainty to investors in renewable energy by providing a guaranteed sale price for electricity they generate over a specific period of time. The tariff could be set at different levels, with targeted encouragement of particular types of renewable energy that deserve support such as community-owned wind development; smaller (i.e. less than 20MW) wind developments; newer renewable technologies, such as tidal energy, particularly for smaller pilot projects.

- The Government encourage the development of a geographically dispersed, “distributed” renewable energy system. This will increase energy security and reduce the need for additional investment in transmission infrastructure.
- The Government prioritise the increase energy efficiency and conservation to lower demand.
- The Government streamline the planning process and speed up grid connection (such as smart grids) as well as supporting New Zealand based wind energy innovations.

2) That the Government develop a strategy to achieve a prosperous, sustainable and clean economy

As the world wakes up to and understands the challenges of responding rapidly to climate change, a strong demand for more sustainable goods and services; a desire for increased efficiencies in resource management; a need to cut carbon emissions and a longer term approach to growing more sustainable, low carbon economies is emerging.

For example, A UK study expects that the low carbon and environmental goods and services market to grow by an average of over 4.5% per year, or a cumulative growth rate of 45% over the next seven years to 2015. The highest growth is expected in the renewable energy sector at a cumulative 65% over a 2008 -2015 period²⁵.

It seems that whilst other nations are clear about their futures²⁶, with announcements of investment into clean technologies, job creation programmes and strong growth drivers, the New Zealand Government’s draft Energy Strategy suggests that New Zealand is rudderless in terms of an end goal. Many of our global strategic partners have earmarked multi-billion dollar investments in clean energy to deliver the benefits that transitioning to a low carbon economy will bring²⁷. In Japan, for example, the long-awaited fourth economic stimulus package was finally announced in last year, which committed \$22 billion to be spend on the “low-carbon revolution”²⁸.

This draft Energy Strategy comes at a critical juncture in the New Zealand’s history – where we have to decide if we have the vision, foresight and confidence to harness the pre-established reputation, the home grown ingenuity, skills and expertise that sets us apart from many others and position ourselves at the forefront of a clean technology revolution, or, as the current strategy proposes, regress to an energy strategy built with all the tenets of 19th century thinking on a fragile reliance on fossil fuel extractive industries.

Whole sectors of the economy will need to be transformed in order to meet climate change targets. And the early priority is to decarbonise electricity generation with a widespread roll out of low-carbon technologies over the next two decades which will also provide a platform for transformations of the transport and residential sectors to low-carbon technologies.

²⁵ Innovas Report, DBERR, UK Government, March 2009.

²⁶ NZTE, A Clean Economy Vision for New Zealand in 2025, PWC. October 2009.

²⁷ This is an illustrative point supported by recent investments made by South Korea, Singapore, China and Europe in clean technologies.

²⁸ Global Trends in Sustainable Energy Investment 2009 - *Analysis of Trends and Issues in the Financing of Renewable Energy and Energy Efficiency*.

This can be achieved by:

- reducing consumption of and dependence on high carbon intensity products such as coal and oil;
- switching production to existing technologies with lower carbon emissions; and/or
- developing new technologies with lower carbon emissions (or reducing the cost of those that exist).

Should New Zealand decide to invest in a clean economy in 2010, and were to achieve an average growth rate of 3.6% per annum to 2015 and a similar rate to 2025, New Zealand's economic landscape would change dramatically. Integrated investment across all five foundations of the clean economy (clean energy, clean transportation, clean agriculture, clean environment and clean industry) would demonstrate New Zealand's leadership globally. It would help to develop tangible implementation of new technologies and skills alongside a culture more orientated towards science and technology, and one that supports entrepreneurial activity. Investment across the five categories would succeed in re-establishing New Zealand's reputation as a modern clean, green place to do business²⁹.

Avoiding the volatility of oil

In the face of looming peak oil and decline with increased oil prices and increasingly volatile oil markets, it makes sense to build an economy that is resilient against these external market forces. If New Zealand were to decide to focus on developing a well planned and integrated approach to transport planning, with inter-nodal integration between road, rail and port infrastructure, particularly at the urban level, it would mean that the nation's emissions profile would alter significantly³⁰. New Zealand's entrepreneurial and sustainable approach to new technologies would lead to local investment in liquid fuel alternatives, feeding the longer term transition to low carbon transportation. Further to this, if New Zealand also invested significantly in renewable energy, a transport electrification network could be developed that would significantly impact the nation's energy emissions profile.

As a result, New Zealand's imported oil bill would be substantially reduced due to the switch to NZ Inc renewable energy³¹ and the reduced reliance would make New Zealand less vulnerable to oil price fluctuations. The need for smart grids to manage electricity demand would mean that New Zealand grown technology would be an important innovation critical to electric vehicle success³².

Recommendations:

- That the Government places clean energy front and centre of its focus for future economic development and actively encourage private investment in clean technologies. This in turn will enable companies to find strategic opportunities as either adopters or investors or both. Adopters of clean technology solutions will benefit by cutting energy costs, mitigating future carbon costs, and claiming competitive and reputational advantages. Investors in clean technology venture capitalists, private equity groups, hedge funds, banks) will likely benefit from investing in areas that contribute most seamlessly to the growing new energy infrastructure but which also demonstrate competitive advantages in a carbon constrained market.

²⁹ *New Zealand's Future Competitive Advantage Report* Consultation draft only, Ministry of Economic Development, March 2009, New Zealand

³⁰ *Rethinking the Economic Recover - A Global Green New Deal*, United Nations Environmental Programme, April 2009, USA.

³¹ *Taxation. A Report from Economic Values. Part of the New Zealand Values Study*, Massey University, June 2005, New Zealand.

³² *New Zealand Energy Strategy to 2050. Powering our Future*, Ministry for Economic Development, October 2007, New Zealand.

- The Government adopt a target of a 40% reduction in greenhouse gas emissions on 1990 levels by 2020.
- The Government set clear targets for achieving transition to a low carbon economy such as a National Renewable Electricity Target.
- The Government develop a credible and robust strategy for transitioning New Zealand to a clean economy underpinned by domestic clean technologies.

3) Provide clear guidance and regulation to create a level playing field and enable businesses to invest with confidence, in a low carbon economy.

Responding to the challenge of climate change and laying the bedrock of a low carbon economy requires investment in a range of technologies, projects and businesses in a variety of economic sectors to facilitate this transition. Over the past several years, clean technology industries have grown, largely driven by government action – although it's fair to say high oil prices have played their part – to incentivise and deliver the investment, policy and support frameworks that are critical to helping clean technologies progress down this pathway. These have included regulations and codes, fiscal incentives, public funding mechanisms (PFMs), voluntary agreements and information dissemination³³. And it is in countries where the Government's are playing an active role in developing cleaner economies that the greatest growth and potential benefits are being realised.

For example, the United States government has formulated a \$787 billion economic stabilisation and jobs growth package including \$83 billion for cleantech spending and tax plans. The measures target doubling renewable energy generating capacity - sourced largely by wind, solar and geothermal – as well as targeting efficiency, expanded electricity transmission networks and modernisation of electricity grids including advanced metering, energy management software, and usage monitoring sensors³⁴. And this is just typical of the government actions that are emerging through the policy initiatives of many of New Zealand's key trading partners such as China, South Korea and Europe.

And this is a critical point – the most important role of government should be in creating the enabling policy framework. The Government must set clear policy goals and objectives for incentivising and supporting the growth in clean technologies as a step-wise approach to building a clean economy and allowing New Zealand to play its part in tackling global climate change.

It is imperative that New Zealand businesses are able to identify the economic opportunities in developing innovative, clean technology solutions, but they will need clear guidance and policy support to provide the confidence to go forward and invest and develop. Simply relying on the market is not enough. So the strategic role for Government needs to involve fixing a meaningful price on carbon which will drive investment in new, cleaner technologies and energy efficiency; ensure tough new regulation for emissions reduction targets across the economy targets and clear targets for the up-scaling of investment and delivery of low carbon technologies³⁵.

Indeed, a recent Price Waterhouse Coopers report identified that New Zealand's CEOs want more government action, particularly in areas where regulation enables business, such as climate change. More than 80% of CEOs favour clear, consistent government policies to address climate change³⁶.

Without political stability, regulatory certainty and administrative simplicity, the perceived risk level can undermine incentives for investing in projects that have significant up-front costs. Credible long-term national policies can significantly reduce the risks of investing.

³³ Major Economies Forum on Energy and Climate, December 2009

³⁴ *Cleantech Nation. Cleantech playing a central role in the national recovery agenda.* PricewaterhouseCoopers, February 2009.

³⁵ DECC; Transition to a Low Carbon Economy. June 2009

³⁶ 12th CEO Survey, PricewaterhouseCoopers, 2009.

Recommendations:

- That Government drop its plans to rapidly developing fossil fuel resources such as the oil and coal projects outlined in the draft Energy Strategy.
- That Government make the deployment of renewable energy and energy efficiency the cornerstone of the Government's energy strategy to build and secure a clean economic future for New Zealand.
- That Government make transparent predictable and long-term policy commitments to facilitate private investment in clean energy such as renewables and energy efficiency. Without a stable enabling environment, investors may hesitate to put capital at risk in long-term clean energy technology and infrastructure projects³⁷.
- That Government create a stable and fair regulatory environment be developed for the energy sector, where the polluter pays principle is given proper prominence. This will remove barriers to low-carbon energy alternatives and energy efficiency measures without "picking winners". complementary emissions reductions measures, such as vehicle fuel efficiency, minimum energy performance standards for products and the built environment, as well as other programmes that are in the existing strategy be retained and fully funded.
- That Government introduce complementary emission reductions measures such as minimum energy performance standards for products and building.
- That Government put a price on carbon emissions to reflect the true costs of the damage and risks caused through climate change, and to give incentives to consumers and companies to move to cleaner technologies or to change their behaviour. The existing Emissions Trading Scheme is wholly inadequate in this respect.
- That Government drive the development of new, clean technologies by creating the framework needed to move to a clean economy. This could be achieved by funding incentives and establishing the infrastructure to encourage swifter deployment cleaner technologies. For example, public funding mechanisms (PFMs) could achieve a two-fold objective: first, to directly mobilise or leverage commercial investment into low-carbon technology innovation and deployment and, secondly, to indirectly create scaled up and commercially sustainable markets for these technologies. If well managed, PFMs can bring down market barriers, bridge gaps and share risks with the private sector. And to be successful, they must be aimed at complementing national policy instruments such as regulations, taxes and market mechanisms.
- That Government introduce specific programmes that are developed and funded, including a detailed analysis of the cost/benefits of progressive pricing and feed-in-tariffs to make progress in this area of focus such as renewable energy and energy efficiency.
- In order to secure a sustainable energy market the Government build an integrated strategy that aims to develop all aspects of the sector including technology innovation, project development, small and medium sized business and industry support, consumer awareness and end-user finance.
- That Government develop policy that addresses barriers specific to each technology category. For example, building-integrated renewable energy will struggle to compete without clear standards for connection to the power grid and appropriate compensation exported to the power grid. Similarly, enabling infrastructure is often essential, such as outlets for plug-in

³⁷ Major Economies Forum on Energy and Climate, December 2009.

vehicles or grid technologies that enable fluctuating renewable electricity to connect to the power grid without affecting network reliability and security.

- That Government facilitate information sharing to help accelerate both the development and deployment on clean energy technologies between sectors. A major constraint to developing and deploying clean energy technologies is the fragmented nature of information available on what has been done, what is being done, and how effective these efforts have been. In doing so, it recognise the role of the private sector in reaching public clean energy goals and thus provide market enabling information to the private sector. For example, public agencies such as MfE or MED can provide renewable energy resource maps and tools to identify energy efficiency and renewable energy technology options. They can also enable sharing of best practices in project development, including effective financing strategies.
- That Government play an active role in education, workforce development and training to ensure that firms are able to hire the skilled labour needed to develop and deploy clean energy solutions at scale. The contribution of people, their knowledge, experience, skills and talents, are a key factor in the ability for an economy to grow.

4) Initiate and expand existing support for research and development in clean growth areas.

Our ability to deploy effective technologies, on a scale large enough to significantly reduce greenhouse gas (GHG) emissions, depends on two key factors: the direction, and the pace, of technological innovation. The direction of technological innovation, to a large extent, is contingent on a balanced, technology-neutral approach to energy policy³⁸. The pace of technological innovation, on the other hand, depends on a range of factors including, critically, the presence of effective domestic policies to spur research and innovation in the right direction.

As a nation endowed with innovators, some of whom are experienced in translating assets into produced capital, New Zealand is presented with a wealth of potential opportunities. There are many great examples of New Zealand's ingenuity. Throughout history these include: the invention of powered flight by Richard Pearse in 1903; splitting the atom in 1919 by Ernest Rutherford, the electric fence, invented by Bill Gallagher and launched in 1938; and quartz oscillators used in Global Positioning Systems (GPS) by Warren Robinson in 1967 to name but a few. It's an embarrassment of riches and ingenuity.

Yet despite this, on the whole, New Zealand Inc is not well resourced, with a lack of investment in the academic science and technology arenas. Lower priority support of world class academics to research and develop innovative new technologies, culminates in a climate where retaining top class talent is difficult³⁹. However, to take the example of Finland – a remote, sparsely populated nation with agricultural roots - it has developed a blend of capitalism which maintains strong values of social responsibility and support for industry. Finnish companies and the Government support local ventures, resulting in the successful development of a range of biotech, telecommunications and hi-tech manufacturing companies. Success can be attributed to significant investment in research and development (R&D) and an emphasis on education in general. Finland has since transformed from a resource based economy to a knowledge based economy, in the process developing one of the best-performing economies in the world⁴⁰.

And this serves to illustrate how providing better resources and more support from Government can help to realise these technologies true potential. It is one thing to adopt enabling policies (as outlined above), but it is often not enough to mobilise the many types of investment needed to move a technology from innovation to deployment to market transformation. As technologies move out of the

³⁸ Weiss, C., Bonvillian, W.B., 2008. Structuring an Energy Technology Revolution, the MIT Press, Cambridge.

³⁹ *Science community fading, says PM's adviser*, <www.nzherald.co.nz>, 17 July 2009.

⁴⁰ A Clean Economy Vision for New Zealand 2025, NZTE, 2009.

laboratory into the early commercialisation stages, private capital may be hard to secure because of business, technology and policy risks, high initial production costs and a wide range of market barriers.

And it is these funding gaps that create a 'valley of death' that prevents many promising technologies from making it to market⁴¹. Public funding and related interventions are therefore needed to bring down market barriers, bridge gaps and share risks with the private sector.

And this is a critical point, especially here in New Zealand. To meet the challenge of reducing carbon emissions in NZ and globally, Government support will be required for this innovation to happen for low-carbon technologies. The Government must be more proactive in encouraging innovation at a very early stage as an essential first step of bringing new ideas to market. In South Korea for example, plans were unveiled last year to invest Won 107,000 billion in 'green growth' areas over the next five years. As the South Korean Minister for Policy Coordination Kwon Tae-shin stated at the time, *"The government is striving to boost energy efficiency by encouraging eco-friendly projects such as developing renewable energy including solar and wind power, carbon credit trading, hybrid cars and biofuels. It plans to expand fiscal support for research and development. The plan will not only help reduce greenhouse gas emissions, but it will also provide us with a new growth engine,"*⁴²

Research and development can be undertaken by major corporations or small private companies; it can be funded by government either directly or through national labs or universities, or it can be funded by venture investors or the capital markets. However, companies seeking to move their technology from the laboratory to the market place then face the challenge of moving from the point when the lab work and proof-of-concept have been completed, and it is time to build the first few full-scale projects or manufacturing plants. New energy technologies appear to suffer particularly high attrition at this point in the development cycle. By contrast, fossil fuel-based technologies, whether coal-fired power plants or internal combustion engines, have benefited from over a hundred years' worth of technology development and trillions of dollars of cumulative investment in their supply chains. It is no wonder that their levelised cost – the cost without any subsidies or support mechanisms – is lower than those of new clean energy technologies. And the Government's apparent signalling of further support will only exacerbate this.

Recommendations:

- That the Government drop the focus on rapidly developing our fossil fuel resources and prioritise the funding for specific programmes to develop and secure the commercialisation of clean technologies.
- That the Government institute a national-level research and development strategy prioritizing clean energy which establishes a front-and-centre role in determining the direction, quality, and quantity of New Zealand's R&D and innovation efforts. It must set quantitative targets with strategic focuses to achieve clear targets to increasing the contribution of clean technologies to economic development. These should establishing direct funding programs to support clean energy R&D and give priority to developing technologies related to energy, water resources and environmental protection and strengthen R&D in basic science and cutting-edge technology.
- That the Government incentivise (via a favourable policy framework) the involvement of the private sector in clean technology innovation.

⁴¹ World Economic Forum, Green Investing 2010: Policy Mechanisms to Bridge the Financing Gap

⁴² S Korea to spend \$85bn on green industries, Financial Times article 9 July 2009, accessed via <<http://www.ft.com/cms/s/0/45bf6c4e-6a1e-11de-ad04-00144feabdc0.html>>.

- That the Government promote international collaboration on clean technology and NZ based industry through a series of measures to motivate enterprises, research institutes and universities to “go global”. This could include major collaborative projects in the fields of energy efficiency and renewable energy, to which New Zealand has a wealth of experience in implementation and design. This outreach includes helping Kiwi firms to build a presence overseas; helping to train local staff in partner countries, and mandating “all-in-one service” as the way to transfer technology to local partners. For example, China has a specific programme to seek out and enhance cooperation agreements⁴³ with a focus on new energy and renewable energy development, wind energy resources assessment, large high-efficiency wind turbines, offshore turbines and wind farms.
- That the Government promote industry-academia research collaboration, facilitated through the Ministry of Economic Development formulate favourable policies to encourage private sector investment in R&D and innovation via partnerships with educational institutions, and the Ministry of Education should provide incentives to universities to turn their research into practical products.
- That the Government capitalise on public-private synergies to bring together multi-sector expertise by improving the relationship between government, government agencies and the business sector. In countries such as the UK, the Netherlands and France, a newfound confidence and improvement in enabling public-private interaction has fostered sustainable energy market growth.

5) To underpin the investment needed to grow a clean economy, the Government should set up a Green Investment Bank.

A national, publicly owned Green Investment Bank, such as those established in the UK and Germany, should be proactive in providing affordable credit, capital and guarantees, to leverage further investment in projects, companies and initiatives that are designed to accelerate the transition towards a low carbon economy.

Indeed, as part of its 2010 Budget, the UK Government has announced the set up of a £2 billion Green Investment Bank to support low-carbon and renewable energy infrastructure projects⁴⁴.

And this much needed capital can be raised from a mixture of green bonds, carbon taxes, the redirection of resources held in other part public owned banks. The priority will be to finance a new low-carbon infrastructure for New Zealand. From new and renovated low-energy building stock, to a new multi-scale, multi-technology renewable energy power system to achieve a 100% target, to a clean, efficient, transport network with a hugely enhanced role for mass public transit, the bank would be instrumental in rewiring the nation for a low-carbon future. In essence, it will help to write a national insurance policy against a future of high and volatile fossil fuel prices, geo-political insecurity and carbon constraints due to climate change⁴⁵.

A Green Investment Bank will underpin the needed mobilisation of private capital investment and ensure the sector is properly capitalised to deliver a low carbon economy in New Zealand. Some of the roles it could fulfil would include:

- Helping to structure, in partnership with the private sector, the financing of major projects to deliver the energy, transport and other infrastructure investment necessary to enable the delivery of a Low Carbon Transition Plan;

⁴³ Wan Gang 2009. Relying Science and technology to tackle climate change. <http://www.ccchina.gov.cn/cn/NewsInfo.asp?NewsId=12193>

⁴⁴ <http://www.renewableenergyfocus.com/view/8330/2bn-uk-green-investment-bank-announced/>

⁴⁵ <http://www.neweconomics.org/blog/2010/03/24/two-questions-on-the-green-investment-bank>

• Providing some initial capital or guarantees, as part of multi-bank project financing for major renewable energy, if it is clear that the private capital markets are unwilling to take on the whole risk. This could include creating green investment (or investment savings accounts) bonds to access to the very large pools of capital held by institutional, or 'Mum and Dad' investors. Such products would fit with the long-term investment horizons of pension funds and life insurance companies and would provide the scale of capital needed to fund the low carbon transformation⁴⁶.

• Working closely with both Government policy makers and the investment community to come up with innovative ways to finance the major investment in energy efficiency, renewables, grid improvements and public transport links that will be required as part of a cleaner economy vision.

One advantage of a GIB would be to give the market greater confidence in the long-term future of low carbon investments. If the policy framework could be kept stable for a long time then investors would begin to reduce the price they attach to the uncertainty of policy change. The establishment of, and even a solid commitment towards, a public bank investing taxpayers money for a return, would provide some extra short term certainty for the markets, thus encouraging more private capital and make low carbon investments more attractive. There is an opportunity to create a virtuous circle of public and private investment, but the Government has to make the first move.

The objectives of the bank would have to be explicitly written so that the criteria for investment meant a certain proportion of private capital would have to be levered in order for the investment to be made⁴⁷. Across all projects we would hope to achieve a leverage of 1:10, which is the ratio proposed by John Podesta of the Center for American Progress, for a similar Green Bank in the United States⁴⁸.

Recommendations:

- The Government establish a committee to investigate the establishment of a Green Investment Bank. This could include providing support for encouraging businesses to commercialise low-carbon and renewable energy technologies; a commitment to reform the energy market to provide clean, secure and affordable energy in the long-term; use financial innovation to unlock policy innovation and deliver these markets at scale; developing new products for both institutional and retail investors where additional funding could be raised for public financing of low carbon infrastructure and energy efficiency programmes.
- The Government initiate a fiscal scoping study to identify the mechanisms for establishing a safe and secure environment to encourage investment in a green investment bank. This could be achieved by:
 1. coherent policy design;
 2. increasing the stringency of the Emissions Trading Scheme;
 3. the introduction of a low level carbon tax to raise capital for investment in renewable energy and energy efficiency programmes;
 4. introducing a low cost capital programme funded by green bonds raised from private investors by the GIB and then blended with public subsidy
 5. reducing the level of subsidy to the highest polluters such as coal and oil and place in a clean investment fund;
 6. reforming the tax and royalty regime to channel funding in to a green investment bank.

6) Prosperity through building the integrity of our clean green reputation

⁴⁶ <http://www.climatechangecapital.com/news-and-events/press-releases/green-investment-bank-commission-report-ccc-e3g-joint-announcement.aspx>

⁴⁷ Accelerating Green Infrastructure Financing: outline proposals for UK green bonds and infrastructure bank. Ingrid Holmes and Nick Mabey. Climate Change Capital and E3G. March 2009.

⁴⁸ The Green Bank: financing the transition to the low carbon economy requires targeted financing to encourage private sector participation. John Podesta & Karen Kornbluh. Center for American Progress. May 2009.

New Zealander's like to see ourselves as environmentally conscious and we have marketed ourselves to the world as 100% Pure. Not surprisingly there is a corresponding perception globally that New Zealand is clean and green. A vast percentage of our existing economic prosperity derives directly or indirectly from this reputation internationally.

In the electricity sector New Zealand has authentic credentials with two thirds of our power coming from renewable sources but our ever burgeoning transport and agricultural emissions tell a quite different story. The Living Planet Report 2008 reveals New Zealand's standing on its general ecological footprint (humanity's demand on the planet's living resources), where we rank as the sixth highest per capita of the countries measured and over three times that of the world average.

We are increasingly being called to account to verify the substance of our 100% Pure claims – described as a “green mirage” in one international publication⁴⁹. Under the spotlight this claim could be said to border on dishonest. If we are found out for that dishonesty the reputation cost will be real losses of wealth.

For a nation seeking to preserve existing and develop new drivers of economic prosperity, and a world presented with the enormous challenge of climate change, making good on our reputation by authentically improving the substance of our environmental indicators (with specific emphasis on greenhouse gas emission) is an obvious path.

The dangers of inaction or piecemeal efforts on greenhouse gas emissions and other environmental indicators are significant. We risk further loss of reputation with associated decline in tourism or value-added exports. There is an opportunity cost of failing to consolidate and enhance our brand and stimulate new sectors in the clean-tech industries for example. Finally the cost of further diminishing the quality of our natural resources narrows the options for future generations of New Zealander's and disavows them of their cultural inheritance – clean air and waterways, abundant bio-diversity, home-grown nutrition, the healthy outdoor life and all that derives from our country's natural prosperity.

The Draft NZES suggests that our renewable energy choices “help sustain our reputation as an environmentally responsible nation,” but makes no corresponding speculation on the harm caused to that reputation by the proposed expansion and encouragement of new hydrocarbon industries.

Greenpeace strongly believes it is incorrect to image we can have a bob each ways on fossil fuels *and* renewable energy without harming or diluting our reputation. Expanded petroleum exploration and extraction is a direct contradiction and eroding of our “environmentally responsible reputation” and as such is inconsistent with a step-change energy strategy.

Step-change will only be achieved by a singularity of vision and purpose. The Current NZES proposes a severing off of a new hydrocarbon economy rather than a consolidation of existing renewable strengths in line with a uniquely New Zealand response to the global revolution in clean energy that is set to germinate the worlds new energy future.

Recommendations:

- The Government drop its plans to promote and expand the petroleum and coal extraction industries.
- The Government set a bold and tangible target of 100% renewable electricity by 2020 which should be stated internationally as a means to stimulate international interest and investment and catalyze step-change in our energy economy;

⁴⁹ <http://www.guardian.co.uk/environment/cif-green/2009/nov/12/new-zealand-greenwash>

- The Government work to make New Zealand a global hub for incubating clean technology innovation and sustainable economic development.

Signed on behalf of Greenpeace New Zealand:

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28 February 2011

2050 Emissions Reduction Target Consultation
Ministry for the Environment
PO Box 10362
WELLINGTON 6143

Submission on the plan to Gazette a 2050 Emissions Reduction Target

New Zealand Steel has chosen not to make a company submission on the target proposal. Instead, it would like to endorse the submission being made by the Greenhouse Policy Coalition. The company supports the points made in this submission.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Norm Clark".

Norm Clark
Vice President Strategic Projects
New Zealand Steel