

Response to PCE comments

		<b>PCE comment</b>	<b>Official's response</b>
1	Pg vii, para 4 “The fundamental difference....”	This paragraph should mention the difference in the degree of risk to the government/tax payers between an ETS and tax.	Included
2	Pg x, para 2 “From an environmental...”	Should reword to “To mitigate human-induced changes to the climate, it matters that total global emissions are reduced, and not whether these emission reductions occur in New Zealand or elsewhere.”	Included
3	Pg xi End of Managing the transition through assistance	Add paragraph: “An ETS will also have broad environmental impacts, both positive and negative, on for example, water quality and indigenous land cover. The extent of negative environmental impacts will depend on the details of ETS rules and regulations.” This paragraph should be expanded to include the main points of the section “Other non-greenhouse gas environmental impacts”	Included
4	Pg xi, Cost impact on industry	This section fails to mention the risk of carbon leakage. It should.	Included a text box in the main report on carbon leakage
5	Pg xii bullet points	Add bullet point: “preventing carbon leakage”	Include a text box in the main report on carbon leakage
6	Pg xv, bullet points	This list is incomplete. Should also mention insufficient price incentive, capital constraints, externalities, and an incomplete ETS.	Updated
7	Pg 19, 2 <sup>nd</sup> bullet “Measures to deal with	This bullet point should mention that carbon leakage could cause a net increase in global GHG	Included a text box in the main report on carbon leakage

	carbon...”	emissions – as well as being a trade issue, it is environmental.	
8	Pg 25, para 2 or elsewhere Agricultural issues	Consider referring to the question of whether the current GWP of methane is the most appropriate measure of CO <sub>2</sub> equivalence, the international context of this issue, and its importance for New Zealand.	This wasn't an issue with submitters and in the context of this Dept report we think it's too much detail. However, we're checking with our international negotiators whether they think there is anything useful to add in this context... if so, will get back to you.
9	Pg 27, para 1 “..managing a changing climate...”	Domestic policy can't manage changing climate. Suggest changing to “managing the anthropogenic impact on the climate” and, since adaptation is in the terms of reference, “managing the impacts of the changing climate”	Changed
10	Pg 29, para 4 “...In addition to the reasons....”	This needs better description. Neglects to mention the potential for environmental <i>damage</i> due to poorly designed or implemented mitigation policy, e.g. increasing dairy farming in water catchment areas already over-burdened with farm runoff, as a result of forestry offsetting. Suggest text “Policy designed to mitigate greenhouse gas emissions, taking into account a broader environmental perspective, could produce valuable environmental co-benefits.”	Footnote added
11	Pg 29, para 6 “Climate change is already...”	The climate has always changed. The issue is the impact of anthropogenic GHG emissions on climate. Suggest wording change to: “Human-induced climate change is already evident”	Changed
12	Pg 30, 1 <sup>st</sup> set of bullets,	Given the potential impacts on tourism mentioned	From what is published – no change made

	4 <sup>th</sup> bullet point	below, suggest edit to: “change in rain and snowfall patterns”	Done
13	Pg 30, 2 <sup>nd</sup> set of bullets	This list would benefit from including economic threats such as a) the impact of changing precipitation patterns on e.g. hydroelectric power generation, tourism/alpine industry, b) the risk to plantation forestry, especially to monocultures, of spreading pests, wind damage. etc	List is only examples, not changed
14	Pg 32, para 3 Last sentence	Remove the word “ideally”	Removed
15	Pg 33, para 2 “It is difficult to quantify...”	Should mention the potential impact of changes to the ETS rules, particularly those regarding forestry, on harvest and replanting decisions and timing.	Changed
16	Pg 31, para 4 “...as well as the practical challenge of reducing ...”	Suggested wording change “... challenge of reducing New Zealand’s emissions without undue negative impacts on the broader environment”.	Earlier footnote added that in report “emissions” mean “greenhouse gas emissions”
17	Pg 35, para 3 “...the use of incentives does not..”	Suggested change to “does not guarantee greenhouse gas emission reductions”	Changed
18	Pg 36, para 2, last sentence	Suggest change to “There is a strong case for other policies and measures to be applied alongside a broad price-based measure”	No change made
19	Pg 40, 1 <sup>st</sup> bullet point, Pg 44, para 4, Pg 59, para 1, and elsewhere	Should replace “environmental outcomes” with “greenhouse gas emission reductions” in the main text, not added as a footnote or in brackets.	Changed
20	Pg 43, para 5	This paragraph should mention and describe	Included a text box in the main report on

	Competitiveness impacts	carbon leakage as being a possible negative result from competitiveness impacts.	carbon leakage
21	Pg 47 Price based mechanism design	On Pg 123, the report lists reasons impacting forestry rules including: “Delivery outcomes sought by government at a level above (or below) that which would be provided by considering climate change drivers alone. For example, should the government seek to increase forest planting beyond its climate change benefits (say to improve water quality or reduce erosion) then the NZ ETS might be changed to reduce costs and risks to investors or increase benefits” While not an objective specific to the ETS, the ETS does provide opportunities to move towards other environmental goals. The above paragraph or similar should be included somewhere in the section on price-based mechanism design.	Included section on other environmental impacts section.
22	Pg 48, para 3 “Competitiveness concerns...”	Should be “Competitiveness and carbon leakage concerns....”	Included a text box in the main report on carbon leakage
23	Pg 51, footnote 64	Removals that can not be counted towards NZ’s CP1 commitments should be identified and quantified/estimated.	Further explanation included in footnote
24	Pg 52 -53 Analysis of coverage	This section should describe the risks of not including all sectors, for example competition between agriculture and forestry for land. The related risk of perverse environmental outcomes as a result of this competition for land (including increased GHG emissions, risks to water quality etc) should be described.	Not sure what is meant here
25	Pg 58, para 4	This section only describes the risk to certainty of	Not changed

	“Environmental and...”	greenhouse gas emission reductions, and no other environmental considerations – the title should reflect this.	
26	Pg 67-70 Independent governance	Issues of governance, and the potential role of independent agency to implement the ETS, needs more consideration in this report, particularly given overseas precedent. A comparison of the organizational structures of other countries which have, or are intending to have, an ETS should be provided, including the UK.	Too much detail for this report. NZ should design policy for its own purposes.
27	Pg 69, para 3 and Pg 70, para 3. Timing	While it may be difficult to completely analyse governance structures before the ETS design has been finalized, consideration of organization structure is required now. Functions cannot be defined without some idea of what agency will be undertaking them.	No change made.
28	Pg 73, para 3, Pg 74, para 2 and elsewhere Pgs 71-84	Carbon leakage should be mentioned throughout this section relating to the impacts of competitiveness issues. Indeed, the threat of carbon leakage should be included as one of the “main concerns” (e.g. Pg 81, para 6) of the impact of pricing carbon.	Included text box in the main report on carbon leakage (p91)
29	Pg 84, last para	Decision makers should also consider the impact on net global emissions (carbon leakage).	Included text box in the main report on carbon leakage
30	Pg 86	Suggest calling this section “ Broader environmental Impacts”	Renamed
31	Pg 86, para 1	Replace paragraph with: “Introducing a price on carbon is likely to have unintended broader environmental impacts.”	Covered in “ Broader environmental Impacts” section

32	Pg 86, para 3	New paragraph: “The Cawthron Report identified many ways in which the ETS may impact the environment, both positive and negative. The potential impact of greatest concern is the threat to high value biodiversity from incentivizing the planting of exotic forests. Another significant and likely effect is the increased risk of wilding trees on areas of high landscape or conservation value, including much of New Zealand indigenous grasslands. Other potential impacts include risks to water and soil quality in certain regions.”	Covered in “ Broader environmental Impacts” section
33	Pg 86, last paragraph	Consider: “Although outside its core intent, the broader environmental impacts of the ETS should be considered.”	Changed
34	Pg 91, 1 <sup>st</sup> bullet point	Suggest add sentence “An example of a measure to remove an information barrier is the introduction of smart electricity meters (which provide real-time information on price and consumption of electricity in the home.)”	Considered, but this is more a of demand side response measure than an information measure.
35	Pg 91, para 2	This list is not exhaustive, suggest amend to emphasize this, eg: “Some market failures that may warrant the use of non priced-based measures include:”	Not included - The main market failures are covered.
36	Pg 91, bullet 5	Suggest adding to this point: “For example, inefficient electric resistance heaters are much cheaper than more efficient heat pumps or wood burners.”	Included

37	Pg 91	<p>This list should include these other reasons for market failure:</p> <ul style="list-style-type: none"> <li>- Externalities. Decisions may be made based on reasons external to the ETS. For example, the decision to build a plant that converts lignite to liquid fuel, with significant CO<sub>2</sub> emission implications, may be strongly influenced by National Strategic Issues such as a desire for independence of fuel supply.</li> <li>- Incomplete ETS. As discussed below, where the ETS is incomplete, that is not all sectors are included, or there is free allocation, the strength of the price signal is weakened.</li> </ul>	These are not necessarily externalities, and not sure that govt should look to offset an externality caused by its own policies.
38	Pg 93, para 3 “However, these arguments....”	Suggest removing this paragraph altogether. Otherwise reword to read “Arguments (i) and (ii) are based on a lack of confidence in agreed international frameworks for trading. This concern must be balanced against the importance of supporting global agreements. In the case of (iii)....”	Considered but text not changed
39	Pg 97	Should add “The New Zealand Climate Change Research Centre submits research into agricultural mitigation is required that is coupled with analysis of the related economics and policy options.”	Not included
40	Pg 99 Analysis	This section needs to better represent the need for research into economics and policy of climate change in the New Zealand context.	Note that most economic research relating to policy design is not funded through the research system but as part of the policy development process
41	Pg 99	This section fails to respond to the relevant Terms	Officials cannot comment on this in this report.

	Analysis	of Reference, which is to “consider the case for increasing resources devoted to New Zealand specific climate change research”. An integrated and strategic overview including a plan for all government funded climate change research should be described here. Analysis of whether the government investment in climate change research is being optimally spent should be presented, as well as any holes identified where research is needed to aid effective decision making on the ETS. In addition, any structural barriers which impede progress of climate change research in New Zealand, or the clear transmission of its findings to decision makers, should be identified. If this analysis is not available now, high priority should be given to this assessment.	
42	Pg 99 Analysis	This section should pull together research needs identified in other parts of this report and identify the extent to which they are being carried out. For example those described in the RIA chapter and agricultural section.	This section does this. Note comment above about economic research normally being funded as part of policy development process.
43	Pg 99, bullet points	Add another bullet: “Inform effective policy and decision making.”	Included
44	Pg 100, para 2	The issue of the CO <sub>2</sub> equivalence measure of methane and the science, economic and policy implications should be mentioned here specifically (i.e. the question for New Zealand is not just trying to reduce methane emissions, but ensuring New Zealand pays a fair price internationally for the	Not changed

		methane that is emitted).	
45	Pg 106, para 7	Motu's contribution is greater than just the model development. Alter sentence to read "They seek to inform climate change policy incorporating understanding from both natural science and economic analysis".	Not changed
46	Pg 106, para 8 Last sentence	Include a justification for this statement. More info is needed, e.g. \$\$, and how is research defined as being adaptation or mitigation.	Not changed
47	Pg 106, para 8-9	Should mention the need for integrated science, economic and policy research to inform New Zealand's climate change response (e.g. New Zealand Climate Change Centre's submission).	Not changed
48	Pg 112 Agriculture analysis	This section should mention somewhere the issue of whether the current GWP of methane is the most appropriate measure of CO <sub>2</sub> equivalence. If this changes, it could significantly increase or decrease the incentives to reduce methane emissions.	This was requested in the previous set of comments but firstly, it seems to be an issue for all ghgs, secondly its not where submitters focused. It is an important issue for obvious reasons, but in the context of the Dept report, we think it's too much detail.
49	Pg 113, para 3 "Some submitters...."	For report cohesiveness and because it would aid the reader, suggest the words "carbon leakage" were used in this sentence.	Adopted
50	Pg 113, para 3 "There are good economic..."	Should read "There are good economic and environmental reasons to continue to improve the efficiency of production..."	Adopted
51	Pg 114, para 7	Need to define what a "hybrid option" is.	Adopted
52	Pg 114, para 8	What is the default option for the point of obligation? If it is the processor this should be explicitly stated.	Adopted

53	Pg 120, 2 <sup>nd</sup> set of bullets	Another bullet point is required, suggest: “broader environmental impacts including those resulting from incentivizing the planting of exotic species over indigenous, risks to water quality and threats to existing indigenous land cover including grasslands.”	<p>It is noted that the ETS and programmes like AGS and PFSI are incentivising indigenous planting and regeneration. Management of broader potential environmental impacts are addressed by means other than the ETS, such as the RMA and territorial plan rules.</p> <p>We accept that an additional bullet point here along the lines of that proposed is relevant. We suggest though that the wording is too definitive in some cases. Also - we don't believe that the comment on risks to water quality are supported by the relevant science. Our recollection of the science is that afforestation (be it with indigenous or exotic forests) substantially increases water quality. We have therefore added the following additional bullet:</p> <ul style="list-style-type: none"> <li>• There may be broader environmental impacts, including those possible impacts resulting from incentivising the planting of exotic species (which accumulate carbon faster than most indigenous forest species), and possible threats to existing indigenous grassland cover.</li> </ul>
54	Pg 122, para 4 “There is also the	The second part of this statement will depend on the rules and is not necessarily accurate. Later (pg	There may be confusion between economic and fiscal costs, however we have changed this to:

	incorrect.....”	102) the report does describe estimates for costs to the crown but this is based on some big assumptions which should be made explicit. The potential fiscal impacts of deviating from Kyoto rules should be expanded upon.	There is also the perception by some that applying the Protocol rules domestically creates economic losses and that there are economic gains to be had by deviating from the rules. As a general rule this is not the case since overall welfare in New Zealand is typically optimised where decision-makers face the marginal costs and benefits of their decisions as seen by the New Zealand economy.
55	Pg 123, bullet points	Add another bullet point: “Mitigating the potentially negative impacts of the Kyoto forestry rules on the broader New Zealand environment. For example, removing incentives to allow wilding pines to become establish on indigenous grasslands.”	Noted but no change made. Albeit the comment makes a point, that this is one <i>possible</i> reason to deviate from the KP rules, management of wilding pines is not the ETS’s role and also the ETS doesn't have the role of encouraging forests (or any other abatement option per se). The extent that such matters are attempted to be covered by the ETS and the Act, is the s88(1)(c) requirement that an application to register as a participant in respect of post-89 forest land must be accompanied by a declaration that any action action taken by the applicant after 1 January 2008 in relation to the post-1989 forest land in respect of which the application is submitted (including, but not limited to, removal of any existing vegetation prior to planting of the forest species on the land) complied with the provisions of the RMA, including any plan under that Act, and

			the Forests Act 1949, as in force at the time that the action was taken.
56	Pg 123, para 5 “There is no provision...”	There are potentially large differences between an area replacement versus a carbon replacement requirement in offset forests. For an equivalent area to sequester equivalent amounts of carbon, it would require equivalent soil quality etc, reducing the net benefits to the landowner of offsetting. This is an important distinction and should be discussed.	Agreed. The text has been amended previously to clarify that offsetting would require landowners to establish an equivalent (in area and/or carbon sequestered) offset forest. The detail sought is too detailed to include in this Report, but is fully understood and would feature in any policy consideration of how offsetting could work.
57	Pg 126 Other Environmental considerations	Should be renamed “ Broader environmental costs” and moved next to, or to be part of the “Costs of Offsetting” section.	Considered, but not changed.
58	Pg 126, para 3 “Officials understand...”	This sentence is misleading. Despite regulation, in practice dairy conversions lead to higher nutrient loadings in runoff and correspondingly poorer water quality, particularly in areas already under pressure. Remove this sentence altogether.	Considered, but not changed. The comment seems to be agreeing that conversion will put pressure on water quality (no matter how high the standards of the conversion), so we wish to retain the point. We have however made changes in light of the next comment (59).
59	Pg 126, para 3 “However the water quality in.....water quality issues”	Weak and misleading. Replace these two sentences with “Conversions of existing forest to dairy farming use, facilitated by offsetting, will generally exacerbate water quality issues.”	Done.
60	Pg 126, para 4 “Concerns have also...”	This sentence should also mention the significant threat to indigenous grasslands from offset planting of exotics species.	Refer earlier comments to Alex. Not changed.
61	Pg 126, para 4 “However, the degree....”	Remove the word “However”.	Done

62	Pg 126, para 4 “It should also be noted...”	Misleading. For significant areas of indigenous scrubland, referred to in the opening sentence of this paragraph, the ETS <b>does not</b> provide any positives. The sentence should be removed or amended to read “It should also be noted that under the NZ ETS there are some positives for indigenous scrubland that can qualify as forest.”	Not agreed, however the sentence has been changed as follows: It should also be noted that under the NZ ETS there are some positives for indigenous scrubland that meets or can meet the definition of forest land, either naturally or with assistance.
63	Pg 126, para 4 “However, the NZ ETS (and complimentary .....”	Incomplete. Additional sentence needed at end of paragraph: “However, the financial reward for retaining indigenous scrub is considerably lower than the reward for planting the same land in exotic tree species.	Done
64	Pg 139, bottom of page. Pg 140, para 4, bullet 5. Pg 140, para 4, bullet 6. Pg 140, para 6, 2 <sup>nd</sup> sent. Pg 141, para 3	<p>The terms of reference imply that the modeling will compare the proposed ETS with a tax. This is not what the report modeled – in fact it modeled an ETS <i>as</i> a tax.</p> <p>This needs to be explicitly pointed out. This point is acknowledged in the text at one point. Nevertheless, referring to scenarios as “ETS” or “narrow tax” will still be misleading, as it implies the defining difference between these scenarios is the type of pricing instrument – which is incorrect. For example, the difference between the “ETS” and the “narrow tax” appears to be sectoral coverage. Both types of pricing instruments can have narrow sectoral coverage. Another example is a carbon “tax” scenario where</p>	Have clarified that an ETS is modeled as a tax, but in other cases have just used the wording as it is in the NZIER/Infometrics report.

		<p>the defining feature is that the domestic price is different to the world price. However, in this modeling framework, the results would be equivalent to an ETS with price controls (e.g. price ceiling or floor).</p> <p>Consider referring to the scenarios as a something along the lines of “carbon pricing”, “carbon price with narrow sectoral coverage”, “domestic carbon price different from international price” instead of “tax” or “ETS”.</p> <p>The point could then be made that both a tax and an ETS can be designed in this way.</p>	
65	Pg 140, para 2, “The specification of various...of the contractors”	Remove this sentence - doesn’t add anything.	Done
66	Pg 140, para 5	<p>It is acknowledged that Business-as-usual (BAU ) scenario has no impact on the relative impacts of policies, and consequently the real substance of the report. <b>However, the BAU does impact the magnitude of all policies modeled, which leaves the report open to interpretation in a misleading way.</b></p> <p>Consider adding a paragraph that more fully explains the lack of realism regarding the BAU. For example, discuss the fact the BAU excludes</p>	This is reflected in the text

		<p>any trade sanctions, overseas consumer backlash, impact on international negotiations etc.</p> <p>Also, remove this text “but it does cause some confusion as all scenarios are presented with negative signs” as it is unhelpful.</p>	
67	Pg 140, para 6 “The modeling results show ...”	The equity implications of the government purchasing permits from general taxation should be mentioned.	Now covered in the analysis section
68	Pg 140, para 7 “The report recommends ...”	<p>The main recommendation in the NIZER/Infometrics report: “On balance, our recommendation in the short run is to introduce an ETS with free allocation to competitiveness-at-risk sectors, with agriculture excluded if measurement of its emissions is prohibitively expensive. Free allocation should be output-linked and phased out as our competitors adopt carbon pricing. If agriculture is initially excluded it should be transitioned into the ETS, with free allocation if required, as measurement becomes economic.”</p> <p>In the report it is summarized as recommending a “narrow” policy. This is not our interpretation of the recommendation. NZIER/Infometrics appear to recommend all sectors are included, except possibly agriculture depending on the measurement costs.</p>	Changed - have now quoted the recommendation directly

		Consider directly quoting this recommendation, to avoid any doubt. Alternatively, fully define what “narrow” means.	
69	Pg 141, para 7. & pg 139 first bullet list.	<p>We agree that many of the issues that were raised in submissions need to be considered. An analysis of distributional impacts, to enable the provision of appropriate transitional assistance, is required.</p> <p>Longer term, considering the environmental costs of climate change, with a view to adaptation, will also be extremely important. However, “comparing the impacts of climate change with the costs of response” will add little to policy debate, given the uncertainties and risks and the fact that NZ is a signatory to Kyoto.</p>	
70	Pg 141, para 7. “The fact that these ...”	This sentence relates to international backlash resulting from New Zealand not introducing domestic policy. It states that excluding costs of the backlash will not affect the relative costs of the scenarios. However, we argue that excluding this factor <b>will</b> affect the relative costs, because the likelihood and extent of any backlash or sanction depends on the domestic policy.	Sentence removed
71	Pg 141, para 2 “As the carbon price rises above a certain level ... “	What does the modeling suggests this level would be? Should be included/mentioned.	The following text has been added: “At \$25 per tonne, Infometrics model ranks a carbon price equal to a government pays scenario, while the NZIER model slightly favours the latter. At higher prices, both models show that introducing a carbon price is preferable. “

72	Pg 141, para 7. “Factors that are not captured ...”	For clarity instead of referring to consumers, refer to overseas consumers and other governments	Done
73	Pg 142, para 1 “The study does not ...”	Remove the second part of this sentence: “as this was not explicitly ...reference”	Remains – need to explain why regulatory measures were not analysed
74	Pg 142, para 3 “A number of ...”	<p>This paragraph outlines the assumptions/modeling difficulties that would cause the costs from the modeling results to be overstated. For balance, a list of assumptions/ modeling difficulties that could lead to <b>understating</b> the cost should be added.</p> <p>Following this, a discussion could be added regarding the fact that forecasts of regulation costs are often overestimated. As a supporting example, the sulphur dioxide market in the US could be referred to. Also, a paper has analysed 25 cost estimates of environmental regulations (including the sulphur dioxide market), and found that 12 cases over estimated where as 6 underestimated costs. Much of the overestimation was attributed to unanticipated technical innovations. The reference is Harrington, W, Morgenstern, D, &amp; Nelson P. 1999. “On the Accuracy of Regulatory Cost Estimates.” <i>Discussion Paper 99-18</i>. Resources for the Future.</p> <p>We suggest that these findings are discussed here.</p>	<p>There are many modeling assumptions; it’s not feasible to discuss them all. We believe these are the main ones affecting the results.</p> <p>Not included, the report does not cover regulatory measures.</p>