

ETG Report - Fiscal impacts of possible changes to the emissions trading scheme

Date:	13 February 2009	MfE Priority:	NON-URGENT
Security Level:		Number of Attachments:	Nil
		MfE Ref No:	09 -B-0166

Action Sought

	Action Sought	Deadline
Minister of Finance Minister for Infrastructure Hon Bill English	Note.	None.
Minister for Climate Change Issues Hon Dr Nick Smith	Note the fiscal impacts of possible policy changes to the emissions trading scheme	None
Minister of Agriculture Minister of Forestry Hon David Carter	Note.	None.
Associate Minister for Climate Change Issues (International Negotiations) Minister of Trade Hon Tim Groser	Note.	None.

Ministry for the Environment Contacts [if required]

Name	Position	Telephone		1st Contact
		(cell)	(work)	
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ETG Report - Fiscal impacts of possible changes to the emissions trading scheme

Executive Summary

The government has signalled that it wishes to amend the Climate Change Response Act 2002 (CCRA), which establishes the New Zealand Emissions Trading Scheme (NZ ETS), by the end of September 2009 (the "legislative review"). This note broadly identifies the fiscal costs and other impacts that might occur from policy changes through the legislative review. Other possible policy changes that might be discussed at the special Select Committee review and could come up through the legislative review are also detailed. The table below is a summary.

Policy change	Fiscal impact per year to 2013	Fiscal impact per year 2013 to 2020
Delay the entry of agricultural methane emissions by 2 years to 2015	Zero	\$90m per year until 2015
Delay the entry of all agricultural emissions by 2 years to 2015	Zero	\$150m per year until 2015
Delaying the entry of the stationary energy sectors for 6 months	\$100m for the six month delay	Zero
Delaying the entry of the synthetic gases sectors by 2 years to 2015	Zero	\$20m per year until 2015
Excluding agricultural methane emissions from any ETS obligations until 2020 at least	Zero	\$90m in 2013, increasing to \$220m in 2020
Excluding the synthetic gases sector from any ETS obligations until 2020 at least	Zero	\$20m
Bring forward entry of the transport sector to 2010	\$350m benefit in 2010 only	Zero
Applying a high market price cap of \$NZ100	Zero, unlikely to be met	Possibly large (>\$200m)
Applying a low market price cap of \$NZ20	Probably large (>\$200m)	Almost certainly large (>\$200m)
Removing restrictions on the use of international units	Zero	Zero
Increasing restrictions on the use of international units	Zero	Zero
Removing the innovation fund	Zero	Zero
Increasing the fishing allocation	\$5m to \$10m	\$10m-\$20m, but smaller after 2018
Using an intensity based allocation approach ("soft cap") for the industrial sector allocation	Depends on design	Depends on design
Using an intensity based allocation approach ("soft cap") for the agricultural sector allocation	Zero	Depends on design
Using an intensity based allocation approach ("benchmarking") for the industrial sector allocation	\$50m to \$125m and increasing over time	Increasing over time and possibly large (>\$200)
Using an intensity based allocation approach ("benchmarking") for the agricultural sector allocation	Zero	Up to \$150m initially and increasing over time

ETG Report - Fiscal impacts of possible changes to the emissions trading scheme

Note that a carbon price of \$25 per tonne of carbon dioxide equivalent is used. Forest offsets are not included as various models can be used and separate briefing material is being prepared.

The attached annex provides greater detail including a short description of each policy change, the effect of each change on the scheme's integrity, and any economic costs.

This note is for information only. It is part of a series of briefing notes that will be provided to ETS Ministers on possible amendments to the CCRA in February. When policy changes are being considered more directly, then fuller analysis on costings and related impacts will be provided.

Recommended Action

We recommend you:

- | | |
|--|-----------------|
| (a) Note the fiscal impacts of possible policy changes to the emissions trading scheme. | Yes / No |
|--|-----------------|

Stuart Calman
Acting General Manager, Emissions Trading Group

Date

Hon Dr Nick Smith
Minister for Climate Change Issues

Date

ETG Report - Fiscal impacts of possible changes to the emissions trading scheme

Purpose of Report

1. To provide you with an outline of the fiscal implications of potential changes to the New Zealand Emissions Trading Scheme (ETS). We understand the Minister of Finance has expressed an interest in preliminary information at this time.

Background:

2. There are many possible ways in which the ETS could be changed. Discussions on possible changes are likely to emerge through the special Select Committee review of climate change, as well within the legislative review by Ministers. Any changes, however, need to be seen against what the scheme is trying to achieve.
3. The ETS seeks to meet New Zealand's international obligations at least cost through exposing all emission sources, in all sectors of the economy, to the emissions price that the international climate change agreement creates. This leaves decisions about how much to emit with those who know, and can respond to, the costs and benefits of reducing, or increasing, emissions. It is the emitters, not government, who are best placed to make these decisions.
4. As the ETS is a response to obligations that are expected to be long term, it is an instrument designed to achieve a lasting change across New Zealand's economy. It represents an adjustment from an economy in which emissions are un-priced to an economy where the prices seen by emitters take into account the impacts of their decisions on the climate.
5. The fiscal impacts of changes to the ETS are therefore noticed in two ways – either through a decrease or increase in revenue resulting from including less or more emissions, or through changes to the level of free allocation of NZUs. The free allocation of NZUs is recorded as an expense on the Crown's accounts as it involves the government giving away an asset.

Potential changes to the ETS

Areas identified by the government

6. Officials understand that the government wishes to review the following aspects related to the ETS, amongst others:
 - a. Allocation (including increased assistance to fishing);
 - b. Innovation fund;
 - c. Consumer assistance;
 - d. Fiscal neutrality.
7. Separate advice is being prepared on forestry flexibility mechanisms including forest offsets that include fiscal impacts.

Other potential changes

8. Officials have identified several other possible changes that may well be the subject of discussion in the legislative review and emerge through the special Select Committee review. These are:

ETG Report - Fiscal impacts of possible changes to the emissions trading scheme

- a. Delaying the entry of all agricultural greenhouse gas emissions, or just agricultural methane, or the stationary energy or synthetic gas emissions into the ETS;
 - b. Excluding the entry of all agricultural greenhouse gas emissions, or just agricultural methane, or synthetic gas emissions into the ETS;
 - c. Advancing the entry of liquid fossil fuels into the ETS;
 - d. Applying a high or low market price cap;
 - e. Removing or strengthening restrictions on the use of international units.
9. The annexed table contains a summary of the outcomes of the changes based on a carbon price of \$25/tCO₂e. For each potential change we have:
- Described the fiscal impact on the Crown, up to the end of the Kyoto Protocol's first commitment period (end of 2012) and for the period beyond to 2020.
 - Described the economic impact. Unlike fiscal impacts, which just represent transfers of wealth between the Crown and other entities, economic impacts represent costs and/or benefits to New Zealand as a whole. Economic impacts occur because policy changes will reduce emissions more or less expensively than would otherwise be the case.
 - Indicated the level of certainty associated with the estimates of the economic and fiscal impacts. Sources of uncertainty include quality of existing emissions data, cost of domestic emission reductions, future emitter behaviour and the international price of emissions.
 - Included a description of the effect (if any) of the potential changes on the overall integrity of the scheme considering its overall purpose.
 - Identified the most affected parties for each change, as some changes to the ETS will have a distributional impact (i.e. shifting costs and benefits between sectors, emitters, taxpayers and households).
10. The figures in the annexed table should be treated as estimates only. Further analysis is recommended if you want to consider proceeding with any of these potential changes to the ETS. Where these changes are known by officials to be topics of interest to the government, briefings are already being prepared.

Other issues with fiscal implications

11. Officials continue to prepare updated estimates of net emissions over 2008 to 2012 (the "net position report"). New data is available for post-1989 forestry removals that may make a material reduction on New Zealand's projected net emissions over 2008-2012. Given that a proportion of removal units are not expected to be devolved to forestry operators, this gain in removal estimates will reduce our projected Kyoto liability (note however that the Kyoto liability is recorded separately in the Crown accounts from the ETS fiscal implications). However, the extra carbon stored will be considered emitted on harvest, thus there is a commensurate increase in future emissions. The preliminary net position report estimates will be provided to you on March 20. The net position report and confirmed estimate will be provided to you during May 2009.
12. It should be noted that while the net position report might show a material reduction in projected emissions, there is potential for the estimates of projected emissions to increase once new data on indigenous forestry activities is collated and conclusions

ETG Report - Fiscal impacts of possible changes to the emissions trading scheme

drawn. Results from the Land Use and Carbon Analysis System (LUCAS) will be available to you after June 30. There is considerable uncertainty on where the final numbers will fall, with potential for a negative picture emerging quickly after a positive message from the net position report.

13. Secondly, recent work on an emissions factor for purchased electricity (by a joint officials and industrial advisory group) suggests an increased likelihood that the budgeted allocation is overestimated, subject to decisions on eligibility for assistance. This may provide a fiscal benefit to the government relative to that currently in the Crown accounts.

Next steps

14. Further analysis of any of the attached changes can be provided if required. We can also provide advice on any other changes you wish to consider.

ETG Report - Fiscal impacts of possible changes to the emissions trading scheme

Annex – Full table of possible policy changes and impacts

		Description	Impact on scheme integrity	Who affected	Fiscal cost to 2012 per year \$m	Fiscal cost 2013 to 2020 per year \$m	Economic impact	Uncertainty
Sectoral delay	Agricultural CH4	Delay entry 2 years until 2015.	Minor as all sectors all gases approach remains intact.	Agriculture sector pays less. Taxpayer pays more.	Zero. No change to status quo.	\$90M cost per year until 2015.	Small. Few cost effective abatement options exist short term.	Fiscal and economic impacts reasonably certain.
	Agricultural CH4 and N2O	Delay entry 2 years until 2015.	Minor as all sectors all gases approach remains intact.	Agriculture sector pays less. Taxpayer pays more.	Zero. No change to status quo.	\$150M cost per year until 2015.	Small. Few cost effective abatement options exist short term.	Fiscal and economic impacts reasonably certain.
	SEIP	Delay entry for 6 months.	Minor as all sectors all gases approach remains intact.	SEIP sector pays less. Taxpayers pay more.	\$100M cost for 6 months in 2010.	Zero. No change to status quo.	\$10M-\$25M cost for 6 months in 2010.	Fiscal impact relatively certain. Economic impact uncertain.
	Syn gases	Delay entry 2 years until 2015.	Minor as all sectors all gases approach remains intact.	Synthetic gas sector and their customers pay less. Taxpayers pay more.	Zero. Currently no revenue until 2013.	\$20 cost until 2015.	Small. Short term abatement options limited.	Fiscal impact and economic impact uncertain.
Sectoral exclusion	Agriculture CH4	Exclude until 2020 at least.	Potentially significant given contribution to emissions, expected growth and thus demand for NZUs. It will become more difficult to bring the sector into the scheme the longer growth is subsidised.	Agriculture sector and their customers pays less. Taxpayers pay more.	Zero. Currently no revenue until 2013.	\$90m cost , increasing to \$220 by 2020.	Small in the short term, but potentially large over time. Potential implications for export markets.	Fiscal impact uncertain. Economic impacts relatively certain in the short term but less certain over time.
	Syn gases	Exclude until 2020 at least.	Some but emissions are minor and mitigated by complexities of inclusions.	Synthetic gas sector and their customers pay less. Taxpayers pay more.	Zero. Currently no revenue until 2013.	\$20m cost .	Small in the short term as few cost effective abatement options but growing over time.	Fiscal and economic impact uncertain but costs involved are small relative to SEIP/forestry/industrial sectors.

ETG Report - Fiscal impacts of possible changes to the emissions trading scheme

		Description	Impact on scheme integrity	Who affected	Fiscal cost to 2012 per year \$m	Fiscal cost 2013 to 2020 per year \$m	Economic impact	Uncertainty
Sectoral advancing	Transport	Bring forward to 2010.	Not significant.	Users of liquid fuels pay more earlier. Taxpayers pay less.	\$350M benefit in 2010 only (assuming fisheries allocation).	Zero. No change to status quo beyond 2010.	Small.	Relatively certain.
Price cap	High	of \$100/tCO ₂ e.	Minor but potential issues with linking internationally long term.	Potentially no-one if market price never reaches cap. Otherwise same as low price cap.	Probably Zero. Emissions price unlikely to exceed \$100 per tonne in CP1.	Possibly large (>\$200m). Magnitude depends on difference between cap and world price.	Probably small short term - uncertain long term. Magnitude depends on difference between cap and world price.	Relatively certain in the short term. Increasingly uncertain in the long term. The future price of emissions is difficult to predict.
	Low	of \$20t/CO ₂ e.	Significant through inhibiting domestic market development, linkages to international ETSS, and failing to fully incentivise mitigation and sequestration.	All market participants.	Possibly large (>\$200m). Magnitude depends on difference between cap and world price.	Almost certainly large (>\$200m). Magnitude depends on difference between cap and world price.	Probably large. Price cap likely to be triggered and cost effective domestic abatement will be forgone. Longer term adjustment to a low carbon economy is harder.	Uncertain. The future price of emissions is difficult to predict.
Removing AAU restrictions		Approving all Kyoto units for compliance, rather than requiring imported AAUs to be "greened".	Makes the ETS fully conversant with all Kyoto markets, but creates the risk of a very low price within the NZETS and may not result in many emission reductions. Would increase difficulty in linking with other schemes.	Points of obligation will have access to cheaper emission units (although it is unclear whether any non-greened AAUs are available) and lower transaction costs. Value of allocated NZUs lowered.	Zero. AAU restrictions do not affect the Crown.	Zero. AAU restrictions do not affect the Crown.	Benefit of lower prices in the NZ ETS. Magnitude depends on prices. Longer term adjustment to a low carbon economy is harder.	Fiscal impacts are certain. Economic impacts are uncertain as volume and price of 'ungreened' AAUs are very uncertain (could be many at a very low price or unavailable).

ETG Report - Fiscal impacts of possible changes to the emissions trading scheme

	Description	Impact on scheme integrity	Who affected	Fiscal cost to 2012 per year \$m	Fiscal cost 2012 to 2020 per year \$m	Economic impact	Uncertainty
Increasing AAU restrictions	Restricting international units for compliance to just CERs and ERUs.	Negative economic integrity impact as will increase market costs but with no equivalent environmental benefit. This change is required if our ETS is to link with the proposed Australian ETS.	Points of obligation must purchase more expensive emission units and may have higher transaction costs. Value of allocated NZUs increased.	Zero. AAU restrictions do not affect the Crown.	Zero. AAU restrictions do not affect the Crown.	Cost of higher prices in the NZ ETS. Magnitude depends on prices. Negative international perceptions.	Fiscal impacts are certain. Economic impacts are uncertain as volume and price of 'ungreened' AAUs are very uncertain (could be many at a very low price or unavailable).
Removing the innovation fund	Currently 150,000 NZU from the industrial allocation pool will be provided to incentivise otherwise too costly technologies for three years. Deleting this fund would increase the allocation to that sector.	No significant impacts.	Those who are eligible for the industrial allocation pool get a larger allocation. Industry members that are ineligible for the allocation pool miss out on an opportunity to access innovation fund.	Zero (no impact because NZUs are given to other industry members).	Zero (no impact because NZUs are given to other industry members).	Economic benefits from innovation are lost. Economic costs avoided as increased allocation pool reduces economic regrets.	Fiscal impacts are certain. Economic impacts are very uncertain because they depend on effectiveness of innovation fund and effectiveness of free allocation.
Increasing fishing allocation	Currently 50% for three years, increase it to match SEIP allocation (90% of 2005 emissions) and timing (until 2018 declining to zero in 2029).	No significant impacts.	Operators of fishing boats receive more allocation. Taxpayer pays more.	\$5M - \$10M cost.	\$10M-\$20M cost (but declining post 2018).	Zero. Increased free allocation does not change the incentive to reduce emissions, only transfers wealth.	Fiscal impacts are uncertain. Economic impact is certain.

ETG Report - Fiscal impacts of possible changes to the emissions trading scheme

		Description	Impact on scheme integrity	Who affected	Fiscal cost to 2012 per year \$m	Fiscal cost 2013 to 2020 per year \$m	Economic impact	Uncertainty
Intensity based allocation methodology ("soft cap")	Agriculture	A "soft cap" approach to allocation would provide a pool that changed with output.	Significant impact on scheme integrity as moves away from full marginal price on emissions. Growth in emissions is more likely.	Potentially more generous to industry at the taxpayer's cost. Will change the distribution of free allocation within the sector.	Zero. No change to status quo.	Depends on design. Could attempt to be as generous as the existing cap so that fiscal impact is zero.	Likely to be a net cost.	Fiscal impacts and economic impacts are uncertain.
	SEIP	As above.	Significant impact on scheme integrity as moves away from full marginal price on emissions. Growth in emissions is more likely.	Potentially more generous to industry at the taxpayer's cost. Will change the distribution of free allocation within the sector.	Depends on design. Could attempt to be as generous as the existing cap so that the fiscal impact is zero.	Depends on design. Could attempt to be as generous as the existing cap so that the fiscal impact is zero.	Likely to be a net cost.	Fiscal impacts and economic impacts are uncertain.
Intensity based allocation using a benchmark	Agriculture	This approach to allocation would involve establishing an a benchmark level of emissions per unit of output and awarding allocation on this basis.	Significant impact on scheme integrity as it moves away from a full marginal price on emissions more likely. Potentially very administratively complex.	Sector probably pays less and the taxpayer more depending on the benchmarks set.	Zero. No change to status quo.	Up to \$150 Million cost initially. Increasing over time.	Small in the short term but increasing over time.	Fiscal impacts and economic impacts are uncertain.
	SEIP	As above.	Significant impact on scheme integrity as it moves away from a full marginal price on emissions more likely. Potentially very administratively complex.	Sector probably pays less and the taxpayer more depending on the benchmarks set.	\$50M to \$125M cost initially and increasing over time.	Probably large, increasing over time.	Small in the short term but increasing over time.	Fiscal impacts and economic impacts are uncertain.