Emissions Trading Scheme
REVIEW 2011

DOING NEW ZEALAND'S FAIR SHARE

Emissions Trading Scheme Review 2011 / FINAL REPORT

EMISSIONS TRADING SCHEME REVIEW PANEL / 30 JUNE 2011

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Executive summary

The New Zealand Emissions Trading Scheme (the ETS) incentivises businesses and households to reduce their greenhouse gas emissions by imposing a cost on these emissions. Forestry was the first sector to enter the scheme (on 1 January 2008). Three other sectors joined in July 2010 (liquid fossil fuels, stationary energy and industrial processes). Waste and synthetic greenhouse gas sectors are due to enter the scheme in January 2013 and the agriculture sector in January 2015. At that point, the ETS will cover virtually all greenhouse gas emissions and all direct sources of those emissions.

The Government appointed a panel (the Panel) to review the ETS, as required under the Climate Change Response Act 2002 (the Act). This is the Panel's final report and sets out its key conclusions and recommendations. These are consistent with its terms of reference and the matters under the Act that the Panel has to consider. The Panel has consulted widely with stakeholders during its review.

The Panel has been asked to consider in particular how the ETS should evolve beyond 2012. Specifically, the Panel has been asked to advise on whether the current transition phase (that is, the one-for-two obligation and price cap) should continue, and whether new sectors should enter the ETS as currently scheduled.

Principles and considerations

In reaching its recommendations, the Panel has been guided by a number of considerations. The ETS is New Zealand's primary means of incentivising the long-term behavioural change that is required to reduce emissions, supported as appropriate by a range of other measures. The key question is how quickly the economy as a whole, and individual sectors in particular, should be asked to adjust to such a cost, taking into account a range of factors, including international obligations, competitiveness risks and the availability of abatement options.

The Panel notes that uncertainty about the future of international climate change agreements is likely to continue in the short to medium term. It is unlikely that a successor to the Kyoto Protocol will be in place by the end of 2012. However the Panel believes that New Zealand will continue to face a range of strong international drivers to take responsibility for its emissions. The Panel considers that these drivers, including prospects for a new international agreement, can only increase over time.

As a result the Panel believes it is in New Zealand's long-term economic interests to continue to change behaviour and that the incentives to do so should continue to increase through a cost on greenhouse gas emissions. Critically, the Panel considers that it is important for the Government to send a clear signal for the future evolution of the ETS, so that businesses and households have greater certainty and confidence in their long-term investment and purchasing decisions.

The Panel notes it is incorrect to say our international competitors are not taking any action to reduce their emissions. The Panel has heard about the variety of measures that a range of countries, including Australia, the European Union, China and the US, have introduced or are planning to introduce despite the current international uncertainty. These measures are not always emissions trading schemes, but they may impose comparable costs and reduce emissions by a comparable amount.

However, the Panel recognises that increasing incentives for emissions reductions through the ETS will increase the cost imposed on our economy in the short term. The Panel acknowledges there needs to be an appropriate balance between managing these short-term costs and providing a clear long-term direction. Given the current international uncertainty and the challenging state of the economy, this means there should be measures in place which ensure the increase in the costs of the ETS occurs at an appropriate pace.

So long as this does not reduce the certainty that businesses and households have about the costs they will face in future, it should not threaten the transition that New Zealand needs to make in the longer term. The strongest incentive to change behaviour lies in a clear long-term signal. Changes that ease the transition in the short term will not necessarily weaken long-term incentives. Indeed they may even strengthen the long-term signal by making the ETS more durable. The review provides an opportunity for the Government to make a strong statement about its long-term commitment to the ETS.

The Panel has heard a range of views about the impacts of the current ETS and the scope for abatement in New Zealand. It has heard compelling evidence that the impacts of the ETS for the majority of businesses and households are currently low. But it has also heard from businesses for whom the impacts of the ETS seem to be significantly greater than average. It is also aware the impacts of the ETS will be particularly significant for lower income households, where Māori in particular are over-represented. The Panel has heard firsthand of businesses planning to abate their emissions in sectors where other businesses have claimed no such options exist.

The fact that the impacts of the ETS appear to vary underlines the need to appropriately pace the increase in the scheme's costs in the short term and to continue to protect the most exposed businesses through free allocation of New Zealand emission units (NZUs). It also emphasises the need for the ETS to be supported by a range of other measures which can help the development and take-up of abatement options by the groups most affected.

Implications for the current transition measures

Based on these conclusions, the Panel has reached a number of recommendations in relation to the current transition measures, namely the transition phase and the free allocation of NZUs.

The Panel recommends the current obligation for businesses to surrender one emissions unit for every two tonnes of emissions be phased out over three years so that in 2015 businesses will have to surrender one emissions unit for each tonne of emissions. The Panel also recommends that the price cap, currently set at $25 per NZU, should be increased by $5 per annum in 2013 and beyond. Under current legislation, the one-for-two obligation and price cap are currently due to end completely in 2012.

The Panel recommends no fundamental changes to the allocation regime for industry and agriculture, but recommends that the phase-out of allocation at 1.3 per cent per annum is on a straight line, rather than asymptotic, basis. This will provide greater clarity about the phase out of allocation, without significantly increasing short-term costs. The Panel also recommends the Government explores a wider range of issues relating to allocation settings which have been raised by stakeholders. These issues are likely to require further consultation and data collection which the Panel has been unable to do in the time available to it.

Together, these recommendations strike a balance between protecting against potential excessive short-term costs and increasing incentives to change behaviour over time. They also send a clear signal as to the direction of the ETS.

Entry of new sectors

Consistent with its view that all emissions' sources should face a cost on emissions, the Panel recommends biological emissions from agriculture (methane and nitrous oxide), as well as emissions from the waste and synthetic greenhouse gases sectors, enter the ETS on current legislative time-scales.

However, to reduce short-term administration and compliance costs, the Panel recommends a power of exemption be explicitly provided for small, isolated landfill sites and that the treatment of synthetic greenhouse gases installed in equipment which is imported into New Zealand be simplified through the imposition of a fixed levy at the border.

For agriculture, the Panel has noted submitters' concerns that the sector lacks abatement options. However, based on evidence it has heard from stakeholders, the Panel believes the options available to the sector are sufficient to enable surrender obligations to begin in 2015, as currently legislated. Under the current allocation regime, the obligation on agriculture's biological emissions will essentially be intensity based (emissions per unit of product), and the sector has shown an ability to decrease emissions intensity year-on-year. The ETS will increase incentives for emissions-intensity improvements, which will be important if both climate change and food security objectives are to be met. It will also drive the development and take-up of existing and new technologies to reduce absolute emissions.

The Panel strongly believes the point of obligation for agriculture should be at the farmer level, rather than the processor level as currently legislated, as this will ensure those who are best able to reduce their emissions are motivated to do so. The Panel supports the work of the Agricultural ETS Advisory Committee as it explores the practicality of doing this.

Given that agriculture's entry into the ETS will mean it will not be able to benefit from the one-for-two obligation as it phases out, the Panel recommends the sector benefits from a one-for-two obligation for the first two years after it enters the ETS (i.e. 2015 and 2016). This surrender obligation should then be phased out over the subsequent three years, consistent with those sectors already in the ETS.

This will give the agriculture sector more time to adjust to a carbon price and to take up abatement options. The Panel notes that, combined with free allocation of NZUs, the agriculture sector would face an obligation equivalent to only 5 per cent of biological emissions for the first two years after entering the ETS.

Forestry

For forestry, the Panel has heard from a number of sources that the current international accounting rules place unnecessary restrictions on land-use flexibility and reduce incentives for new forest planting. The Panel recommends the Government makes a number of changes to the domestic ETS forestry accounting rules, consistent with the changes that New Zealand has been advocating internationally. These changes include introducing offsetting for forests planted before 1990 and liability reduction measures, including averaging, for forests planted after 1989.

The Panel is conscious of the implications of diverging significantly from the international rules, but recommends the Government makes a hard-headed national interest assessment, taking account of the international position when the Kyoto Protocol expires, the potential fiscal impact/risk and financial impact/benefit to foresters and other stakeholders.

Impacts on Māori

The Panel has heard extensively about the impact of the ETS on Māori and the Māori economy. In particular, Māori landowners face unique hurdles compared to freehold landowners, relating to capability constraints, forestry rights and governance issues under Te Ture Whenua Māori Act.

The Panel has heard, in particular, about the challenges faced by Māori land trustees in meeting ETS legislative requirements to get the agreement of landowners before applying for allocation and exemptions. The Panel is also aware that the nature of the Māori Trustee's ownership prevents unrelated, small land-owning Māori trusts from being eligible for the less than 50-hectare forestry exemption. The Panel recommends the Government pursues a range of legislative solutions that will address these issues.

The Panel also notes a need for the Government to monitor the capacity of Māori land trusts to engage on ETS issues, and provide support where necessary.

Impacts of the Panel's recommendations

Overall, the Panel has sought to strike the right balance between mitigating the short-term costs and competitiveness risks that the ETS may raise, and providing certainty on the clear long-term direction that New Zealand must take. In striking this balance, the Panel recognises that recommendations to soften the short-term impacts of the scheme will raise some fiscal costs for the Government, which will in turn be carried by taxpayers. On the other side of the ledger, the Panel recognises that ETS costs for businesses will rise a little faster than many of them had hoped and advocated.

The Panel has sought to steer a moderate course, introducing ETS costs into the economy gradually. The Panel believes it would be unwise to steer significantly away from this course: either to reduce the costs for business and delay the entry of new sectors so that taxpayer costs rise more significantly and long-term investment signals are muted; or to ramp up short-term ETS costs for businesses and consumers more steeply than the Panel has proposed.

The Panel's recommendations are based on a careful consideration of the evidence provided by stakeholders, including experienced international ETS participants and other international organisations. The Panel urges readers to consider its full report and commends its recommendations to the Government.

Glossary of terms

AAU	Assigned Amount Unit. An AAU is an internationally tradable emission unit or carbon credit issued as part of the Kyoto Protocol to allow countries to meet their emission obligations and is equal to one metric tonne of carbon dioxide equivalent emissions.
the Act	Climate Change Response Act 2002.
Afforestation	The direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources.
Biological emissions	Emissions of methane and nitrous oxide produced by animals (including urine and dung) and from fertiliser use.
CER	Certified Emission Reduction. A CER is a tradable emission unit or carbon credit issued by the Clean Development Mechanism (CDM) Registry for emission reductions achieved by CDM projects and verified by the rules of the Kyoto Protocol. CERs can be used by countries that have ratified the Kyoto Protocol to meet their emissions limitation or reduction commitments.
CO_2-e	Carbon dioxide equivalent. The quantity of a given greenhouse gas multiplied by its global warming potential, which equates its global warming impact relative to carbon dioxide (CO_2).
Cost of emissions	This is also referred to as the price of carbon. A cost faced by emitters for the release of greenhouse gas emissions into the atmosphere.
Deforestation	The conversion of indigenous and exotic forest land to another use, such as grazing. Deforestation involves clearing forest and not replanting within four years after clearing. It does not include harvesting where a forest is replanted as this is part of normal plantation forestry activities.
Eligible emission units	Certain types of emission units that can be surrendered by ETS participants to meet their obligations. These include NZUs and certain types of emission units created under the Kyoto Protocol.
Emissions	The release of greenhouse gases into the atmosphere from human activity.
the ETS	the New Zealand Emissions Trading Scheme. Under the ETS certain emitters of greenhouse gases have an obligation to surrender eligible emission units to cover their emissions.

ETS participants	Emitters of greenhouse gases or people engaged in removal activities such as forestry that have obligations under the ETS to report on their greenhouse gas emissions, and to surrender eligible emission units to cover these emissions or earn units under the Act.
First commitment period	The period from 2008 to 2012 under which the countries ratifying the Kyoto Protocol have to meet their emission limitation or reduction commitments.
Fixed price option	During the transition phase to 31 December 2012, certain ETS participants have the option to buy New Zealand emission units (NZUs) from the Government for a fixed price of $25.
Forests	Forest land is an area of land of at least one hectare with forest species that has, or is likely to have, tree cover of more than 30 per cent in each hectare. Forest land does not include land that has, or is likely to have, tree crown cover with an average width of less than 30 metres. Forest species are trees capable of reaching five metres in height at maturity in the place they are growing, excluding tree species grown for the production of fruit and nut crops.
Greenhouse gases	Greenhouse gases are constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation. The gases covered under the first commitment period of the Kyoto Protocol are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perflurocarbons (PFCs) and sulphur hexafluoride (SF_6).
Kyoto Protocol	A protocol to the UNFCCC that includes emissions limitation or reduction commitments for ratifying developed countries.
the Minister	Minister for Climate Change Issues.
NZUs	New Zealand emission units created by the Government. These are either allocated or sold to certain ETS participants. They are the main unit of trade in the ETS and can be surrendered by ETS participants to meet their ETS obligations. In certain circumstances, NZUs can be converted to AAUs and sold overseas.
One-for-two obligation	During the transition phase to 31 December 2012, certain ETS participants have to surrender one eligible emissions unit for every two tonnes of emissions. This is also referred to as the 50 per cent progressive obligation.
Pre-1990 forests	Forest established before 1 January 1990 on land that remained in forest and was predominantly exotic species on 31 December 2007. See section 4 of the Act.
Price of carbon	See cost of emissions.

Post-1989 forests	New forest established after 31 December 1989 on land that was not forest at that date. These forests are eligible to earn carbon units (or carbon credits) from 1 January 2008. See section 4 of the Act.
Transition phase	Under the Act, the period up to the end of 2012 during which there is an option to buy New Zealand emission units (NZUs) from the Government for a fixed price of $25, a one-for-two surrender obligation and there are restrictions on the export of NZUs.
UNFCCC	United Nations Framework Convention on Climate Change. This is an international treaty on climate change that came into force in 1992. It continues to apply after 2012 (i.e. after the Kyoto Protocol expires).

1 Introduction

1 The Climate Change Response Act 2002 (the Act) requires a review of the New Zealand Emissions Trading Scheme (the ETS) to be completed before the end of 2011. The Act requires the Minister for Climate Change Issues (the Minister) to appoint a Panel (the Panel) to conduct the review and specify the terms of reference (the ToR) for its review.[1]

2 The Panel was appointed in December 2010 and started work in February 2011. The Panel members are Hon David Caygill (Chair), Julia Hoare, Chris Karamea Insley, Tom Lambie, David Russell, Geoff Thompson and Dr John Wood.[2]

3 This report is the Panel's final report to the Minister. It has been prepared by the Panel based on the requirements under the ToR and the Act. The Panel has consulted widely with stakeholders and their views have been invaluable in helping the Panel to reach its conclusions and recommendations. The Panel thanks all stakeholders for their time and effort in engaging constructively with the review.

4 This report is structured as follows:

- Chapter 1: the objectives and remit of the Panel, the review process and the Panel's recommendations
- Chapter 2: the wider context to the review
- Chapter 3: the transitional measures, including allocation
- Chapter 4: agriculture
- Chapter 5: forestry
- Chapter 6: Māori
- Chapter 7: synthetic greenhouse gases
- Chapter 8: waste
- Chapter 9: other issues
- Chapter 10: assesses expected fiscal and other impacts of the Panel's recommendations
- Chapter 11: summarises the Panel's recommendations
- Annex 1: the matters the Panel must consider under the Act
- Annex 2: details of the respondents to the Panel's request for written submissions and the stakeholders the Panel met
- Annex 3: progress against the targets currently in force.

[1] For the full terms of reference see: http://beehive.govt.nz/release/govt-announces-ets-review

[2] Biographies of the Panel members are available at: http://www.climatechange.govt.nz/emissions-trading-scheme/ets-review-2011/panel-bios.html

Objectives and remit of the Panel

5 The objective of the review is to provide the Government with recommendations on steps that can be taken to ensure the ETS after 2012:

- helps New Zealand deliver its 'fair share' of international action to reduce emissions, including meeting any international obligations
- delivers emission reductions in the most cost-effective manner
- supports efforts to maximise the long-term economic resilience of the New Zealand economy at least cost.

6 Under the Act, the Panel is required to review the operation and effectiveness of the ETS, and must consider the matters set out in section 160(5) of the Act.[3] Annex 1 sets out these matters and identifies where in this report the Panel's considerations are summarised.

7 In considering these matters, and in preparing its report, the Government has requested the Panel focuses on the high-level design of the ETS, giving particular attention to:

- 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
- whether the ETS should continue to scale up to a full obligation[4] and whether new sectors should incur surrender obligations on current legislated timetables after 2012, taking into account the domestic actions of key competitors, or what conditions should be met before proceeding with further sectors entering into the ETS
- the inclusion of synthetic greenhouse gases within the ETS, taking into account alternative approaches to reducing such emissions.

8 The ToR also specify what the Panel should not focus on, namely:

- whether an emissions trading scheme is the most appropriate response to climate change for New Zealand
- whether New Zealand should be taking action on climate change
- climate change measures outside the ETS (except to the extent that the issues to which the Panel has been asked to give particular attention to raise broader issues about the best means of meeting New Zealand's international obligations).

9 Accordingly, the Panel does not focus on these issues in this report.

10 Finally, in its considerations, the Panel has been asked to take into account the effectiveness and efficiency of the ETS, giving particular attention to the following factors:

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[3] For these matters see: http://www.legislation.govt.nz/act/public/2002/0040/latest/DLM158584.html

[4] Under the current transitional period, due to end on 31 December 2012, a full obligation does not apply because a fixed price option of $25 per unit is available, and only one unit needs to be surrendered in respect of each two tonnes of emissions.

- short-term costs, competition and competitiveness impacts – the costs for New Zealand and associated impacts on the competitiveness of its businesses between now and 2020
- administrative efficiency including transaction costs
- impacts on long-term economic resilience – the long-term risks and opportunities for New Zealand's economic resilience
- environmental integrity – the impact on New Zealand's domestic emissions profile and international efforts to reduce greenhouse gas emissions
- the need to balance the efficient design of the ETS vis-à-vis our trading partners and environmental effectiveness
- equity between sectors and groups – the distribution of costs and benefits between sectors and groups (including iwi).

11 The Panel has had regard to the considerations in the ToR and Act in reaching its conclusions and recommendations and its approach to these matters is set out in the subsequent chapters of this report.

12 Chris Karamea Insley has been appointed by the Minister as someone who has the appropriate knowledge, skill and experience relating to the principles of the Treaty of Waitangi and Tikanga Māori, as required under the Act. The Act also requires the Panel to consult representatives of iwi and Māori. The Panel believes it has met this requirement, for example, through its engagement with Māori stakeholders such as the Climate Change Iwi Leadership Group (CCILG) and the Māori Trustee. Under its ToR, the Panel must have regard to the principles of the Treaty of Waitangi in conducting its review. The Panel sets outs its conclusions and recommendations in relation to the ETS and its impact on Māori in Chapter 6.

Review process

13 In March 2011, the Panel published its *Issues statement and call for written submissions* (the *Issues Statement*).[5] The Panel received 162 written submissions in response to its *Issues Statement*. In addition, the Panel met with a number of stakeholders. Annex 2 provides a list of all submitters who provided a written submission and a list of stakeholders the Panel (or certain members of the Panel) met. The Panel will publish a separate report which summarises all the submissions it received (the *Summary of Submissions*).

14 Stakeholders raised a large number of issues about the ETS. The Panel has considered all submissions and issues raised. The Panel has focussed on those issues that seem the most important, particularly if they relate to the matters it has been asked to focus on under its ToR or must consider under the Act. The Panel has also tried to cover as broad a range of issues as possible. It acknowledges there are other issues raised that it hasn't been able to reach a recommendation on in the time available to it. Accordingly, the Panel recommends the Government considers these other issues using the *Summary of Submissions* as a starting point.

[5] See: http://www.climatechange.govt.nz/emissions-trading-scheme/ets-review-2011/statement-for-consultation.html

The Panel recommends

1.1 The Government considers those issues raised during the Panel's consultation which it has not been able to reach a recommendation on using the *Summary of Submissions* as a starting point.

15 This report does not provide a general background to the ETS, nor an explanation of how it operates. The Panel directs the reader to its *Issues Statement,* where such information can be found, if necessary.[6]

16 As required under its ToR, the Panel provided a draft report to the Minister on 3 June 2011. This report, the Panel's final report, was provided to the Minister on 30 June 2011. As required under the Act, the Minister will publish this report. In addition, the Panel will publish all written submissions received, working papers, minutes of its meetings and any papers and reports provided to it during the course of its review (unless they are already published, confidential or sensitive).

[6] See chapter 2 of the *Issues Statement*.

2 The wider context and implications for the ETS

17 In the process of addressing the specific issues under its ToR, the Panel encountered a number of overarching themes and considerations, including the international climate change environment which New Zealand may find itself in after 2012. This chapter addresses these overarching themes and considerations, and sets out how they have driven the Panel's approach to its work and recommendations.

18 In particular, this chapter outlines how the Panel has balanced managing short-term uncertainties and competitiveness risks faced by New Zealand in determining the ambition of its climate change policy, with the need to provide certainty as to the long-term direction New Zealand needs to take. Striking the right balance between managing short-term uncertainty and providing long-term certainty has been a key focus for the Panel.

Key themes raised by stakeholders

19 In submissions and in discussions with stakeholders, the Panel consistently heard a number of key themes surrounding the review and the future of the ETS. These are set out below.

It is still early days to assess the full impact of the ETS

20 It was widely considered by stakeholders as too early to effectively assess the operation and design of the ETS. The ETS was only established in 2008 and a number of sectors, including agriculture, have not yet joined. As a result, some stakeholders considered the full impact of the ETS has not yet been felt. The Panel also noted the conclusions of a report prepared by Covec into the actual effects of the ETS on energy and electricity prices, electricity generating capacity, and forestry.[7] While the report was able to reach some conclusions on these effects, it was limited by a lack of data due to the short time many sectors have been in the scheme.

For most, the impacts of the ETS have been low to date

21 Most submissions noted the impact the ETS has had to date. From these submissions and the other analysis available to it, the general impression the Panel heard is that the impact of the ETS has been low for most submitters given the transitional measures in place (i.e. the fixed price option, the one-for-two surrender obligation, and free allocation of New Zealand emission units (NZUs)) and the short period of time that some sectors have faced obligations. For example, business and industry representatives noted the ETS had not had a significant impact on investment decisions and competitiveness. Most submitters noted the ETS had not yet incentivised behavioural changes nor had it resulted in significant reductions in domestic emissions. The Panel also noted a Ministry of Economic Development business survey which found that for

[7] Covec, *Impacts of the NZ ETS: Actual vs expected effects*, April 2011. Prepared for the Ministry for the Environment.

the majority of businesses surveyed the ETS is unlikely to have had such a marked effect on costs that they have had to reduce their energy consumption or emissions.[8]

22 The Panel notes, however, that the relatively low impact has not been uniform. Some businesses provided details of the direct cost impact of the ETS which suggested higher than average impacts. Some submitters noted that low-income households were disproportionately affected by the ETS costs which have been passed through in energy bills. It was also noted that Māori are over-represented amongst low-income households.

23 The Panel was not surprised the ETS has not had a significant impact to date, given the transitional measures that were specifically introduced to moderate its impact in the short term. The Panel also notes that the transition phase provides an opportunity for businesses to become familiar and comfortable with how the ETS operates, and to identify any problems emerging. It also appears to the Panel that most people need time to understand the ETS, which would suggest the need for a gradual phase-in. The EU emissions trading scheme had a similar phased approach to its introduction. More important is that there is a clear signal as to the direction the ETS is heading, as this will provide greater certainty for future investment and purchasing decisions by businesses and households.

Uncertainty and unpredictability are a key issue

24 Uncertainty and unpredictability were issues raised by stakeholders in multiple contexts. First, there is significant uncertainty about the future of the international framework when the first commitment period under the Kyoto Protocol comes to an end on 31 December 2012. Related to this is uncertainty about the future development of, and access to, international carbon markets. These issues are discussed further below.

25 Second, there is uncertainty about the future development of the ETS, such as whether the transitional measures would end, and new sectors would join, on current legislated time-scales. It was noted by some submitters that the legislated reviews of the ETS add to domestic uncertainty as they increase the likelihood of changes to the legislation.

26 A third area of uncertainty raised, and related to the uncertainty over the future development of international carbon markets and the ETS, was future carbon prices. Expectations of future carbon prices influence today's decisions about investments in emissions abatement technologies, electricity generating capacity and forestry. In this regard, the Panel notes the Ministry of Economic Development's business survey results, which suggest to the Panel a great deal of scepticism that the ETS would endure and that most respondents did not expect carbon prices to rise in future.[9] This scepticism partly relates to the uncertain international framework after 2012, which is considered in the next section.

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8 Ministry of Economic Development Occasional Paper 11/04, *Business responses to the introduction of the New Zealand emissions trading scheme. Part I: Baseline*, Elisabeth Numan-Parsons, Adolf Stroombergen and Ngaio Fletcher, March 2011.

9 Ministry of Economic Development Occasional Paper 11/04, *Business responses to the introduction of the New Zealand emissions trading scheme. Part I: Baseline*, Elisabeth Numan-Parsons, Adolf Stroombergen and Ngaio Fletcher, March 2011.

International context

27 As the Panel noted in its *Issues Statement,* the development of the international framework beyond 2012 provides an important context for the development of the ETS, both in terms of decisions around the extent to which New Zealand seeks to reduce emissions, and the key design settings that underpin the ETS.

28 The *Issues Statement* set out three possible scenarios for the development of an international climate change framework for the period 2012 to 2020. These are summarised in table 2.1 below.

Table 2.1: Possible international framework scenarios: 2012 to 2020

	Scenario		
Parameter	**1. Legally binding multilateral framework**	**2. International political accord**	**3. Medium-term uncertainty**
Role of multilateral institutions	Countries sign up to comprehensive multilateral framework. Obligations under UNFCCC continue.	Countries adopt decisions supported by multilateral framework. Obligations under UNFCCC continue.	No formal role, but continuing multilateral forum for discussion. Obligations under UNFCCC continue.
Nature of targets	Legally binding international commitments.	Political commitments at international level but not legally binding.	No specific legally binding or political international commitments beyond general UNFCCC obligations.
Monitoring, reporting and verification	Detailed common accounting rules. Reporting and verification at multilateral level.	A mix of common and nationally-determined accounting rules. A level of reporting and verification at multilateral level which is at least equivalent to UNFCCC general obligations.	A mix of common and nationally-determined accounting rules. Reporting and verification at multilateral level for developed countries, under UNFCCC general obligations.
International carbon markets	Continuation of existing and development of new multilateral trading mechanisms supplemented by trading between domestic, bilateral and regional schemes.	Continuation of existing multilateral trading mechanisms and possible new mechanisms. Trading between domestic, bilateral and regional schemes. Potentially no international emission units available.	Continuation of existing multilateral trading mechanisms. Trading between domestic, bilateral and regional schemes. Potentially no international emission units available.
Time-scales	Unlikely that a new legally binding agreement could enter into force by 2013 but agreement could be reached.	In place by 2013; possible transition to scenario 1 in longer term.	Potential situation after 2012; possible transition to scenarios 1 or 2 in longer term.

29 Most stakeholders thought that scenario 3 or some variant of scenario 2 was the most likely outcome, and that a successor to the Kyoto Protocol is unlikely to be in place from 2013. The dominant view was that international uncertainty would persist in the medium term, with either no binding commitments, or a less formal international accord than at present. Such a framework would nevertheless provide a basis for:

- political commitments to emission reductions
- a framework of common and nationally-determined emissions accounting rules
- (possibly) an evolution of linked domestic and regional emissions trading schemes.

30 Stakeholders took different views on what this more uncertain international environment meant for the ETS. Many submitters (about two-thirds of those who commented on this issue) suggested that international uncertainty pointed to a case for the Government to moderate the ETS to reduce its cost impact on the economy while the uncertainty persisted. A smaller group of submitters suggested that the international scenarios have no (or immaterial) implications for how the Government should set the objectives of the ETS.

31 The Panel considered, however, that it was significant that most submitters expected that some form of international climate change framework would eventually emerge or alternatively, that New Zealand would face an environment where there are strong international and/or domestic pressures to reduce emissions regardless of the existence of a clear international framework.

What does this mean for the ETS?

There will continue to be drivers to reduce emissions

32 The Act specifies that the purpose of the ETS is to support and encourage global efforts to reduce greenhouse gas emissions by:

- assisting New Zealand to meet its international obligations
- reducing New Zealand's net emissions below business-as-usual levels.

33 New Zealand has a number of international obligations and domestic targets to reduce emissions. Under the Kyoto Protocol, New Zealand has a legally binding responsibility target to maintain average emissions at 1990 levels across the five-year period from 2008 to 2012. In August 2009, the Government announced an intention, as part of the negotiations on the nature of the international framework beyond 2012, to take on a responsibility target for reducing emissions by between 10–20 per cent on 1990 levels by 2020, conditional on a number of factors, in particular comparable action by other countries.[10]

34 It is not clear whether New Zealand's conditions for its 2020 target will be met. But even if they are not, the Government has recognised the contribution that New Zealand will need to make in the long term by notifying in the New Zealand Gazette (the

[10] For details of these conditions see: http://www.mfe.govt.nz/issues/climate/emissions-target-2020/index.html

Gazette) in March 2011 a goal to reduce domestic emissions by 50 per cent on 1990 levels by 2050.[11]

35 In October 2008, the Government notified seven targets in the Gazette aimed at reducing domestic emissions.[12] The Act requires the Panel to consider the contribution of the ETS to these targets. A full list of the targets and a summary of progress towards them can be found at Annex 3.

36 Most of these targets relate to the uptake of behaviours and technologies that will reduce emissions in the short, medium and long term. The ETS is likely to play a role in helping to drive these behaviours and technologies, supported by a range of other measures. For example, carbon pricing is likely to play a critical role in ensuring that, by 2025, 90 per cent of our electricity generation will be from renewable sources, by changing the merit order of new generation sources into the future.[13] To be effective, the ETS will need to send the right signals for behaviour change and investments.

37 In overall terms, the Panel has considered whether the ETS, as currently legislated, is fit for purpose. The Panel notes there is considerable uncertainty around international negotiations. However, the Panel agrees it is likely that an international framework will emerge in due course, or that New Zealand will face alternative, compelling drivers to reduce emissions. The Panel concludes that decisions on the design of the ETS should be made against this premise – that the pressure to reduce emissions will remain and increase over time.

38 Whether or not there is a binding international agreement to reduce emissions, the imperative for New Zealand to reduce emissions is unlikely to disappear. Neither does the absence (perhaps transitory) of a binding New Zealand emissions reduction target change the relative efficiency of an ETS compared to other emissions mitigation policies. Even if a long period of international uncertainty ensues, New Zealand will still have an ongoing general obligation under the UNFCCC to put in place policies and measures to reduce emissions, and enhance carbon sinks. New Zealand needs to have efficient and effective policies in place to do that.

New Zealand faces some key challenges if it is to achieve long-term emission reductions

39 New Zealand faces particular challenges in meeting targets to reduce emissions compared to other developed countries due to its emissions profile. First, around 50 per cent of New Zealand's emissions come from agriculture (i.e. from biological emissions). Second, a high share of New Zealand's electricity generation already comes from renewable sources. Third, New Zealand faces a rising population and a growing economy, with the pressure that both place on resources and emissions.

40 A key factor and future challenge however is the role of forestry to New Zealand's emissions profile. Forestry acts as a carbon sink, i.e. it absorbs carbon from the atmosphere, and is a key reason why New Zealand is expected to meet its Kyoto Protocol obligations up to 2012.

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11 See: http://www.mfe.govt.nz/issues/climate/emissions-target-2020/index.html

12 New Zealand Gazette, No 159, *Climate Change Response (Targets) Notice 2008*, 16 October 2008.

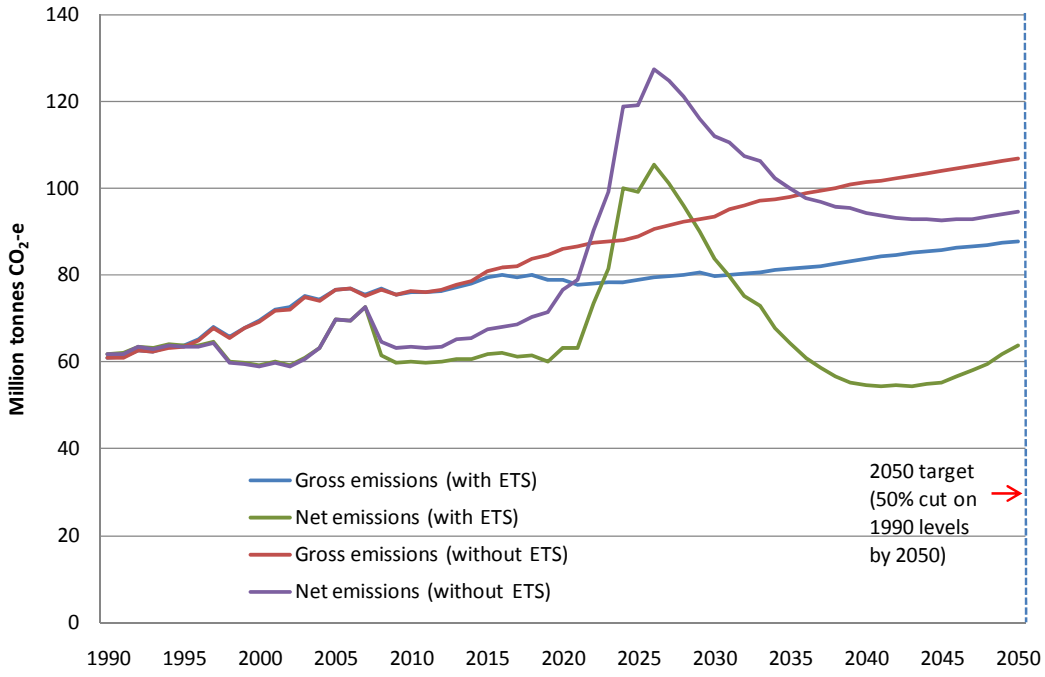
13 See: www.med.govt.nz/templates/MultipageDocumentTOC____44085.aspx

41 A number of submitters argued that New Zealand's reliance on forests planted after 1989 to meet its international obligations is only a short- to medium-term solution. They argued that when these forests are harvested in the 2020s, New Zealand will face significant liabilities for these emissions if an international agreement is in place at that time.

42 The Panel agrees that, while forestry is likely to be important to help New Zealand manage its emissions in the short to medium term, forestry is not a long-term panacea for meeting future international or domestic emission reduction targets. Furthermore, focussing solely on forestry to meet emission targets and not other sectors may miss optimal abatement options. Ultimately, the aim has to be a reduction in gross emissions through the introduction of abatement measures.

43 Chart 2.1 below shows the extent of the challenge New Zealand faces in terms of meeting its 2050 target of reducing emissions by 50 per cent on 1990 levels.

Figure 2.1: New Zealand's net and gross greenhouse gas emissions (historical and projected), with and without ETS, 1990–2050[14]



Source: Ministry for the Environment, 2011.

44 When added to the importance of our clean, green image and our small open economy, New Zealand is arguably more exposed and at risk than most other developed countries.

[14] The assumptions underlying figure 2.1 are listed in detail in the *Issues Statement* (see paragraphs 66 and 67, and footnotes 54 and 55). The projections include only limited responses to the ETS for forestry and agriculture in particular; for example, they don't include the impact of any changes in management practice. The key difference in the assumptions between the projections presented in figure 2.1 and those presented in the *Issues Statement* is that a carbon price of $25 to 2050 has been assumed in figure 2.1 (in the 'with ETS' scenarios). The 'with ETS' scenarios are based on the ETS as currently legislated.

It is important therefore to ensure the economy is getting clear signals to drive long-term adjustment.

New Zealand is not "miles in front" of other countries

45 One concern raised by submitters was that New Zealand should not move too far ahead of international competitors in the absence of a clear international framework. The Panel understands this concern. However, the Panel has heard firsthand of the policies and measures that have been introduced, or are planned, in Australia and the EU. The Panel is also aware of policies and measures that are planned in other countries. It is not correct to say that the rest of the world is doing nothing. New Zealand is not in front of international action, neither is it miles behind. The Panel's summary is that New Zealand is keeping up and doing its fair share.

46 The ETS is not the only emissions trading scheme. The EU emissions trading scheme (which now apples to 30 countries including three outside the EU) has been operating since 2005. While the USA has not introduced a comprehensive regime of federal control of emissions, some US states and some Canadian provinces are either operating emissions trading schemes or are actively exploring such schemes. China plans to establish carbon emissions trading schemes in some pilot regions, with the aim of establishing a unified national scheme in 2015.[15] Australia has also announced its intention to introduce an emissions trading scheme through its carbon pricing mechanism.[16]

47 Australia has also introduced other policies to reduce emissions, many of which involve substantial costs to either taxpayers, industry or consumers. For example:

- Australia's Renewable Energy (Electricity) Act requires electricity retailers and major electricity users to purchase a specified percentage of their electricity from renewable energy generators. They must acquire Renewable Energy Certificates (RECs) to demonstrate this. If an electricity retailer or major user hasn't acquired enough RECs to meet its annual target under the legislation, it must pay a $40/MWh penalty
- the recent Carbon Farming Initiative will create opportunities for farmers and landowners to reduce emissions, such as by capturing emissions from livestock manure, or to remove carbon from the atmosphere, such as by planting forests.[17] Legislation is under active consideration at this time
- the Australian National Greenhouse and Energy Reporting Act requires companies to report information about greenhouse gas emissions and energy use.

48 The Panel is also aware of the Australian Productivity Commission's recent study on the effective carbon prices that result from emissions reduction policies in Australia and comparable economies. This work examines emissions reduction policies either in place

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15 See World Bank press release of 2 June 2011 (Press release number: 2011/523/SDN) at: http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22929905~pagePK:64257043~piPK:437376~theSitePK:4607,00.html?cid=3001_39

16 See: www.climatechange.gov.au/government/initiatives/multi-party-committee/carbon-price-framework.aspx

17 For more information on this see: www.climatechange.gov.au/cfi

or committed in Australia and other key economies, including the UK, USA, Germany, New Zealand, China, India, Japan and South Korea.[18]

49 New Zealand's particular emissions profile relative to other developed countries was seen by some business and industry stakeholders as a key determinant of what should be considered New Zealand's 'fair share', or the appropriate level of our emissions reduction ambition. However, the Panel notes this difference in profile has already been taken into consideration in New Zealand's emissions target under the Kyoto Protocol.[19]

50 Many submitters pointed out that New Zealand's emissions constitute a tiny proportion of global emissions. While acknowledging this is true, the Panel considers this is a poor excuse for inaction. New Zealand's emissions are not small on a per capita basis or in relation to the size of our economy. New Zealand's export prospects and international reputation are intrinsically affected by the way we manage our emissions-intensive economy. As noted above, New Zealand has strong reasons to start a steady transition to a lower carbon economy sooner rather than later.

A steady introduction of a carbon price to all sectors remains important

51 Most submitters believed New Zealand will need to continue to reduce emissions and that the pressure to do so is likely to increase over time. Reflecting this view, the Panel's approach is that the essential purpose of the ETS is to reduce emissions in New Zealand by changing behaviour over the long term, and in a way that minimises the costs of that behaviour change and enables us to meet our international commitments. The Panel's view is that this purpose holds true even if there is no immediate successor to the Kyoto Protocol. The Panel has developed its recommendations accordingly.

52 However, the Panel is conscious that the short- to medium-term international uncertainty does raise transitional competitiveness risks for New Zealand. Some submitters said that a lack of progress with carbon pricing internationally means that New Zealand should minimise the impact of the ETS by extending the transitional arrangements. In addition, the Panel recognises that in the aftermath of the global economic downturn and the Christchurch earthquakes, the New Zealand economy remains challenging. The Panel believes these factors should be taken into account in determining the speed at which the economy should adjust to the imposition of a carbon price.

53 A short-term smoothing of the adjustment path should not have a detrimental impact on long-term economic resilience or environmental outcomes so long as businesses and households have certainty about the way in which the ETS will develop in future. Any further short-term moderation of the carbon price should not create additional uncertainty that medium- to long-term investments need to factor in a full price of carbon.

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18 For more information on this see: www.pc.gov.au/projects/study/carbon-prices

19 Under the Kyoto Protocol, New Zealand has a legally binding responsibility target to maintain average emissions at 1990 levels across the five-year period from 2008 to 2012. However, the majority of other developed countries that ratified the Kyoto Protocol have a target to reduce their emissions. For example, the 15 members of the EU at the time the Kyoto Protocol was ratified had a target to collectively reduce emissions by 8 per cent on 1990 levels. A few countries have a target that allowed them to increase emissions. For example, Australia has a target to cap its increase in emissions by 8 per cent on 1990 levels.

54 The Panel notes the ETS is designed to progressively introduce a cost of carbon across the economy. The transition measures and the phased introduction of the waste, synthetic greenhouse gases and agriculture sectors are designed to provide an adjustment path to carbon pricing. The Panel believes it is important the momentum to introduce a carbon price across all sectors is maintained at an appropriate pace, and that all sectors have clarity about when they will face obligations, and under what circumstances.

The ETS needs to be a part of a suite of measures

55 The ETS is the primary response for reducing emissions. The Panel (and many submitters) believes the ETS should be supported by a range of complementary measures to reduce domestic emissions and for New Zealand's reputation internationally.

56 The ETS and complementary measures can work together to strengthen the incentives for businesses and households to change behaviour. For example, the Energy Efficiency and Conservation Agency (EECA) runs a wide range of programmes to promote energy efficiency, energy conservation and the use of renewable energy, such as the Warm Up New Zealand: Heat Smart programme. In certain circumstances, EECA provides funding to businesses and households. Households that receive certain types of benefits may be eligible for additional funding. In addition, the recently established Advisory Group on Green Growth[20] is looking at ways to help small- and medium-sized businesses to become more energy efficient.

57 Measures, such as the Pastoral Greenhouse Gas Research Consortium, the New Zealand Greenhouse Gas Centre and the Global Research Alliance Primary Growth Partnership (PGP), will provide significant research funding to help reduce emissions and promote growth and sustainability in the agriculture and food sectors. A focus of research and complementary measures on sectors where New Zealand has a comparative advantage is important to promote economic resilience. A breakthrough in the research to reduce methane emissions could bring significant benefits to New Zealand.

58 Other countries are adopting similar measures to those introduced in New Zealand. For example, Australia is investing A$5 billion in promoting clean energy, regardless of progress on international negotiations or the outcome of the proposed Australian carbon price mechanism.[21]

Changes to ETS settings will have fiscal implications

59 The ETS was designed to fit within an international framework, but any changes made in the ETS transitional arrangements and/or its rules will have fiscal implications. The Panel has taken this into account when looking at the appropriate balance between the short-term costs and providing certainty on the clear long-term direction that New Zealand must take. A more detail discussion of the fiscal considerations and impacts is provided in the *Fiscal and other impacts* chapter (see chapter 10).

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20 Advisory Group on Green Growth was established in January 2011, see: www.beehive.govt.nz/release/green-growth-initiative-announced

21 See: http://www.climatechange.gov.au/government/reduce.aspx

The Panel draws the following high level conclusions on the wider context and implications for the ETS:

1 **Even in the absence of a binding international obligation to reduce emissions in the short term, it is expected that New Zealand will eventually face such an obligation which is likely to require significant emissions reductions. New Zealand is also likely to face other drivers to reduce emissions. Therefore, it is in our long-term economic interests to continue to change our behaviour and that the incentives to do so increase over time.**

2 **Increasing incentives over time will increase the costs imposed on the economy in the short term. Therefore, there needs to be an appropriate balance between these short-term costs and the long-term benefits. This means there should be measures in place that insure against excessive short-term costs.**

3 **It is not correct to say that our international competitors are not taking any action to reduce their emissions, nor that some sectors have no options for abatement (for discussion on this latter point see chapter 4).**

4 **It is important to send a clear signal for the future development of the ETS so that businesses and households have greater certainty and confidence in their investment and purchasing decisions today.**

ETS design challenges raised by international uncertainty

International market access will reduce costs and encourage efficient domestic abatement

60 The uncertain international situation raises some uncertainty around the evolution of internationally mandated accounting and emissions trading rules. Some submitters saw this period of uncertainty as an opportunity to adapt New Zealand's accounting and emissions trading rules to reflect New Zealand's specific circumstances. For example, it was suggested forestry offsetting should be permitted under the ETS. The Panel discusses this specific issue in the *Forests and the ETS* chapter (see chapter 5).

61 The Panel notes in this regard that caution should be exercised in changing New Zealand's domestic rules as these may not be compatible with any future international rules agreed. If there is a binding international agreement then any discontinuity between domestic and international rules could result in significant fiscal costs for the Government and hence taxpayers, for example in a situation where the Government was accountable internationally for emissions activity whose impact had not been passed back to the New Zealand emitter.

62 There is likely to be persistent uncertainty around both how international carbon markets develop, and around rules affecting New Zealand's access to these markets. Most submitters agreed that access to international markets is important. This is particularly so for New Zealand sellers of units. Ensuring access to markets for these sellers creates incentives for net emission reductions in New Zealand. On the buyer side, others argued that access to international carbon markets is important to enable ETS participants to minimise the cost of meeting their obligations. Conversely, others argued that the ETS should not allow participants to meet their obligations by using emission

units purchased in international markets because this reduces their incentives to abate domestically and potentially harms the international credibility of the ETS.

63 The Panel believes that while the intention of the ETS is to change behaviour, it should also allow for flexibility as to how participants meet their obligations. If participants can meet their obligations at lower cost by purchasing emission units from international markets then this should be allowed. This is a key measure for mitigating against excessive short-term costs whilst also being consistent with an international framework.

64 Under the ETS, participants can surrender certain types of emission units created under the Kyoto Protocol, to meet their obligations.[22] If the Kyoto Protocol is not extended beyond 2012, then it is unclear whether these emission units will continue to be available and therefore eligible under the ETS. For example, in order for ETS participants to sell NZUs overseas they must first convert them into Assigned Amount Units (AAUs). However, if the Kyoto Protocol is not extended then it is likely that AAUs will no longer be available. In the absence of other international arrangements, participants may not be able to sell NZUs overseas. In addition, it is not clear which other units created under the Kyoto Protocol will still be available and hence can be purchased by ETS participants to meet their obligations. The ability for participants to purchase units internationally will become more important in the 2020s when post-1989 forests begin to be harvested. All of the above means there needs to be greater certainty with respect to the operational arrangements after 2012.

The Panel recommends

2.1 The Government continues to accord priority in international negotiations, as well as in wider bilateral and regional engagements, to the development of international carbon markets generally, and specifically to ensure New Zealand has the ability to sell NZUs and buy international emission units.

There will be a persistent, and possibly increasing, premium around environmental integrity of units

65 The methodology for validating credits from certain international industrial gas projects issued under the CDM is currently under review and the Panel understands the methodology is likely to be changed to ensure environmental integrity. There is reluctance in the EU to accept emission units that lack environmental integrity because they do not relate to actual emission reductions. For example, from May 2013, the EU will prohibit access of CDM credits from certain industrial gas projects for this reason. These restrictions may open up opportunities for sellers of NZUs which are seen to have a high level of environmental integrity. Such potential opportunities reinforce the Panel's recommendation that market access continue to be given a high priority in New Zealand's international climate change negotiations. Maintaining a high level of

[22] Emission units created under the Kyoto Protocol and eligible under the ETS are: removal units (RMUs), emission reduction units (ERUs) and certain types of certified emission reduction units (CERs). Those CERs not eligible under the ETS are those derived from forestry and nuclear power projects under the clean development mechanism (CDM). Assigned Amount Units (AAUs), also created under the Kyoto Protocol, are not eligible under the ETS.

environmental integrity will become more important under scenarios two and three above. The Panel's conclusions and recommendations on eligible units under the ETS beyond 2012 are set out in the *Operation of the ETS* chapter (see chapter 9).

New Zealand should be conscious of Australian developments but not bound by their particular features

66 A number of submitters were critical of the design of the ETS because some of its key elements were based on the design features of the Australian Carbon Pollution Reduction Scheme (CPRS), which did not proceed. As a result, they argued that the design of the ETS should be changed to reflect New Zealand's circumstances.

67 The settings that New Zealand based on the design of the CPRS mainly related to allocation. The Panel looks in more detail at these settings in chapter 3. More broadly, however, the Panel notes that while the CPRS was not introduced, Australia is currently proposing to bring in a carbon pricing mechanism whereby a fixed carbon price will be introduced from 2012 before moving to an emissions trading scheme. It seems likely that much of the detailed design of this mechanism will be based on the proposed CPRS. Many of the settings relating to industrial allocation under the CPRS have also been adopted by the Australian Government for application within its framework of mandatory renewable energy targets (discussed above).

68 The Panel notes alignment to Australia is an important consideration especially in the context of the Australia New Zealand Closer Economic Relations Trade Agreement.[23] If the ETS links to other emissions trading schemes in the near future, then the most logical and likely candidate is an Australian scheme. Therefore, it is important New Zealand keeps closely abreast of any opportunities arising from developments in Australia.

The Panel recommends

2.2 The Government continues to monitor the development of the carbon pricing mechanism in Australia and that, while it is desirable for the New Zealand and Australian schemes to work broadly in harmony, we should not be bound by the features of any particular overseas scheme.

[23] See: www.mfat.govt.nz/Trade-and-Economic-Relations/2-Trade-Relationships-and-Agreements/Australia/0-trade-agreement.php

3 Transition measures

69 Under the current ETS, two sets of measures aim to help businesses and consumers make a smooth transition into the scheme. In the short term, there is a transition phase up to the end of 2012, during which there is a fixed price option, a one-for-two obligation and export restrictions. Over a longer term, free allocations of NZUs are given to businesses carrying out emissions-intensive, trade-exposed activities, and will also be given to participants in the agriculture sector when it joins the ETS in 2015.

70 Generally, these measures not only smooth the financial implications for businesses and consumers, but also help with familiarisation and gradual acceptance of the ETS. This has certainly been the EU experience.

71 The fiscal implications of the Panel's recommendations on transition measures are discussed in chapter 10.

Transition phase

72 As currently legislated, the ETS incorporates a transition phase from 1 July 2010 to 31 December 2012. During this phase:

- participants have the option to buy NZUs from the Government for a fixed price of $25 per unit (i.e. this price limits the potential costs faced by emitters)[24]
- participants in the liquid fossil fuels, stationary energy and industrial processes sectors are required to surrender only one eligible emission unit for every two tonnes of carbon dioxide equivalent (CO_2-e) produced[25]
- the export of NZUs from non-forestry sectors is not permitted (i.e. they cannot be sold in international carbon markets).

73 As a result of these features of the transition phase, ETS participants do not yet face a full surrender obligation. Once the transition phase ends in 2012, participants will face a full surrender obligation, although some of them will still receive free allocations of NZUs, which will offset part of their obligation under the ETS.

74 The combination of the fixed price option and the one-for-two surrender obligation means the maximum carbon price faced by participants in the liquid fossil fuels, stationary energy and industrial processes sectors during the transition phase is currently $12.50 per tonne of CO_2-e. If a participant in one of these sectors buys units on the open market at a price lower than the fixed price option or receives an allocation during the transition phase, the effective carbon price faced by this participant will be even lower than $12.50 per tonne of CO_2-e. The effective carbon prices faced by businesses will be discussed further later in this chapter.

[24] This policy feature is often referred to as a "fixed price option" or "price cap".

[25] This policy feature is often referred to as "one-for-two surrender obligation" or "50 per cent progressive obligation".

Phasing out fixed price option and one-for-two surrender obligation from 2013

75 Under the ToR, one of the priority issues that the Panel has to consider is whether the ETS should continue to scale up to a full surrender obligation on the current legislated timetable after 2012, or whether the transition phase should continue after 2012.

76 Submitters were divided on the issue of whether the transition phase should expire at the end of 2012 as scheduled. Some submitters, mainly environmental groups, carbon traders, forest owners and some electricity generators, argued that the transition phase should expire at the end of 2012 or as soon as possible. Others, mainly business groups and companies from some relatively energy-intensive sectors and the agriculture sector, were of the view that the transition phase should be extended beyond 2012. A summary of the points raised by submitters is included in the *Summary of Submissions*.

77 The Panel considered the arguments and evidence for and against ending the transition phase at the end of 2012. In making its decisions on this issue, the Panel has taken into account the considerations set out in its ToR, paying particular attention to the need for certainty for participants, the long-term impacts on emissions reduction, and short-term costs, competition and competitiveness impacts. The key challenge for the Panel has been balancing these considerations.

78 As discussed in chapter 2, many submitters considered the ETS has had a low impact to date on emissions reduction because the transition phase is still in place. Several submitters were concerned that, with the fixed price option and the one-for-two surrender obligation in place, the NZU price is currently too low to stimulate significant and long-term behaviour change amongst businesses, investors and consumers.

79 In addition, as pointed out by one submitter, the Government or general taxpayers would incur significant additional costs if the transition phase was extended. At the current New Zealand carbon price of approximately $20 per unit (as at late May 2011),[26] the fiscal cost of retaining the one-for-two surrender obligation and the $25 fixed price option for the participants in the liquid fossil fuels, stationary energy and industrial processes sectors is estimated to be about $280 million per annum from 2013.

80 Extending the transition phase might also create difficulties in linking the ETS with other emissions trading schemes in the future, as the maintenance of price controls could make the design of the ETS less compatible with those of other schemes.

81 Because of these factors, and in particular to avoid undermining New Zealand's ability to meet longer-term emissions reduction goals and obligations, the Panel considers the transition phase measures should not remain in place for a prolonged period.

82 However, many submitters argued that removing the fixed price option and the one-for-two obligation completely at the end of 2012 could have significant short-term impacts on ETS participants and consumers. Some argued that the transition phase should be extended beyond 2012, given the currently weak economy, because businesses will have less capacity to absorb cost increases in the near future. Some submitters also expressed concerns about the impact of the expiry of the transition phase on the

[26] OMF Financial Ltd publishes a weekly report on carbon market developments, including prices. See www.omf.co.nz/Equities/carbon.aspx. For details of reported prices since July 2010 see: Covec, *Impacts of the ETS: Actual vs expected effects*, April 2011. Report prepared for the Ministry for the Environment.

international competitiveness of New Zealand businesses, given the current international uncertainty.

83 To strike the right balance between managing these short-term competitiveness concerns and providing long-term certainty, the Panel recommends the transition phase measures be extended and phased out smoothly from 2013 over a relatively short timeframe. The Panel considers this would not only smooth the shift to a full obligation, but would also give businesses certainty about when the fixed price option and the one-for-two surrender obligation will be removed. Simply extending the transition phase to an uncertain future date would create uncertainties for business planning in the long term.

84 In addition, the Panel notes that, if a smooth transition is to be achieved, there is also a benefit to phasing out the transition phase measures while international carbon prices are relatively low. The impact of moving from a $10 to $20 effective price of carbon (what would happen if the transition phase measures were removed tomorrow) is likely to be relatively low (for example, 2–3 cents per litre of petrol or 1 cent per kilowatt hour of electricity). If removal of the transition phase is deferred to a future point when international carbon prices are relatively high, removal of the transition phase measures would lead to a much sharper increase in costs year to year. Gradually phasing out the fixed price option and the one-for-two obligation now would be better than removing these measures abruptly at a future point in time.

Price cap

85 The fixed price option (or price cap) is currently operating as an insurance cap rather than as a binding NZU price, as market transactions have not occurred at or above $25 per NZU. To date, the NZU price movements have not been volatile, and the NZUs are reported to be trading on the open market at about $20 per unit (as at late May 2011).

86 In the light of the uncertainties in international carbon market developments, the Panel considers a price cap should still remain in place after 2012 to act as an insurance against future price shocks. However, as discussed above, the Panel is of the view the price cap should phase out smoothly from 2013 to drive long-term emission reductions and minimise costs to general taxpayers. The issue regarding the price cap is therefore how it should be adjusted upwards from 2013.

87 The Panel has considered three broad options for increasing the price cap gradually:

- Option 1: increasing the price cap by a fixed rate annually, for example, $5 per annum
- Option 2: setting the price cap in advance for a fixed interval based on medium-term forecasts for international price
- Option 3: reviewing the price cap annually just prior to the date at which units have to be surrendered.

88 The Panel considers the main objective of a price cap is to provide certainty to the ETS participants by acting as an insurance against price shock. With this in mind, the Panel prefers option 1 to the other two options, because option 1 provides the most certainty about the NZU price. Option 1 also has the advantage of being the most administratively simple of the three options.

89 The Panel recommends the price cap be increased by $5 per annum from 2013 to 2017, starting at $30 per NZU in 2013 and reaching $50 per NZU in 2017. The Panel considers this would achieve a good balance between incentivising long-term emission reductions and providing certainty to ETS participants while international carbon markets continue to develop.

90 The need for a price cap will depend on the future development of international carbon markets. As these markets mature over time, a price cap may not be necessary because it is expected the market carbon price will be relatively stable and will provide the right incentive for emissions reduction. The Panel therefore recommends the issue as to whether a price cap is needed after 2017 be considered in future ETS reviews.

The Panel recommends:

3.1 The price cap should be retained after 2012, but should increase by $5 per annum from 2013 to 2017, starting at $30 per NZU in 2013 and reaching $50 per NZU in 2017.

3.2 The next review of the ETS should consider whether a price cap is needed after 2017.

Price cap is not a proxy for carbon price

91 The Panel noted reports by some stakeholders that $12.50 per tonne of CO_2-e, which is the effective price cap for the ETS participants in the liquid fossil fuels, stationary energy and industrial processes sectors, has been used by some participants as a proxy for the actual carbon price in passing on ETS costs to consumers. However, as at May 2011, there is no evidence the price cap is the actual carbon price faced by most participants, as only a few participants have purchased NZUs from the Government through the fixed price option. If the price cap is to increase by $5 per annum from 2013 to 2017, as recommended by the Panel, it is even less likely that the effective price cap will reflect the actual carbon price faced by participants after 2012.[27]

92 The Panel is therefore concerned that some participants may overestimate their carbon costs and pass on excessive costs to consumers by using the price cap as a proxy for the actual carbon price faced by them when the actual carbon price is below the price cap. The Panel considers it important that such behaviour should cease. The Panel would like to caution ETS participants that they face the risk of regulatory intervention in the future if such behaviour continues.

93 The Panel is aware there are already market mechanisms that disclose trade prices for NZUs without disclosing the names of the parties to the transactions. These mechanisms should help those who are concerned that participants may not be passing on ETS costs appropriately. The Panel supports transparency as a matter of principle. To improve the transparency of carbon costs faced by ETS participants, the Panel would like to encourage businesses to disclose their actual ETS costs.

[27] The Panel has received information on the potential carbon price movements in the next few years.

One-for-two surrender obligation

94 As noted above, the Panel is of the view that the one-for-two surrender obligation (or 50 per cent obligation), which is currently available to the liquid fossil fuels, stationary energy and industrial processes sectors only, should phase out gradually from 2013. The issue is the rate at which it should scale up to a full surrender obligation.

95 When the Government amended the ETS to introduce the one-for-two surrender obligation for the period up to the end of 2012, it was reasonable to believe that there would be a second commitment period immediately following the first commitment period. However, at present, this is unlikely to be the case. Therefore, the Panel considers that, while the international framework remains uncertain, there is a need to continue to provide temporary support, although there would be a fiscal cost of doing so.

96 Arguably, the longer the timeframe for scaling up the one-for-two surrender obligation to a full obligation, the smoother the transition will be. However, the Panel is mindful of the fact that scaling up the surrender obligation significantly in a year with low carbon prices may have a lower impact on participants than scaling up the surrender obligation by a small degree in a year with high carbon prices. This means that, if the carbon price is expected to have an upward trend in the future, it is possible that a smoother transition may be achieved in a shorter timeframe than in a longer timeframe.

97 For the reasons discussed above, the Panel believes the one-for-two surrender obligation should be phased out within a relatively short timeframe to drive long-term emissions reduction and minimise costs to general taxpayers.

98 To achieve this, the Panel recommends the one-for-two surrender obligation scale up to a full surrender obligation progressively from 2013 to 2015, increasing at equal intervals per annum, that is, to 67 per cent[28] in 2013, 83 per cent[29] in 2014, and 100 per cent in 2015 (rounded to the nearest percentage).

The Panel recommends:

3.3 For the liquid fossil fuels, stationary energy and industrial processes sectors, the one-for-two surrender obligation should scale up to a full surrender obligation progressively from 2013 to 2015, increasing at equal intervals per annum, that is to 67 per cent in 2013, 83 per cent in 2014, and 100 per cent in 2015 (rounded to the nearest percentage).

Application of transition phase to new sectors

99 At present, the price cap is available to all sectors which have already entered the ETS. To ensure equity between sectors, the Panel recommends the price cap be also available

[28] A 67 per cent surrender obligation means the ETS participant concerned would be required to surrender two eligible emission units for every three tonnes of CO_2-e emissions produced.

[29] An 83 per cent surrender obligation means the ETS participant concerned would be required to surrender five eligible emission units for every six tonnes of CO_2-e emissions produced.

to all the new sectors entering the ETS after 2012, including the agriculture, synthetic greenhouse gases and waste sectors. Further discussion of the agriculture, synthetic greenhouse gases and waste sectors can be found in chapters 4, 7 and 8, respectively.

The Panel recommends:

3.4 The price cap should be available to all the new sectors entering the scheme after 2012, including the agriculture, synthetic greenhouse gases and waste sectors.

100 As discussed before, the Panel recommends, for the liquid fossil fuels, stationary energy and industrial processes sectors, the one-for-two surrender obligation scale up to a 67 per cent obligation in 2013, an 83 per cent obligation in 2014, and a full surrender obligation from 2015. To align the treatment of the waste and synthetic greenhouse gases sectors with the treatment of those sectors, the Panel recommends, when participants in the synthetic greenhouse gases and waste sectors enter the ETS in 2013, they also have access to a 67 per cent obligation in 2013 and an 83 per cent obligation in 2014, and assume full surrender obligation from 2015.

101 In the light of the circumstances of the agriculture sector, the Panel considers it appropriate to have specific transition phase arrangements for this sector. The Panel therefore recommends participants in the agriculture sector have a one-for-two surrender obligation in 2015 and 2016, a 67 per cent obligation in 2017, an 83 per cent obligation in 2018, and should assume a full surrender obligation from 2019. The transitional arrangements for the agriculture sector are discussed further in chapter 4.

The Panel recommends:

3.5 Participants in the synthetic greenhouse gases and waste sectors should have access to a 67 per cent obligation in 2013 and an 83 per cent obligation in 2014, and should assume full surrender obligation from 2015.

3.6 Participants in the agriculture sector should have a one-for-two surrender obligation in 2015 and 2016, a 67 per cent obligation in 2017, and an 83 per cent obligation in 2018, and should assume full surrender obligation from 2019.

102 The levels of surrender obligation for different sectors from 2012 to 2019, as recommended by the Panel, are summarised in table 3.1.

Table 3.1: Recommended levels of surrender obligation for different sectors

Sector	2012	2013	2014	2015	2016	2017	2018	2019
Stationary energy, industrial processes, and liquid fossil fuels sectors	50%	67%	83%	100%	100%	100%	100%	100%
Waste and synthetic greenhouse gases sectors	–	67%	83%	100%	100%	100%	100%	100%
Agriculture sector	–	–	–	50%	50%	67%	83%	100%

103 At present, the one-for-two surrender obligation does not apply to the forestry sector, but this sector has the advantage of being the only sector that is allowed to convert NZUs for export. The ban on NZU exports from non-forestry sectors was put in place to reduce fiscal risks for the Crown by minimising the risk of arbitrage. However, the Panel considers that, in principle, the ETS should allow NZU exports from all sectors as soon as possible, because an open ETS linked to international markets would be more efficient than a closed scheme. Therefore, the Panel recommends the ban on NZU exports from non-forestry sectors be removed when the price cap is removed, and ideally sooner if the price cap is likely to be significantly above the international carbon price (and hence the risk of arbitrage is minimal).

The Panel recommends:

3.7 The ban on NZU exports from non-forestry sectors should be removed when the price cap is removed, or sooner if the price cap is significantly above the international carbon price (and hence the risk of arbitrage is minimal).

Price floor

104 One submitter suggested a NZU price floor should be introduced to ensure sufficient price signals for emissions reduction. However, the Panel notes a price floor has a number of disadvantages. For example, it would mean that participants would not be able to meet their ETS obligations at the lowest cost to them, and the Government would need to collect information on all NZU transactions to make sure the price floor was not breached. On balance, the Panel does not recommend the introduction of a price floor.

The Panel recommends:

3.8 An ETS price floor should not be introduced.

Free allocation of NZUs

105 The Act provides for the transitional free allocation of NZUs to the agriculture sector and certain industry sectors to assist the transition towards a low-carbon economy and reduce the impact on businesses most heavily affected by the introduction of a price on carbon.

106 A significant number of submitters commented on the importance of allocation to offset the economic impacts of the ETS, and the potential loss of international competitiveness and carbon leakage that could occur as a result. Their arguments included that trade-exposed companies are inherently unable to pass on the cost increases from the ETS in an international market where competitors faced no similar cost on carbon.

107 Some submitters disagreed with the use of allocation to offset competitiveness and carbon leakage risks, noting the cost of allocation on the taxpayer, and its effect on the

incentive for abatement. Environmental NGOs in particular argued that allocation undermined the purpose of the ETS in reducing emissions.

108 The Panel notes the impact of the ETS to date on businesses' international competitiveness is uncertain and difficult to measure. The recent report by Covec on emissions leakage, however, found that while some countries are pricing carbon and others are not, reducing the level of free allocation to the sectors most at risk is likely to result in an increasing risk of output loss.[30] The Panel considers the risks of competitiveness loss and reduced economic output that could result do not support a significant change to the current allocation approach at this point in time.

109 While the impact of the moderated ETS has been limited to date, businesses are understandably concerned about the longer-term impacts, particularly if the other short-term transition phase measures are scaled back as currently legislated.

110 The Panel believes allocation of NZUs is an important tool for reducing the potential loss of international competitiveness that certain New Zealand businesses and sectors may face, while maintaining the incentive to abate emissions. This incentive is created by providing allocation on a historical, emissions-intensity basis. This means that if a business with ETS surrender obligations receives allocation and subsequently reduces its emissions intensity significantly, it will potentially have surplus NZUs to sell.

Thresholds for eligibility

111 To protect emissions-intensive and trade-exposed businesses against a loss of competitiveness and carbon leakage, the free allocation of NZUs is provided on an intensity basis, which means allocation will vary depending on a participant's level of output. For agriculture, all activities are presumed to be emissions intensive and trade exposed, and will therefore initially receive a level of assistance covering 90 per cent of an emissions baseline.[31] For industry, only those activities that meet the emissions-intensity and trade-exposure criteria set out in the Act are eligible for allocation.[32] These eligible industrial activities initially receive a level of assistance covering either 60 per cent or 90 per cent of an emissions baseline depending on whether the activity is moderately or highly emissions intensive.

112 The Act sets out thresholds for moderately and highly emissions-intensive activities. If an industrial activity is equal to or above 800 tonnes of CO_2-e per $1 million of revenue then it is moderately emissions intensive. If it is equal to or above 1600 tonnes of CO_2-e per $1 million of revenue then it is highly emissions intensive.

113 Submitters expressed a range of views as to whether the existing thresholds were appropriate, or in need of change. Some thought the existing thresholds were acceptable or that it was too early to tell. Others argued in favour of lowering the

30 Covec, *Impacts of the ETS on Emissions Leakage*, April 2011. Prepared for the Ministry for the Environment.

31 These emissions baselines have not yet been set but will be consulted on and established by regulation in 2014.

32 For details of the criteria and the list of eligible industrial activities see: http://www.climatechange.govt.nz/emissions-trading-scheme/participating/industry/allocation/

thresholds to increase the protection of emissions-intensive or trade-exposed industries from adverse economic costs and loss of competitive advantage.

114 A number of submitters proposed changes to the allocation thresholds, such as introducing a sliding scale or introducing additional 'steps' between the 60 per cent and 90 per cent thresholds, in order to avoid major cut-offs, help smaller businesses or increase the overall level of assistance provided by allocation.

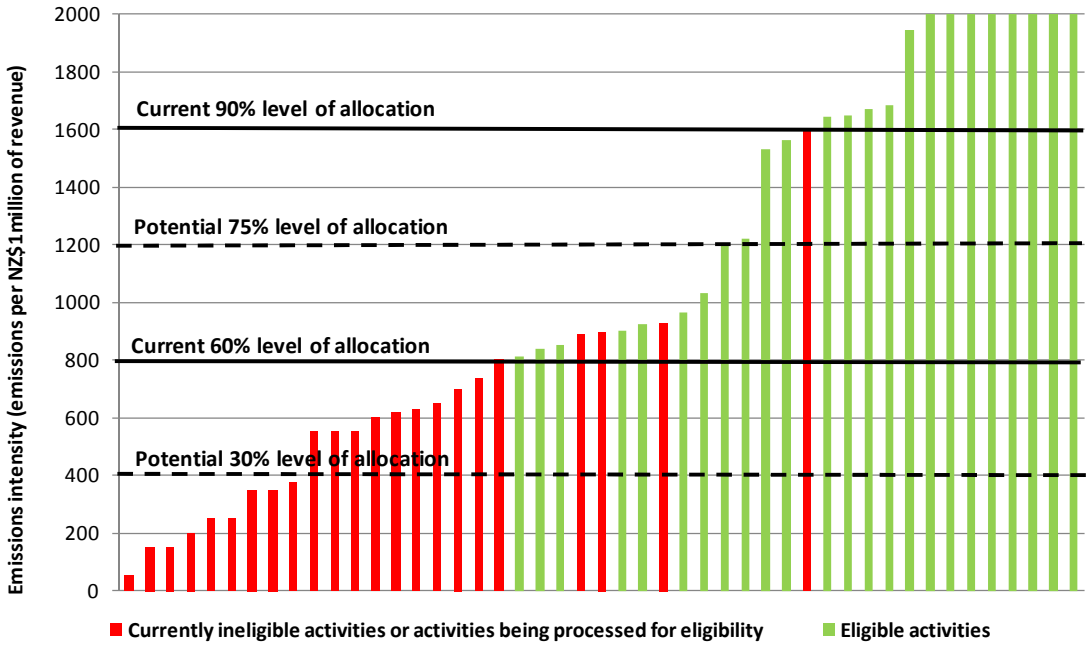
115 Experience to date suggests that where activities involve large numbers of small businesses (e.g. horticulture activities) then administration of the allocation regime becomes much more costly for both the Government and businesses. For example, these businesses have required significant additional support to help them (e.g. workshops, telephone helpline). Lowering the threshold for eligibility might therefore result in significant administrative costs, for a relatively small quantum of allocation to smaller operators in these industries.

116 The Panel nonetheless considered the possibility of providing additional 'steps' in the eligibility thresholds. In particular:

- an additional 30 per cent allocation step, which might apply to companies with emissions intensities over 400tCO_2-e/$million revenue. This would reduce the impacts on businesses who missed the eligibility thresholds for 60 per cent
- one or more additional steps between 60 per cent and 90 per cent, possibly 75 per cent allocation for companies with emissions intensities over 1200tCO_2-e/$million revenue. This would reduce impacts on businesses who meet the 60 per cent threshold, but fail to meet the 90 per cent threshold.

117 Figure 3.1 below shows what the impact of introducing one or more of these new thresholds might be.

Figure 3.1: Industrial activities that may be eligible under alternative potential thresholds



Source: Ministry for the Environment.

118 This analysis is based on emissions intensities already assessed for eligible activities following a formal data collection by the Ministry for the Environment, plus approximate figures based on data submitted for activities that are still under consideration and/or were not progressed to a formal data collection. In the latter case, data are approximate only and should be treated with caution. With these caveats in mind, the results show that:

- a new 30 per cent allocation threshold could potentially capture a number of activities that currently fall below the eligibility threshold for 60 per cent. Based on the available data, at least nine activities would meet this lower threshold
- a new 75 per cent threshold would capture only 3 activities out of the 11 that currently qualify for 60 per cent allocation.

119 This analysis indicates that, based on the information available, a reasonable number of new activities would become eligible for allocation under a lower threshold, receiving a relatively low level of allocation. Very few would be eligible under a new intermediate threshold. In contrast to these moderate gains, the benefits of retaining a wide gap between the thresholds include lower transaction costs in measurement and determining eligibility, and fewer perverse incentives for companies to restructure their business at the margins of eligibility.

120 The expansion of allocation through the introduction of a new 30 per cent allocation threshold would also increase transaction costs for smaller enterprises, and potentially significantly increase the total cost to the Government of allocation.

121 The Panel therefore considers that, based on the information available to it, the benefits of revising the allocation thresholds are outweighed by the likely costs, both to the Government and to the economic efficiency of the ETS.

The Panel recommends:

3.9 The existing allocation thresholds of 90 per cent allocation for highly emissions-intensive activities and 60 per cent allocation for moderately emissions-intensive activities should be maintained.

Value-added test

122 As noted above, eligibility for allocation is determined under the current legislation on a revenue basis. Some submitters argued that revenue is not an appropriate measure for determining eligibility for allocation, and that a more appropriate measure would be profit or 'value added'. This is because profit or value added better reflects the actual impact on their business.

123 This issue particularly affected companies whose primary activity was providing a discrete but emissions-intensive processing or 'value-adding' service in the production of a particular product, for example, wool scouring, sugar production, glass recycling, and some types of food processing.

124 While the Panel recognises there are problems with using only a revenue test, it also has concerns about using a value-added test. Including a value-added test in the ETS would

require complex rules in relation to how businesses allocate costs across different activities and the transfer pricing arrangements within businesses. The Panel notes that, for these reasons, complex rules for calculating value-added were required under the proposed Australian CPRS, which had a value-added test for determining eligibility. The Panel notes at least one submitter who raised this issue noted that adopting the Australian value-added approach would not help in its case.

125 The proposed CPRS also required businesses to submit an independent audit of their data used to assess eligibility. The Panel believes if a value-added test was adopted in the ETS then a similar audit approach would also be required. This would be more costly compared to the current self-assessment regime.

126 The Panel also notes revenue is a close proxy for value added for the majority of industrial activities that are eligible for allocation.[33] For these reasons, the Panel recommends on balance that a value-added test should not be included in the Act.

The Panel recommends:

3.10 A value-added test for determining eligibility for industrial allocation should not be introduced.

Assessing eligibility and the level of allocation

127 The Government has prescribed rules[34] setting out which emissions sources may be included in assessments of businesses' eligibility for allocation or their allocative baselines.[35] Numerous companies provided detailed submissions in support of including additional emission sources in these assessments.

128 The reasons for expanding the definition of eligible activities or emissions included that the emission source was an essential production input, that few practical or safe abatement options existed, or that not including particular activities or emissions in the allocative baseline exposed the company to higher costs than were intended under the allocation provisions.

129 The additional emission sources proposed by submitters for inclusion in calculating emissions intensity and allocative baselines were:

- liquid fossil fuels (potentially excluding transport uses)
- fugitive emissions of methane
- waste fuels.

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33 Covec, *Impacts of the ETS on Emissions Leakage*, April 2011. Prepared for the Ministry for the Environment, page 12.

34 For the Climate Change (Eligible Industrial Activities) Regulations 2010, see: www.legislation.govt.nz/regulation/public/2010/0189/latest/DLM3075101.html?search=ts_regulation_climate+change_resel&p=1&sr=1

35 The allocative baseline is the amount of emissions per unit of production for an eligible activity. It is used to determine the amount of allocation any one business carrying out an eligible activity can receive.

130 Other submitters, however, including environmental NGOs and the Parliamentary Commissioner for the Environment, cautioned against further expansion of the sources of emissions eligible for allocation, citing the availability of abatement options, the importance of a strong carbon price signal to incentivise domestic emission reductions, and the ultimate cost to the taxpayer of increased allocation and a slower transition to a low-carbon economy.

131 The Panel is sympathetic to the view that, where emission sources are liable for obligations under the ETS, they should also be able to be assessed for the purposes of allocation. However, the Panel understands that including some of the above additional emission sources may not make a significant difference for the large majority of businesses' eligibility, and would be unlikely to alter the emission-intensity status of many activities.

132 In addition, a number of submitters said they were disadvantaged under the current allocation rules as a result of taking early action to reduce emissions by increasing the use of biofuels, or by having adopted more sustainable business practices involving the use of recycled materials. This had caused some of their industrial activities to fall outside the eligibility thresholds for allocation.

133 Submitters suggested that, for this reason, the use of biofuels and recycled materials should be treated as for non-liquid fossil fuels or new materials for eligibility purposes, even if they were not treated as such for determining allocative baselines. One submitter said such a change would mean certain engineered wood products, such as laminated veneer lumber (LVL), would become an eligible industrial activity and receive 90 per cent allocation.

134 The Panel notes the issues faced by these businesses and acknowledges that competitive distortions might arise if other competing businesses received allocation. To treat the use of biofuels and recycled materials in the same way as non-liquid fossil fuels for eligibility purposes, however, would require the development of a proxy measure, which could potentially be complex and create other practical difficulties. Such a change is therefore likely to require further consultation and a further data collection process. Any changes to the allocation regime to change the eligibility, emissions-intensity and allocative baselines for specific activities may also affect the overall fiscal cost for industrial allocation. The Panel also notes it was presumably in these businesses' interests to make these investments, and therefore the case for giving them allocation retrospectively is less clear.

135 Any significant change to activity descriptions, prescribed products and emission sources is likely to require further consultation and a further data collection process. Due to the complex nature of the technical issues involved in making any changes to the specific activities eligible for allocation under the Act, the Panel has not been able to make a recommendation on these issues in the time available to it. However, it considers they deserve further attention.

The Panel recommends:

3.11 The Government examine further the potential inclusion of additional eligible emission sources for determining eligibility and allocative baselines under the Act.

3.12 The Government examine further the potential inclusion of fossil fuel proxies for biofuels and new material proxies for recycled materials as eligible emission sources for determining eligibility under the Act.

Phase-out rate

136 The free allocation of NZUs to prevent a loss of competitiveness is transitional as the level of assistance will, as currently legislated, decline by 1.3 per cent per annum from 2013 for eligible industrial activities and from 2016 for agriculture.

137 Submitters differed in whether they thought the 1.3 per cent phase-out rate was appropriate. A number of submitters argued for a faster phase out, citing the impact of allocation on abatement incentives, and the total cost of allocation, both to the taxpayer and to the country's long-term prosperity as a result of slowing the eventual but necessary transition to a low-carbon economy.

138 Other submitters from trade-exposed sectors, however, argued for a slower phase out, or for making it conditional on international action. The reasons for this included the importance of free allocation to protect against loss of competitiveness, and to provide ongoing transitional protection to New Zealand sectors during the transition to a low-carbon economy, in the absence of a similar carbon price being faced by New Zealand's competitors abroad.

139 A number of submitters also pointed out that the phase-out rate of 1.3 per cent per annum *of the previous year's allocation level* meant that the size of the annual decrease gets smaller each year, with the result that some sectors will effectively receive allocations forever.

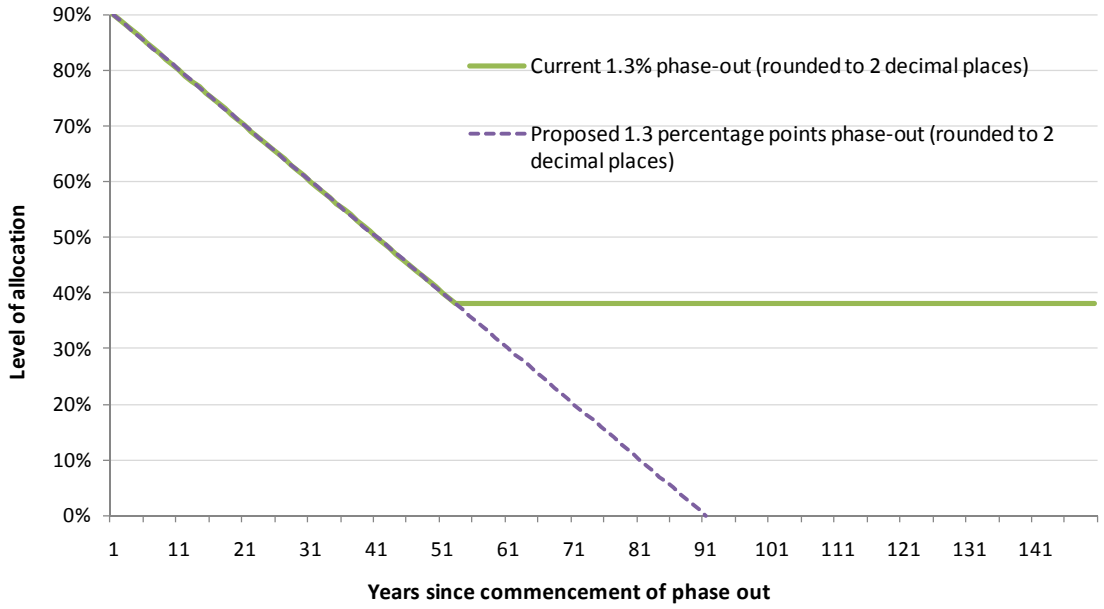
140 The Panel is concerned potential competitiveness risks could arise if allocation is phased out too quickly. It also acknowledges if there were no phase out of allocation, this could potentially weaken the long-term incentive for abatement. The Panel does not consider this is the appropriate time to change the current 1.3 per cent phase-out rate. Future reviews may wish to consider the appropriateness of the 1.3 per cent rate.

141 The Panel is concerned however that, as currently legislated, allocation does not phase out to zero. This situation arises because:

- the 1.3 per cent per cent annual reduction in allocation produces a smaller annual decrease each year, causing allocation to continue in theory indefinitely
- the two decimal-point rounding rule in the Act means that, in practice, the allocation phase out levels out at 38 per cent for both highly emissions-intensive and moderately emissions-intensive activities.

142 Figure 3.2 below shows that under current settings, the 1.3 per cent phase out of allocation plateaus at 38 per cent and continues indefinitely. The Panel doubts this was the intent of Parliament. The chart also shows a straight-line reduction based on an annual phase out of 1.3 percentage points.

Figure 3.2: Allocation phase-out scenarios for a highly emissions-intensive activity



Source: Ministry for the Environment.

143 The Panel considers a 1.3 per cent per annum reduction on a straight-line basis would clarify the phase-out rate and ensure allocation eventually phases out. An amendment to the current definition of the phase-out rate, from 1.3 per cent to 1.3 percentage points, would provide a definitive phase-out rate on a straight-line basis, and reduce allocation to zero in around 90 years. This would have a negligible effect on allocation from the current arrangements for the first 40 years, but would increase investment certainty for both business and the Government.

The Panel recommends:

3.13 The current phase-out rate of 1.3 per cent per annum of the previous year's allocation should be revised to an annual reduction of 1.3 percentage points, to clarify the exact phase-out rate and the year in which the free allocation of NZUs will cease.

Allocation cap

144 Many submitters highlighted the benefits of an uncapped intensity-based allocation that rose and fell with production. Such an allocation provides flexibility to companies to expand and diversify, while being able to access the same level of transitional protection per unit of production.

145 However, a number of stakeholders proposed the ETS design should be changed to reflect an explicit limit on the volume of emissions, and for the number of free NZUs allocated to be capped to reflect this limit. These submitters indicated the lack of a cap

or limit on the number of NZUs allocated weakened incentives for abatement and created long-term fiscal risks for the country.

146 A particular concern was the potential for new eligible, emissions-intensive activities to significantly expand the volume of allocation and increase New Zealand's emissions significantly beyond any future targets imposed by international obligations. A specific possible example raised by submitters was the potential allocation for activities associated with the production of lignite (i.e. brown coal), including to produce briquettes, diesel or fertiliser. Given the size of lignite reserves, a number of submitters, including the Parliamentary Commissioner for the Environment, considered this was potentially a major fiscal liability, as well as a risk to New Zealand achieving its future emissions-reduction targets.

147 The potential options to address these risks include the introduction of a cap on total allocations, or the exclusion from eligibility of new activities. The Panel recommends the Government give consideration to these options.

148 The Panel also notes a lack of a cap on allocations may complicate efforts to link with other domestic trading schemes, such as the one proposed in Australia, to facilitate the acceptance of NZUs in other markets. Other countries may be reluctant to link to the New Zealand carbon market if there is uncertainty about the number of units that will be allocated under the ETS, which may create price unpredictability. The lack of a cap may also create perceptions that the ETS has less environmental integrity than schemes that cap allocations.

149 The introduction of a cap would be a significant change from the current intensity-based scheme. The Panel considers that such a cap, if set in line with New Zealand's existing targets, may not have an impact in the short term. In the longer term, it would have the effect of increasing the effective phase out of allocation if the growth in emissions from activities receiving allocation exceeds New Zealand's targets.

150 However, the Panel notes the appropriate ceiling for such a cap or limit also depends largely on international progress towards a new commitment period. Should a future commitment period set ambitious emission reduction targets, a cap would limit the Government's exposure to meeting the cost of its international obligations, and be consistent with moving New Zealand in the direction of its aspirational targets.

151 The Panel therefore believes the introduction of a cap on allocation should be considered in future reviews, dependent on international progress towards a new commitment period.

The Panel recommends:

3.14 The Government gives consideration to the risks associated with the potential for new, emissions-intensive activities to significantly expand the volume of allocation, and options to mitigate these risks.

3.15 The potential introduction of an allocation cap should be further considered in the next ETS review.

Effective carbon price faced by businesses

152 As discussed earlier in this chapter, the financial impact of the ETS on businesses and consumers is softened by the transition measures outlined above. The effective carbon price faced by a non-forestry New Zealand business will be lower than the world carbon price if the transition measures are in place. The effective carbon prices faced by different categories of businesses from 2012 to 2019 under the ETS as currently legislated are shown in table 3.2. These prices are calculated on the assumption that the world carbon price is $25 per tonne of CO_2-e.

Table 3.2: Effective carbon prices ($/tonne CO_2-e) faced by businesses under the ETS as currently legislated (rounded to one decimal place)

Types of participants	2012	2013	2014	2015	2016	2017	2018	2019
Agriculture ETS participants receiving agricultural allocation	$0	$0	$0	$2.5	$2.8	$3.0	$3.3	$3.5
Highly emissions-intensive, trade-exposed ETS participants receiving industrial allocation	$1.3	$2.8	$3.0	$3.3	$3.5	$3.8	$4.0	$4.3
Moderately emissions-intensive, trade-exposed ETS participants receiving industrial allocation	$5.0	$10.3	$10.5	$10.8	$11.0	$11.3	$11.5	$11.8
Other ETS participants receiving no allocation	$12.5	$25.0	$25.0	$25.0	$25.0	$25.0	$25.0	$25.0

153 The Panel's recommendations on the transition measures, if implemented, will lead to changes in the effective carbon prices faced by non-forestry New Zealand businesses. The effective carbon prices faced by different categories of businesses from 2012 to 2019 under the ETS as recommended by the Panel are shown in table 3.3. As above, these prices are also calculated on the assumption that the world carbon price is $25 per tonne of CO_2-e.

Table 3.3: Effective carbon prices ($/tonne CO_2-e) faced by businesses under the ETS as recommended by the Panel (rounded to one decimal place)

Types of participants	2012	2013	2014	2015	2016	2017	2018	2019
Agriculture ETS participants receiving agricultural allocation	$0	$0	$0	$1.3	$1.4	$2.0	$2.7	$3.5
Highly emissions-intensive, trade-exposed ETS participants receiving industrial allocation	$1.3	$1.8	$2.5	$3.3	$3.5	$3.8	$4.0	$4.3
Moderately emissions-intensive, trade-exposed ETS participants receiving industrial allocation	$5.0	$6.9	$8.7	$10.8	$11.0	$11.3	$11.5	$11.8
Other ETS participants receiving no allocation	$12.5	$16.8	$20.8	$25.0	$25.0	$25.0	$25.0	$25.0

154 The net fiscal impact of the Panel's recommendations, including those in relation to the transition measures, is discussed in chapter 10.

4 Agriculture and the ETS

Biological emissions

155 Agriculture in this context means the farming activities that result in biological greenhouse gas emissions, namely methane and nitrous oxide. The agriculture sector is already facing the costs of carbon emissions under the ETS, for example, fuel use in transportation and energy use for farming activities, such as dairy sheds and food processing.

156 Biological emissions come from methane and nitrous oxide produced by animals (including urine and dung) and from fertiliser use. New Zealand has a unique greenhouse gas emissions profile for the developed world with 47 per cent (34.8 Mt CO_2-e per annum) of the country's emissions coming from the agriculture sector. The biological greenhouse gas emissions from animals are not yet covered in the ETS, although voluntary reporting of the biological emissions began on 1 January 2011.

157 Primary production in New Zealand accounts directly for over half of the country's merchandisable exports and around 12 per cent of GDP. While there is a clear economic benefit from the agriculture sector, agricultural emissions impose a cost on the economy as long as the country faces international emissions targets and obligations.

158 New Zealand's agriculture sector is dominated by ruminants, mainly sheep, beef cattle and dairy cattle, which are generally farmed in relatively extensive, pastoral systems. Using a life-cycle approach, these systems produce meat and dairy products which have a relatively low emissions intensity per unit of product, compared with the more intensive systems used internationally in the US and the EU.

159 Data have shown, that over the last 20 years, there have been reductions of around 1.3 per cent per annum in emissions per unit of product in the agriculture sector in New Zealand. These gains have been made through improved management practices, animal genetics, pasture and crop genetics and technology changes. Reductions in the emissions intensity of agriculture will be important globally if food security and climate change goals are to be compatible. International developments in the life-cycle analysis area are also based on emissions intensity per unit of product and including biological emissions in the ETS adds weight to this approach.

160 The Government and the agricultural industry have comprehensive research programmes in place to increase abatement options. Committed investment to date by the Government equates to $85 million on research to reduce emissions, of which $18 million is industry funding.

161 A domestic price on agricultural emissions could lead to carbon leakage as competitive impacts make offshore production more attractive. In recognition of this, the ETS already provides a 90 per cent allocation to agriculture as an emissions-intensive, trade-exposed industry in a similar way to other industries.[36]

[36] The agriculture sector qualifies automatically, whereas other industries have to meet emissions-intensity and trade-exposure thresholds to qualify.

162 Similar to other sectors, the point of obligation for agricultural participants in the ETS is upstream at the processor level. That is, obligations currently rest with meat and milk processors, such as Fonterra, live animal exporters, egg producers, as well as fertiliser manufacturers and importers. The processor level was chosen for the agriculture sector rather than the farm level to ensure monitoring and reporting requirements were met and to keep administrative costs low. The trade-off was a weaker price signal to reduce emissions at the farm level.

163 In making its recommendations on agriculture, the Panel has considered a range of factors including the economic benefit of agriculture to New Zealand, the ability of the sector to reduce emissions, the need to treat all emitting sectors of the economy equitably and New Zealand's international obligations to reduce emissions in the long term.

Agriculture in the ETS

164 Voluntary reporting for the agriculture sector began on 1 January 2011, with mandatory reporting due from 1 January 2012. From this time agricultural processors will be required to report on the emissions associated with the agricultural produce they process. Obligations to surrender units for agricultural emissions are scheduled to start in 2015.

165 The Panel focussed on what, if anything, had changed for the agriculture sector since its inclusion in the ETS was last considered in 2009. There were a number of submissions both for and against the full inclusion of agriculture. Many of the arguments turned on whether the submitter felt there were abatement options, fairness considerations and the treatment of agriculture in other countries.

166 The Panel considered these submissions carefully and on balance recommends agriculture remains in the ETS and incurs surrender obligations in 2015 as currently legislated. The Panel believes the ETS should cover agricultural biological emissions for the following reasons:

- Little change: Not much has changed since the last time the inclusion of agriculture was assessed in 2009 to suggest that it should be removed or deferred further. The international context, including Australian proposals for carbon pricing, was uncertain in 2009. It is still uncertain. However, the long-term drivers for New Zealand to reduce emissions remain as clear today as they were in 2009. In this regard, and as noted in chapter 2, the Government recently notified in the Gazette a goal to reduce domestic emissions by 50 per cent on 1990 level by 2050.
- Efficiency incentives: Because of the way the emissions factors have been developed, the ETS obligation for agriculture will be an intensity-based system which rewards gains made by improving efficiency (the free allocation is also intensity based). Agriculture in New Zealand has shown itself capable of making efficiency gains, and an intensity approach provides some rewards for those gains. There is a known gap between the high and the low performers and there is an opportunity to lift industry performance further.
- Equity: Other sectors are already facing a price for their emissions. Excluding agricultural emissions would be unfair to these other sectors, particularly as biological emissions make up nearly half of New Zealand's emissions.

- International targets: The ETS devolves responsibility for reducing emissions to the emitting sectors, and provides an incentive to do so through a market mechanism. It is important that the agriculture sector takes responsibility for emissions and that there are incentives to meet emission targets, including future international obligations. To defer or exempt nearly half of New Zealand's emissions from the ETS would make it harder to meet targets, and would potentially place a greater burden on other sectors of the economy. The argument that no other country includes biological emissions in its emissions trading scheme ignores the point that these emissions are covered by the target for which New Zealand is accountable, whatever happens elsewhere.
- Certainty: Certainty, or the lack of it, has been a constant theme throughout the submissions and the Panel believes this should be addressed by providing a clear signal that agriculture will enter the ETS in 2015. This will enable the sector to prepare and still also incentivise long-term investments via greater certainty. Further deferral will simply create more uncertainty about when and how agriculture will face ETS obligations, which will not be in the sector's best interests.
- Technology uptake: Bringing agriculture into the ETS will encourage farmers to invest in the development of technologies. Abatement technologies will also be more readily adopted, as they become available and are cost effective to use on farm (e.g. following best practice, using nitrification inhibitors). On-going development and use of these technologies will be essential if New Zealand is to manage its long-term emissions profile.
- ETS settings are flexible: Cost imposts and incentives for mitigation actions can be managed by adjusting the ETS settings, including allocation, baselines for allocation and transition measures.

167 The Panel considers there are both short-term and long-term benefits to including agriculture in the ETS. In the short term, the ETS will encourage the use of existing technologies to improve productivity. In the longer term, the ETS will support efforts to develop and drive the use of new abatement technologies.

The Panel recommends:

4.1 Agriculture remains within the ETS on the timetable that is currently legislated, with mandatory reporting beginning in 2012 and surrender obligations beginning in 2015.

Abatement opportunities

168 Having agreed for the above reasons that the agriculture sector should still be covered by the ETS on the current timetable, the Panel then turned to the basis on which this sector should enter. Entry level conditions for agriculture and transition measures should reflect the actions that are practically feasible on farm. Submitters were split as to the opportunities or lack of opportunities available to the agriculture sector to reduce emissions.

169 In the Panel's view, agriculture does have abatement opportunities. On the evidence presented such opportunities include forestry, nitrification inhibitors, and 'good practice' farm management techniques that increase productivity. All of these options are available now and others will be available in the medium to long term as a result of the efforts going into research today. Overall, the Panel considers there are sufficient abatement opportunities for agriculture to enter the ETS in 2015.

170 Some of the abatement options that can currently be implemented are listed below.

- Efficiency gains from increased productivity which results in the intensity of emissions per unit of product being reduced. Improvements in productivity and hence emissions intensity can be made by capitalising on existing methods and leveraging off other extension programmes, for instance those run by DairyNZ.
- Currently, the greatest potential for reducing absolute emissions lies in reducing nitrous oxide emissions (these represent one third of total agricultural emissions). Some products already exist to reduce emissions, such as nitrification inhibitors, though their effectiveness varies significantly according to local conditions. Field trials are underway and it is expected that the effectiveness of options will improve over the next five to 15 years. As well as reducing emissions, these technologies may have an additional environmental co-benefit of improving water quality.
- Forestry activities are recognised by the ETS. Again, options to offset emissions through forestry will vary depending on the local context. There could be a lot of potential for forestry on marginal or erodible hill country sheep and beef land. The Panel notes forestry options can be used by farmers in a practical way to reduce net emissions, including planting or reversion to indigenous forests.
- Reducing stock numbers will reduce emissions and there is evidence to suggest that many farms could reduce stock numbers slightly while still increasing a farm's productivity and profitability. The social and economic implications of this option need to be considered carefully, as it could have significant impacts on the farming system if not implemented well.
- The Panel notes abatement options can influence emissions per unit of product and/or absolute emissions. In some cases, abatement that reduces emissions per unit of product could result in an increase in absolute emissions.

171 Mitigating methane emissions is more difficult. Potentially a methane vaccine is 10–15 years away from being a marketable product. There may also be some promise through breeding low-methane animals and forages but these are both at the early stages of research and a long way from being commercially available. Additional time needs to be factored in for adoption by farmers for commercially available technology and practices.

172 The Panel recognises abatement options and the impact of implementing the ETS will vary between sectors within the agricultural industry and regions of New Zealand. For example, nitrification inhibitors are less effective in Westland or Northland than elsewhere because of the climatic conditions. Nevertheless, the Panel believes all sectors and regions have sufficient actions available to them to cope equitably with the impact of the Panel's recommendations on the time-scale recommended.

Point of obligation and other implementation settings

173 Currently, the default point of obligation for agriculture is at the processor level. This can be changed by Order in Council and has a minimum lead-in period. The earliest that a farm level obligation could begin is at 1 January 2013. Almost all submitters have emphasised that a farm level point of obligation is preferable in terms of providing more direct and efficient incentives.

174 The Panel strongly supports a farmer point of obligation, as farmers are best placed to make decisions and come up with improvements on farm. However, a farm level point of obligation raises challenges relating to administration, monitoring and verification.

175 The Panel notes the Agricultural ETS Advisory Committee is required to report to the Minister of Agriculture by 31 December 2012 on the point of obligation. The Panel's view is that along with the point of obligation, other detailed settings (for example, allocation baselines, recognising removal activities and the use of unique emission factors) will play a key role in determining the level of incentives and costs facing the sector and individual farmers. Most of these settings are also subject to review by the Agricultural ETS Advisory Committee. The Government will be developing and consulting the agriculture sector on allocation baselines in 2013.

176 The Panel supports the work of the Agricultural ETS Advisory Committee in providing advice to ministers, including on the point of obligation and on the challenges and uncertainty in measuring emissions in biological systems.

The Panel recommends:

4.2 The point of obligation for agriculture should be at the farmer level rather than the processor level.

Transition phase and free allocation

177 The Panel is keen to ensure the agriculture sector has a reasonable time to adjust to a price on biological emissions and working within the ETS. The Panel considers it appropriate and fair the transition phase that applies to other sectors already in the ETS is applied to agriculture.

178 Consequently, the Panel has already recommended (see recommendation 3.7) agriculture should be subject to a one-for-two obligation for two years from when the sector enters the ETS. In line with the recommendation for phasing out this obligation more generally, the Panel recommends this obligation is similarly phased out thereafter over three years (see *Transition phase* section in chapter 3).

179 In addition, and as noted above (see *Transition phase* section in chapter 3), agriculture should be subject to the recommended cap on the price of NZUs (see recommendation 3.4).

180 In line with its recommendation for allocation more generally (see recommendation 3.13), the Panel recommends the allocation for agriculture is phased out at 1.3 per cent

per annum on a straight-line basis starting from 2016 (see *Free allocation of NZUs* section in chapter 3).

The Panel recommends:

4.3 The free allocation of NZUs for agriculture should be 90 per cent of a baseline initially, phased out at 1.3 per cent per annum on a straight-line basis from 2016.

Technology transfer and uptake

181 A price on emissions will provide clear signals to incentivise longer-term research activity and technology uptake. However, supporting programmes that promote technology transfer and on-farm extension are essential to bring about change on the ground. From the ready availability of a product or technology, it can take 10–15 years before that practice becomes a widely accepted on-farm tool.

182 Bringing biological emissions into the ETS successfully means that technology transfer needs to begin as soon as possible. The Panel notes that the Ministry of Agriculture and Forestry works with land-based sectors on climate change and is investing in a technology transfer programme for climate change with sectors. An industry stakeholder group (the 'Peak Group') helps oversee this work and has a number of advisory groups including one specifically on technology transfer.

183 In making its recommendations, the Panel recognises that a more gradual transition to obligations within the ETS would help provide the agriculture sector with the necessary time to adopt best practice on farm to reduce emissions. This will be especially important, if the point of obligation rests with the farmer rather than the processor.

The Panel recommends:

4.4 To support farmers within the ETS, the Government and industry should continue to focus on technology transfer for existing mitigation options and the development of future options and tools to reduce emissions.

5 Forests and the ETS

Introduction

184 Forestry was the first sector to be included in the ETS and useful experience has been gained. Forestry can play a valuable part in addressing climate change in the medium term with its ability to mitigate emissions.

185 The Panel received submissions from experienced foresters and landowners highlighting a range of issues with the present ETS and suggesting improvements beyond 2012.

186 At this point most of the rules applying to forestry reflect the commitments New Zealand made under the Kyoto Protocol. In particular, they are designed to retain exotic forests in existence in 1990, while not incurring liabilities for future harvesting of these forests. However, these rules for forests planted before 1990 (pre-1990 forests) have the effect of locking the land use into forestry, unless substantial emissions liabilities are paid to deforest (and change the land use).

187 The opportunity for gaining credits for new forests was also recognised, so an entirely different regime is in place for carbon sequestered in both exotic or indigenous forests established after 1989 (post-1989 forests).

188 The Panel acknowledges the need to meet international obligations, and the fiscal risks of deviating from international rules. The Panel notes, however, a number of stakeholders have indicated that the current international accounting rules place unnecessary restrictions on land-use flexibility and reduce incentives for new forest planting. The Panel strongly supports the Government's negotiating position which advocates changing these rules. However, in the absence of being able to effect change at the international level, the Panel suggests evaluating the impacts of changing the domestic rules as outlined in this chapter.

189 As the Panel has noted in chapter 2, New Zealand is likely to face a period of continuing uncertainty with regard to the future of the international climate change framework. It is possible a new kind of framework, differing substantially from the Kyoto Protocol, may emerge in time. This may give New Zealand more flexibility to introduce changes to domestic rules which could ameliorate the restrictions of the pre-1990 forest regime and provide encouragement to grow more trees on a large scale. This, in turn, will smooth out New Zealand's harvest emissions cycle – large-scale harvesting is expected to start from mid to late 2020s (see chart 2.1 in chapter 2).

190 Any changes to the ETS design will have implications for the fiscal, economic and environmental outcomes sought by the Government. However, the Panel found some of the submitters' requests for changes to the forestry settings within the scheme compelling and, in some cases, it recommends the Government reassesses those changes. The Panel believes these changes should be considered after the first commitment period and in response to negotiation outcomes on future international rules. The Panel acknowledges the cost implications of any change in the ETS rules will depend on the nature of future international agreements.

191 The Panel notes that implementing the forestry elements of the ETS results in a range of issues for Māori, some of which are covered in this chapter and others in the *Māori* chapter (see chapter 6). Other matters dealt with elsewhere include education in chapter 9. A number of submissions also raised the potential social impacts of large-scale forestry activities on rural communities. It is not clear to the Panel that the risk of adverse impacts is significant. On the contrary, the Panel is inclined to the view that forestry represents a significant opportunity for rural employment, particularly on marginal land.

192 The ETS does not stand on its own in terms of incentivising afforestation. The Panel is aware of two significant afforestation schemes, the Permanent Forest Sink Initiative (PFSI) and the Afforestation Grant Scheme, both of which are under review at this time. The Panel believes that the absence of these scheme may result in reduced afforestation activity, and it observes the usefulness of these schemes. The PFSI pre-dates the ETS and generates internationally tradable emission units similar to, but separate from, the ETS. At time of writing, there were 31 registered PFSI covenants (covering 7158 hectares) and a further five covenants had been approved but not yet registered on land titles (for 707 hectares).

The Panel recommends:

5.1 The Government should make a hard-headed assessment of the Panel's recommended changes to the domestic ETS forestry rules after 2012, taking account of the international position, the potential fiscal impact/risk and financial impact/benefit to foresters and other stakeholders, with a view to changing the ETS forestry rules along the lines recommended, if necessary unilaterally.

Pre-1990 and post-1989 forests treatment in the ETS

193 Pre-1990 and post-1989 forests are treated differently, reflecting the current Kyoto Protocol rules that New Zealand elected to account for.

194 Under the Kyoto Protocol, New Zealand must account for any deforestation of pre-1990 forests (both indigenous and exotic). Under the ETS, deforestation of more than two hectares of pre-1990 exotic forest is automatically covered by the ETS except where an exemption has been granted (by application) for landowners with pre-1990 forest areas of less than 50 hectares. There is no liability for the harvesting of pre-1990 forests provided they are re-established. The liability for deforestation applies to the landowner so changes in land use are restricted by the high carbon loss penalties applied. The deforestation of indigenous pre-1990 forests is not covered by the ETS.

195 Post-1989 forestry is covered by an entirely different regime where a land or forest owner of post-1989 forest land can opt into the ETS and claim credits for additional carbon sequestered from 1 January 2008, and be liable for carbon losses for a participating forest. Post-1989 forestry can cover both exotic and indigenous forest. If participating in the ETS, the liability for carbon loss applies if the trees are cut down or suffer a catastrophic event. The land or forest owner who is the participant in the ETS when the carbon loss occurs, is obliged to repay the units issued.

196 Table 5.1 below sets out the key differences between the two types of forest.

Table 5.1: Differences between pre-1990 and post-1989 forests

Pre-1990 forests	Post-1989 forests
• Compulsory participation in ETS with deforestation of over two hectares.	• Voluntary participation in the ETS (i.e. "opt in").
• An up-front allocation of units payable in two tranches is provided as partial compensation for the impacts of the ETS.	• There is no up-front allocation as compensation is not needed.
• No liabilities if you harvest and then replant or provide for appropriate regeneration of forest species. • Liabilities for deforestation, if more than two hectares.	• Liabilities (for the registered participant only) for deforestation and harvesting (or anything that causes negative carbon stock changes) even if you replant.
• Do not earn units for carbon stored in forest (presently or when replanted).	• Units are earned for additional carbon stored in a forest area from January 2008.
• Less-than-50 hectares exemptions available. • Tree weed exemptions available.	

Issues for both pre-1990 and post-1989 forests

197 ***Definition of "forest".*** A number of submissions proposed changing the thresholds of the forest land definition adopted by New Zealand under the Kyoto Protocol. A broader definition could include shelterbelts, riparian margin planting and small non-contiguous areas of indigenous forest as post-1989 forests. New Zealand was required to nominate a forest land definition, including a minimum land width and area under the Kyoto Protocol. The definition cannot be changed for the first commitment period. While it is possible to attempt to change the definition later, the Panel is advised this would be scrutinised by other Parties to the UNFCCC and might not be accepted or might be challenged. The selection of New Zealand's definition balanced the opportunities for small-scale post-1989 landowners with shelterbelts and so on to participate in the ETS against the liabilities for pre-1990 owners for those same-sized areas, and the increased costs of measuring these areas and their carbon stocks for potentially little extra gain. If these additional planted areas were to be included in the definition of forest land there would also be implications for landowners who may not be in control of the decision to clear that forest land. The Panel observes there could be opportunities for revisiting the definition post-2012, depending on the outcome of the international negotiations.

198 ***Associated persons' test***. The Panel has noted the impact of associated persons' test rules, which are particularly relevant in related family farming operations holding pre-1990 forests. The definition of associated person is wide and applies to corporate entities where, broadly, one entity has the power to control, directly or indirectly, at least 25 per cent of the voting power or governing body of the other. A number of farming families operate through corporate structures where one family member's company may assist in financing another and hold small shareholdings of around 25 per cent. These entities are treated as being associated, thereby precluding them from being eligible for the less-than-50 hectare exemption and the two hectare threshold.

The Panel recommends:

5.2 The forest ownership associated persons' test rules should be reviewed to determine whether the associated persons' percentage thresholds should be increased or varied to recognise the situation of related family farming operations.

199 ***Amalgamating smaller forest blocks and the Income Tax Act.*** The New Zealand Farm Forestry Association pointed out that the 2020s spike of emissions from harvesting could be ameliorated by allowing bigger woodlots to be created (e.g. by using cooperatives). This could help avoid uncoordinated cutting by small-scale forest owners who make up most of the 540,000 hectares expected to be harvested in the decade.

200 The Panel noted the drafting of aspects of the Income Tax Act 2007 (ITA) is more complicated than it needs to be. In addition, submissions identified that the interplay of the tax rules and the Act may result in unintended outcomes for persons seeking to reduce emissions through forestry activities, for example, the amalgamation of smaller forestry blocks and the application of section CB25 of the ITA.

The Panel recommends:

5.3 The Government should undertake further study on the amalgamation of smaller forestry blocks and the application of section CB25 of the Income Tax Act 2007.

The regime for pre-1990 forests

201 Submitters suggested various changes to pre-1990 forest settings. The key points are outlined below.

Pre-1990 offset planting

202 Effectively, the pre-1990 forest land boundaries are fixed as at 1 January 2008. Under the present international rules, these forests cannot be harvested and then planted elsewhere without a cost related to the deforested areas being incurred.

203 Many submitters, including Māori (see chapter 6), wanted the ability to plant a new area of forest elsewhere instead of paying deforestation liabilities on the pre-1990 forested land. A number of submitters have said it would be beneficial for them and the wider economy to plant offset forests elsewhere, as the deforested land would be better used in a higher value land use.

204 New Zealand is actively advocating in international climate change negotiations to introduce land-use flexibility for planted production forests. If international rules change to allow what is described as offset planting, then the Act already provides for this to be introduced domestically in the ETS.

205 The Panel feels the current arrangements, which place a major cost on land-use change, are not right or fair but acknowledges the constraints presented by international rules. Major fiscal costs would be incurred by the Crown from allowing offset planting domestically, under current international rules. That is because the full liability would be realised on deforestation compared to the slow growth of units from the newer offset forest.

206 To meet the intention of the ETS, the Panel considers any future offset planting regime (i.e. flexible land use) should focus on the carbon equivalence of the offset forestry rather than on equivalence in area.

The Panel recommends:

5.4 Subject to recommendation 5.1, pre-1990 forestry offset planting should be introduced within the rules for pre-1990 forestry from 2012.

Pre-1990 allocation

207 Some compensation has been provided for the loss of pre-1990 land-use flexibility under the current rules. This equates to about 5 per cent of the potential liability faced by landowners on deforestation.[37] The Panel acknowledges, however, the importance of New Zealand continuing to advocate in the international climate change negotiations for the introduction of land-use flexibility for planted production forests.

208 In accordance with the Act, the pre-1990 forest land allocation plan provides for the issue of compensation units in two tranches, with 38 per cent issued in the first commitment period and the remaining 62 per cent following the end of the first commitment period. The second tranche has a fiscal cost of $850 million, at a unit price of $25.

The Panel recommends:

5.5 The Government should introduce a claw-back provision for the second tranche of the pre-1990 forestry allocation, if offset planting is introduced into the ETS (as recommended by the Panel – see recommendation 5.4) and taken up by a participant.

Increase the two-hectare threshold

209 Several submitters sought to increase the two-hectare, pre-1990 deforestation threshold (within a five-year period). The Panel understands this threshold was

[37] The Panel was advised that the basis for allocation includes historical rates of deforestation, takes account of two-hectare and less-than-50 hectare exemption provisions, and is available to all pre-1990 owners, irrespective of whether or not they intend to deforest. The quantum was calculated based on the 21 million unit deforestation cap for the first commitment period announced in 2002 (and a 55 million cap in total), rather than as a percentage of the potential liability.

introduced to reduce the regulatory burden from very small-scale deforestation. One larger forestry player said this creates significant costs for them, both administrative and liability-related, and a number of submitters have asked for an increase to 50 hectares. The Panel notes that, in view of the number of pre-1990 participants, if the threshold was set higher than two hectares it would create a significant fiscal cost for the Crown. The Panel was not persuaded that there were compelling reasons to recommend a change.

The Panel recommends:

5.6 There should be no changes to the two-hectare pre-1990 deforestation threshold.

Timetables for applying for pre-1990 exemption and allocation

210 The Panel has been alerted to the concerns of small-scale, pre-1990 forest owners about meeting the deadlines for applying for a less-than-50 hectare exemption. Māori landowners, in particular but not exclusively, are affected. The Māori Trustee has identified concerns for the ability of the Trustee to meet current timelines (see chapter 6 *Māori*).

211 Officials have identified Māori land blocks with pre-1990 forest and are making contact with owner representatives. The focus is on blocks of more than two hectares, and at the time of writing, of those identified so far nearly 80 per cent of owners have been contacted and informed about the forestry allocation and exemption.

212 The Panel notes the Act already allows for some flexibility around timing and extensions. Application closing dates for the allocation and exemption are 30 November 2011 and 30 September 2011, respectively. The Panel recommends the Government reviews progress in November 2011 and considers whether there is a need to extend the current timeframes to allow better uptake of the exemption and allocation provisions in the ETS. This will be of benefit particularly for Māori and small-scale owners.

The Panel recommends:

5.7 The Government reviews applications for pre-1990 allocations and exemptions in November 2011 and considers whether there is a need to extend the current application timeframes.

The regime for post-1989 forests

213 The area of new planting has slowly increased since 2008 and there is evidence of new activity with forests being established for carbon farming. However, as noted earlier, there are advantages in establishing new forests more quickly on previously unplanted land to sequester more carbon in the 2020 decade and thereby smooth New Zealand's predicted emissions spike caused by the harvesting of the large plantings of the 1990s (that peaked at nearly 100,000 hectares in 1994).

214 Submitters reinforced the need to inject confidence and certainty into the sector to encourage greater new planting. The Panel accepts that an issue for some is the liability at harvest, and sees a need for more understanding and options for dealing with the future liability. Foresters are weighing up current options for mitigating the harvest liability:

- the bold approach of selling units when issued as a cash-flow benefit and expecting the harvest value of the trees to be sufficient to purchase units at the value of the day to replace the units issued and sold or
- selling only a portion of the units issued and "banking" the rest or
- not participating at all.

215 A number of submitters referred to the cash-flow benefits available to farmers planting poorer back country and gullies. The Panel acknowledges the benefit of this and of promoting understanding within the forestry and agriculture sectors about post-1989 harvesting liabilities and options for managing these.

216 The Panel feels that independent financial advisors have an important role to play in the advice they give to foresters. The Panel was told of people who may be giving financial advice in relation to forest issues but who are not qualified to do so and notes there are recent rules against offering financial advice when not qualified to do so.

217 The Panel also notes there is no specific financial accounting standard, either internationally or in New Zealand, that addresses accounting for the ETS. The Panel has been advised the future liability involved with harvesting forests which have opted into the ETS and earned carbon credits is, in practice, not being treated as either an actual or a contingent liability in foresters' or farmers' accounts. Rather the approach seems to be that these obligations are incorporated into the valuation of the forestry asset. The Panel flags this as a concern. It is aware that an international standard in relation to accounting for emissions generally has been under development for some time. However, this would not address the emissions from forestry specifically. The Panel therefore recommends the International Accounting Standards Board and the soon-to-be-established New Zealand External Reporting Board be asked to examine this issue. The Panel notes the New Zealand Institute of Forestry has been commissioned by the Ministry of Agriculture and Forestry to address carbon forestry in the Forest Valuation Standards.

The Panel recommends:

5.8 The Government continues to promote understanding within the forestry and land-use sectors about post-1989 harvesting liabilities and options for managing these.

5.9 The Government should ask the International Accounting Standards Board and the soon-to-be-established New Zealand External Reporting Board to look into the treatment of post-1989 forest actual and contingent liabilities (of future harvesting) in financial accounts.

Retained carbon in harvested wood products

218 The Panel understands New Zealand is actively advocating for a change in international rules whereby the harvesting of a tree is currently treated as having its carbon stock instantly oxidised. This means, currently, the full obligation is realised when a tree is felled, rather than at the end of a wood product's life. In the ETS, no account is taken of carbon retained in wood products. Nor is any account taken of the balance of wood products imported and exported.

The Panel recommends:

5.10 Subject to recommendation 5.1, the ETS rules in relation to post-1989 harvested wood products should be modified to reflect an 'emissions to atmosphere' approach if agreement on this has been reached internationally.

Averaging

219 Post-1989 forest owners opting into the ETS receive all the sequestered carbon credits as the forests grow and face full liability for emissions at harvest. Some landowners are reluctant to join the ETS, as they are concerned that if they sell their units as they are earned (to obtain cash flow) they may have to buy them back later at a much higher price (e.g. to cover future harvest liabilities). Alternatively, landowners may be unable to meet their liabilities when required at harvest.

220 Three submitters (including the New Zealand Forest Owners' Association) suggested a relatively simple method of addressing harvest risk, called 'averaging'. Under averaging, units would be issued only up to the long-term average forest carbon stock level for carbon earned from 1 January 2008, and none would have to be paid back when harvesting occurs, provided the forest is replanted. Averaging would remove several key risks for post-1989 participants; however, the Crown would take responsibility for the fiscal cost associated with harvesting. This cost to the Crown would arise because, for a particular forest, the Crown would have only the units above the average level to meet the full harvesting liability. Credit for carbon sequestered above the average would be retained by the Government. On harvest, no return of credits from participants would be required; however, if a participant changed land use, they would still need to repay the liability capped at the amount of units received.

The Panel recommends:

5.11 Averaging should be available as an option from 2012 for post-1989 forests. The Government should consider whether a ceiling on the maximum size of forest that could participate in this option would be required.

Catastrophic events

221 Six submitters (including the New Zealand Forest Owners' Association) raised the issue of liability for carbon loss as a result of uncontrollable catastrophic events (force

majeure), such as fire and pest infestation. Options to help owners manage potential losses due to these events include putting units aside. The Panel notes the private insurance market currently covers some risks, for example fire, but not all risks. The Panel favours reliance on private insurance where financially viable.

The Panel recommends:

5.12 The Government gives consideration to, and consults on the establishment of, a self-insurance pool of units for post-1989 forests, along the lines of that proposed in Australia (5 per cent retention). Such a scheme would have no recourse to the Government and should not result in any further liabilities to the Government.

Carbon measurement

222 The Government has introduced regulations whereby field measurement is compulsory for owners with 100 hectares or more of forests in the ETS or PFSI.[38] This is on the basis of securing greater accuracy and will lead to gradual improvement in the accuracy of the default look-up tables in existing regulations (which are based on averaged data), which have been used for carbon assessment to date. Several issues about these regulations were raised with the Panel. The first is the fairness of compelling owners of relatively small forests to use look-up tables where actual measurement might favour them. The Panel recommends that such owners have the option, at their cost, of undertaking actual measurement.

223 The second issue relates to the size of the threshold where forest owners with holdings in excess of 100 hectares are required to use the field measurement at their own cost at least five-yearly. This is a relatively expensive methodology but will suit larger foresters who believe their growth rates exceed the look-up tables averages. Nevertheless, there will be others who would be content to rely on the look-up tables. The Panel recommends the Government consider whether the 100-hectare threshold should be increased.

The Panel recommends:

5.13 The Panel recommends that owners of less than 100 hectares of forest have the option, at their cost, of undertaking actual measurement.

5.14 The Panel recommends that the Government consider whether the 100-hectare threshold should be increased.

Biodiversity and tree weeds

224 The Act requires the Panel to consider the impact of forestry elements of the ETS on biodiversity. As noted in the *Introduction* section, the ETS has not been going very long. There are no reports of extensive clearance of indigenous vegetation or tussock

[38] The Climate Change (Forestry Sector) Amendment Regulations 2011.

grassland for conversion to exotic forestry. The Panel has seen no evidence that the inclusion of forestry in the ETS is having an unfavourable impact on biodiversity.

225 The pre-1990 tree weed exemption in the Act is not limited to the first commitment period under the Kyoto Protocol, and the Panel recommends the exemption be available beyond 2012, so that landowners can continue to apply for this exemption in line with their budgeted tree weed control programmes. The expense of wilding control is expected to be phased over future years. The Panel notes the Government caps the extent of the tree weed exemption, to control the timing of the fiscal costs.

The Panel recommends:

5.15 The pre-1990 tree weed exemption should be available beyond 2012.

Indigenous forests

226 Under the Kyoto Protocol, New Zealand chose not to account for carbon stock changes in pre- 1990 forests, including indigenous forests, but New Zealand does face *deforestation* liabilities. Estimates at the time were uncertain whether indigenous forests were accumulating or losing carbon and there was concern that including indigenous forests could result in a large liability. In addition, historic rates of indigenous deforestation were low and much of the pre-1990 indigenous forest was protected. In contrast, New Zealand elected under the Kyoto Protocol to account for the carbon stock changes for post-1989 indigenous forests. The ETS closely follows the Kyoto Protocol rules elected by New Zealand. For this reason, pre-1990 indigenous forest is excluded from ETS deforestation rules, but post-1989 indigenous forests can join the ETS.

227 The treatment of pre-1990 indigenous forests and biodiversity remains an especially important issue for Māori. However, as these pre-1990 forests sit outside the ETS design, owners of these forests do not receive value for those pre-1990 indigenous forests for either carbon sinks or biodiversity assets. Some submitters suggested a new biodiversity credit be created or that free allocations be made to pre-1990 indigenous forests to recognise their carbon and biodiversity roles.

228 The Panel notes allocations are not made to pre-1990 indigenous forests, as the deforestation of these forests is not subject to the ETS. Rewarding the enhancement of biodiversity values or other environmental benefits is not a role for the ETS itself; however, there may be an opportunity in the voluntary market for non-Kyoto units. The Panel is aware that some landowners are already pursuing opportunities to earn carbon credits for their pre-1990 indigenous forests through voluntary markets. Forestry covenanted under the QEII National Trust or the Nga Whenua Rahui Schemes may be attractive to purchasers of units in these voluntary markets.

The Panel recommends:

5.16 The Government should consider the appropriateness and means of introducing a voluntary ETS equivalent for pre-1990 indigenous forests.

6 Māori

Introduction

229 This chapter sets out the issues raised in particular by Māori submitters, which are either unique to iwi and Māori, or which have especially significant potential impacts for iwi and Māori. The Panel has paid particular attention to Māori, reflecting the unique relationship between the Crown and Māori and the principles of the Treaty of Waitangi. In addition, Māori have extensive land holdings in forestry and agriculture, as well as particular forms of ownership and governing arrangements that pose particular issues regarding the implementation of the ETS. Throughout this report the use of the term Māori refers more broadly to the interests of iwi/Māori.

230 Determining where overall Māori interests lie in relation to the ETS design is complex. There is no unitary 'Māori economy', and it is therefore not possible to discern a single Māori preference regarding the different design features of the ETS. The Panel has not been able to determine precisely whether the ETS on balance helps or harms iwi and Māori interests overall. However, a number of key themes have been tabled by Māori submitters. These themes, combined with previous analysis of Māori interests and exposures to ETS policy, have enabled the Panel to identify the principal design considerations significant to iwi or Māori.

231 The Panel noted, in particular, the comments by the Climate Change Iwi Leadership Group (CCILG), that iwi/Māori occupy a unique position in terms of New Zealand's ETS. CCILG laid out the following preferred overarching design principles for the ETS:

- ETS design should promote options and solutions that seek to appropriately balance economic, social, environmental and indeed cultural outcomes, as opposed to being biased towards solely economic or environmental outcomes, and which recognise the significant footprint of the Māori economy (estimated at $37 billion),[39] that is heavily weighted towards the primary sector ETS design should be oriented strongly towards options and solutions that are sustainable and durable across multiple generations, given the intergenerational and collective approach applied by iwi and Māori rooted in communally and collectively owned Māori land. This is contrasted against design options that seek and promote short-term and unsustainable behaviours
- ETS design must never put at risk multiply-owned Māori land that is the essence of whanau, hapu and iwi culture and community
- ETS design should recognise that it is not uncommon for iwi/Māori to hold concurrent, and often large-scale, interests across multiple sectors (especially primary sectors) and therefore ETS design should promote solutions across sectors (rather than create barriers), e.g. across farming and forestry
- ETS design should recognise and promote options that minimise impacts on Māori households, especially in respect of the cost of fuel and energy
- ETS design should be consistent with the principles of the Treaty of Waitangi and the UN Convention on the Rights of Indigenous Peoples.

[39] Source: BERL, *The asset base, income, expenditure and GDP of the 2010 Māori economy*, April 2011. Produced for the Māori Economic Taskforce.

Design considerations significant or unique to iwi or Māori

Impacts of the ETS on Māori households

232 The impact of ETS design on Māori households was an important issue for Māori submitters. While this issue is not particular to Māori households, it was noted by submitters that those Māori living rurally in whānau and hāpu communities were particularly vulnerable to increases in the price of fuel and energy.

233 Some submitters recommended the Government should continue to provide assistance, such as the home insulation programme, targeted at helping vulnerable households, including Māori, to withstand the effects of the ETS.

The Panel recommends:

6.1 The continuation of complementary measures such as the home insulation programme in order to mitigate the impacts on vulnerable households, including Māori.

Managing ETS liabilities

234 Māori foresters face similar impacts to non-Māori foresters in terms of the ETS. However, Māori foresters will face unique hurdles compared to non-Māori foresters should they wish to change pre-1990 forests to other land uses in the future, such as:

- capital constraints and capability of organisations/lack of information and managerial expertise
- the greater proportion of Māori land held under long-term forestry rights and leases
- land ownership complexities and compliance under Te Ture Whenua Māori Act (TTWMA).

235 The impact of associated persons' test rules that affect small landowners, including Māori, are discussed in *Forests and the ETS* chapter (chapter 5).

Pre-1990 offset planting

236 A number of submitters considered iwi/Māori economic interests were disproportionately impacted by the ETS, in particular as a result of deforestation liabilities associated with land in pre-1990 forests.

237 Given these liabilities, land-use flexibility (or offset planting) was signalled by a number of Māori submitters as being a significant issue for those iwi/Māori with especially flat to rolling land in pre-1990 forests today where there would likely be future pressure to explore changing land use away from forestry. Unlike non-Māori foresters, Māori forest landowners don't have the option to sell the land (and mitigate potential liability) for strong cultural reasons. Accordingly, successful international negotiations on land use, land-use change and forestry (LULUCF) are a significant issue for iwi/Māori foresters.

238 The Panel has also considered the matter of land-use flexibility and forest offset planting more generally. The Panel has recommended that offset planting for pre-1990 forests should be introduced after 2012, subject to assessment. Further discussion of this issue is outlined in the *Forests and the ETS* chapter (chapter 5).

239 One submitter sought an opt-out for Māori forest owners with pre-1990 forest arising from Treaty settlements. The Panel notes allowing land to opt out of the ETS would create risks of increased fiscal costs to the Crown. For allocations, the Act sets out various dates to calculate the entitlements for landowners based on the date of transfer of the freehold land and the Crown forest licence land arising from a Treaty Settlement.

Post-1989 forestry

240 On the other hand, by earning tradable carbon credits for the carbon stored in post-1989 forests, Māori landowners may be able to generate additional value from forestry, even after accounting for harvest liabilities and liabilities for any natural carbon losses (e.g. due to wind damage or fire). Generating this value on some parts of their land may relieve the capital constraint faced by Māori on other parts of their land, and hence facilitate greater development of Māori land.

241 Earning tradable carbon credits also provides a financial incentive for Māori to consider rationalising otherwise uneconomic land blocks to enable this opportunity to be exploited (although transaction costs arising under TTWMA may still prove prohibitive, unless support is made available to facilitate this).

242 Measures encouraging afforestation are seen as being positive for Māori with qualifying land by creating new land development options for land that has to date been seen as unattractive to investors (e.g. due to terrain characteristics or distance from connecting ports to offshore markets). Furthermore, these measures will enable the planting of alternative tree species including options around native tree species important to Māori.

243 The Panel notes several Government schemes are already in place to encourage wider afforestation but there has been low take-up of these schemes by Māori to date.[40] The schemes are currently being reviewed. The Panel believes the Government should continue to support these schemes where effective.

244 However, CCILG also signalled the significance of harvest liabilities may not be well understood by Māori landowners of post-1989 forests. It is not only the magnitude of post-1989 harvest liabilities that is an issue for iwi/Māori but also the long time-lag between when forests are planted and when they are harvested. The Panel's consideration and recommendation on this issue is set out in *Forests and the ETS* chapter (chapter 5).

The Panel recommends:

6.2 The Government continues, and considers strengthening, the existing afforestation schemes to encourage greater Māori participation in respect of post-1989 forests and to take into account the particular issues faced by Māori.

[40] Such as the Permanent Forest Sink Initiative and Afforestation Grant Scheme. See chapter 5.

Land-owner requirements under the Te Ture Whenua Māori Act

245 The TTWMA places particular constraints on owners of Māori land that non-Māori landowners do not face. These constraints relate to the multiple-ownership of Māori land, succession process, sale constraints and the collective decision-making approaches required under the TTWMA.

246 The Climate Change Response Act requires 100 per cent of all landowners to complete applications for allocation and exemption. Under the Act, the owners of pre-1990 forest land can apply for an allocation of free NZUs, or for an exemption for forest holdings of less than 50 hectares. However, in order to comply with the requirements of the Act, all legal landowners must sign the application for an exemption or allocation. Māori-owned forest lands often have multiple owners. For exemption applications, this is made more complex by the statutory declaration requirement of the landowners as at 1 September 2007. In many cases, these owners cannot be located, or are deceased and succession has not taken place, making it difficult to complete an application process.

247 There are at least three instances where applying for an exemption or allocation may be difficult:

- multiply-owned Māori land that is managed by trustees (other than the Māori Trustee), which requires the landowners to complete the applications and for exemptions to provide the statutory declarations
- land owned on behalf of trusts by the Māori Trustee, where the exemption eligibility is affected by the Māori Trustee owning a total of more than 50 hectares. In this case, the nature of the Māori Trustee's ownership prevents unrelated, small landowning Māori trusts from being eligible for an exemption
- multiply-owned Māori land that is unmanaged and does not have any formal governance structures in place (either by a trustee or the Māori Trustee).

248 The issues above also create a risk of non-compliance with ETS obligations, which may put Māori land at risk of default. The issue might also potentially affect other non-Māori trustees. For further discussion on exemptions and extensions for pre-1990 forestry see *Forests and the ETS* chapter (chapter 5).

The Panel recommends:

6.3 The Government develops amendments to the Act that address the application requirements that affect Māori land, including:

- reducing the application requirements for Māori freehold land in multiple ownership or owned by trustees of Māori trusts
- ensuring the Māori Trustee can apply for the 50-hectare exemption on the basis of individual Māori trusts' ownership rather than on the basis of its total landholding.

6.4 The Government should explore whether temporary extensions to the exemption and allocation deadlines for Māori owners are necessary, while these issues are being addressed.

6.5 The Government should establish a working group to work with the Māori Trustee to address the application requirement issues, as suggested by the Māori Trustee.

Agriculture

249 The Panel has recommended that the point of obligation for agriculture should be at the farm level, rather than the current processor level as legislated (chapter 4, *Agriculture and the ETS*). However, the Panel is conscious the structure of Māori land ownership and farm organisations may present some challenges to Māori owners, as has become evident in forestry. If the Panel's point of obligation recommendation is implemented then Māori farmers should be a particular focus of education programmes. The Panel suggests this is an issue for further consideration by the Agriculture ETS Advisory Committee.

Capacity and education

250 The complexity of the ETS creates challenges for owners of smaller lots generally, but in this context submitters noted that smaller Māori land trusts and incorporations had experienced ongoing issues in relation to accessing the necessary capability, information and/or managerial expertise. This, in turn, could affect their ability to take up new technologies and farming practices that reduce farm-level emissions and hence exposure to emissions charges. These small Māori trusts and incorporations may need extra help in order to overcome these capability issues.

251 Effective access to emissions–reducing research and development was also raised by Māori submitters. For similar reasons as set out above, Māori farmers may therefore be in need of extra help to ensure they can participate in such programmes.

252 The CCILG submitted that small- to medium-sized trusts are struggling to understand and engage with the ETS and lodge applications for pre-1990 forest allocations and exemptions. Other submitters said they were aware of Māori trusts which have small pre-1990 forests but know little about the ETS and have no plans to submit an application.

253 The complexity of the ETS design raised particular issues for Māori trusts and incorporations, especially as many of the smaller entities lack effective governance and internal administrative capabilities. There has already been a need to extend the deadlines because of these difficulties. This issue is not particular to the ETS, and has been recognised for some time. However, the Panel understands the ETS has magnified an existing and known issue. The Panel has already made a recommendation in relation to this issue (see recommendation 5.7).

254 The Panel notes that the Ministry of Agriculture and Forestry has worked with Te Puni Kōkiri (TPK) and the Māori Trustee and obtained available Māori Land Court records to identify and contact owners of Māori land blocks with pre-1990 forest. Approximately 1,350 Māori land ownership blocks with pre-1990 forest have been identified (approximately 130,000 hectares). At the time of writing, nearly 80 per cent of the owners of individual blocks greater than two hectares have been contacted.

255 The Ministry of Agriculture and Forestry has also conducted 18 hui to date in regions where there are concentrations of Māori land. Information packs for Māori landowners have been distributed to regional offices of the Māori Trustee, TPK, Māori Land Court, Federation of Māori Authorities (FOMA), Bank of New Zealand, New Zealand Farm Forestry Association and regional councils.

The Panel recommends:

6.6 The Government should monitor the level of engagement and capacity of Māori land trusts in relation to the ETS and consider ways to provide support where appropriate.

256 The Panel has considered educational matters more generally, and its recommendations on this issue are presented in the *Operation of the ETS* chapter (chapter 9).

7 Synthetic greenhouse gases

257 Under its ToR, the Panel has to give particular attention to the inclusion of synthetic greenhouse gases (SGG) within the ETS.

258 As described in more detail in the *Issues Statement*, SGGs are imported in bulk and contained within imported equipment, and exported similarly. The gases are used in stationary and mobile air conditioning and refrigeration, foam blowing, aerosols, electrical switchgear and fire protection equipment, amongst other uses. Table 7.1 below sets out the 2009 emissions from those uses. New Zealand is home to several manufacturers of such goods, who compete domestically against imported equipment, and export to international markets. Under the ETS, importers of SGG must account for the SGG imported and surrender emission units from 1 January 2013.[41] Exporters of SGG are able to apply for emission units from undertaking a 'removal' activity.

Table 7.1: Emissions of SGGs by sector

Sector	Gas (and Global Warming Potential)[42]	2009 tCO_2-e emissions
Aerosols	HFC-134a (1300)	28.7
Metered Dose Inhalers	HFC-134a (1300)	53.7
Foam	HFCs-134a (1300)	0.12
Mobile Air Conditioning	HFC-134a (1300)	147.5
Stationary Refrigeration and Air Conditioning	HFCs and PFCs (1300 to 3300)	649.1
Fire Protection	HFC-227ea (2900)	1.4
Electrical Switchgear	SF_6 (23,900)	16.9
Other SF_6 use	SF_6 (23,900)	2.9

Source: New Zealand Greenhouse Gas Inventory 1990–2009

259 In their submissions and in meetings with the Panel, industry representatives have generally sought full (or sectoral) ETS exemption with alternative policies developed and implemented instead. Examples included a low-level levy on all imported SGG to be recycled into industry initiatives. However, the majority of other submitters who commented on SGG in the written consultation considered the timetable and coverage were appropriate.

260 A summary of the points and alternative policies raised is included in the *Summary of Submissions*.

261 The Panel considered the arguments and evidence for and against continued ETS coverage. Having had regard to the principles and objectives of the ETS, along with the

41 The Act currently exempts SGGs in medical uses such as metered dose inhalers.

42 Global warming potential is a factor describing the radiative forcing impact (amount of warming) of one unit of a given greenhouse gas relative to one unit of CO_2. For example, under the Kyoto Protocol, the GWP of methane is 21.

views of submitters, the Panel has the view that a pricing mechanism is the most appropriate mechanism for reducing SGG emissions.

262 The following issues were raised by submitters and considered as key by the Panel:

- even if it is appropriate for SGGs to be in the ETS some specific SGG activities could nevertheless be treated differently
- reducing the (transaction and compliance) costs for importers of SGG installed in goods
- addressing the problem that the ETS prices 'emissions' on import when they don't actually occur for a number of years, and that the import of the gas is therefore not the same liability as that faced by the Government in respect of actual emissions.

263 The ToR of this review required the Panel to consider, amongst other issues, the effectiveness and efficiency of the ETS. In particular, administrative efficiency, short-term costs, competition and competitiveness impacts, and equity between sectors and groups. Those issues have guided the Panel's discussions and led to the recommendations in this section.

Sulphur Hexaflouride (SF_6)

264 Many submitters were concerned at the ETS requiring surrender of emission units for SF_6 when it is imported, instead of when emissions occur. For the main use of SF_6 (electrical switchgear), rates of emissions can be as low as less than 1 per cent per annum of installed gas in equipment. Submitters considered it was unfair for the Government to require emission units to be surrendered for SF_6 imported, when its own liability was recorded only when emissions occur (which could be over 50 or more years after the gas was imported). The Panel shared this concern. In the Panel's view, this approach is neither equitable nor likely to be effective at reducing emissions.

265 The Panel considered alternatives to the status quo. The aim, as summarised above, includes ensuring the ETS delivers the most efficient and effective signals, as well as ensuring inter-sectoral equity. These considerations led the Panel to consider whether it was possible to move the point of obligation from importers of SF_6 to the users of electrical switchgear (who are the major source of SF_6 emissions in New Zealand). Such a change would:

- ensure those responsible for emissions face the cost of actual emissions, not 'potential' emissions as is currently the case
- SF_6 users would then be provided with fair and transparent incentives to mitigate emissions as much as possible, providing the emissions calculation methodology was sufficiently detailed.

266 There was support for such an ETS policy option from submitters, as well as for the continuation of the existing memorandum of understanding (MOU) between the Crown and SF_6 users. The future of the MOU is something the Government should consult industry further on, particularly if the Panel's recommendation on a change to the ETS point of obligation is taken up. There was also support for a threshold, under which small users would not face ETS obligations. This should also be considered further by the Government if the recommended change is adopted.

267 Changing the point of obligation to users of SF_6 containing electrical switchgear is arguably inconsistent with how the ETS currently applies to other sources of SGG emissions. However, such a policy is compatible with the ETS framework applied to emitters in other sectors and would result in more appropriate environmental and equity outcomes than the status quo. The Panel acknowledges there will be a lessening of emissions 'caught' within the ETS as SF_6 is used in the economy other than in electrical switchgear, but have been advised that switchgear is the major source of emissions. As noted in the table above, nearly all SF_6 emissions would still be 'priced' by this change in approach. The Government should assess whether other users should also be covered by the ETS, taking into account compliance and administration costs and the accuracy of calculations.

The Panel recommends:

7.1 The point of obligation under the ETS should be on users of SF_6 in electrical switchgear rather than importers of SF_6.

7.2 The ETS obligation of users of SF_6 in electrical switchgear should be based on estimates of actual emissions.

7.3 The Government should consider the treatment of SF_6 contained within equipment and still remaining upon disposal.

Synthetic greenhouse gases other than SF_6

268 Having made decisions on SF_6, the Panel then considered the policy alternatives to the current ETS framework on non-SF_6 SGGs. Submitters noted a wide range of different issues. SGG industry submitters generally advocated substitution of planned ETS coverage from 2013 with making the current low-level levy on imported bulk SGG mandatory, and extending it to SGG imported in finished goods. The levy revenue would then be targeted at several industry-led programmes, supported by changes to ozone-depleting substances legislation.

269 The Panel was particularly influenced by the need to pay attention to competition and competiveness impacts, the equity between sectors and groups, and the timing of the recognition of emissions in the national greenhouse gas inventory. Several manufacturers of SGG-using equipment in New Zealand compete with imports and in export markets. It is important these manufacturers do not have their competitiveness eroded by confused ETS cost signals on SGG import and use.

270 The Panel recommends retaining the ETS coverage of bulk imported SGG. That decision was guided by the fact that using bulk gas in already installed equipment in New Zealand is a good proxy for actual emissions, as gas is replaced as it is leaked. The ETS will provide a strong cost incentive to minimise leakage.

271 Two factors guided Panel decisions on the ETS treatment of SGG imported into New Zealand already installed in equipment such as motor vehicles and refrigeration equipment:

- as already acknowledged, the important consideration of competitiveness impacts on New Zealand manufacturers
- the ETS administration and compliance costs faced by importers of such goods.

272 The Panel considers there is a strong case for a levy to be applied to goods imported that contain non-SF_6 SGG. Such a levy would significantly reduce transaction costs for importers if it was based on simplified assumptions about categories of goods and the SGG they contain. The levy revenue could be used to support complementary, emissions-reducing activities. However, it is of vital importance the competiveness impacts are minimised as much as possible while maintaining the simplicity of such a levy system. The Panel also considered goods containing SGG imported for personal use should continue to be exempt from the levy regime along with goods for other medical uses such as metered dose inhalers.

273 In order to minimise competitive distortions, the rate of the levy would need to be equivalent to the market price of emission units, and consequently adjusted regularly (possibly annually). Additionally, the levy would need to acknowledge the amount and type of SGG contained in various goods. The Panel acknowledges this would not be the low-level levy that was supported by submissions from the SGG industry. However, it fairly treats the range of SGG emission sources, would reduce transaction costs (especially where systems already exist for collecting levies, such as for motor vehicle importers), and minimises any competitiveness impacts. The current threshold for importing SGG contained in motor vehicles should be removed as administrative and compliance costs concerns would no longer be valid; however, exemptions should continue to apply to goods containing SGG that are imported for non-business reasons.

274 The Panel understands that security of SGG is a concern if it has an emissions price imposed through the ETS or a levy at that level. The Panel considered this point, but agreed that this seems to be a poor reason for holding the price down. In the Panel's view there is sufficient time for the industry to improve security.

275 The Panel also heard submitters state that the ETS could lead to poorer investment decisions by consumers in terms of choosing equipment containing less SGG, but with reduced energy efficiency. The Panel considered this point and was of the opinion that consumers have been increasingly factoring in operational costs into decision-making about capital investments. Therefore, the point made by submitters was not an argument against ETS coverage of SGG, but rather a good reason for continued education and other initiatives to support full cost information for consumers.

276 The Panel supports the proposed use of levy revenue, subject to other fiscal considerations such as the Government's own administration costs, as a source of funding for industry activities. Submitters put forward a range of options and the Panel encourages the Government to develop such ideas further with the industry and association groups.

277 Finally, the Panel sees no reasons why existing controls on ozone-depleting substances in New Zealand that control gas handling and emissions should not be extended to SGG, and advocates further work from the Government on this. In particular, the Panel supported the proposal put forward by submitters to prohibit knowingly releasing SGG from certain uses as is currently the case for ozone-depleting substances.

The Panel recommends:

7.4 No changes should be made to the current ETS framework for bulk imports of non-SF_6 synthetic greenhouse gases.

7.5 A levy, equivalent to the market price of emission units and reflecting the transition phase arrangements, should be placed on imported goods containing synthetic greenhouse gases which are not for personal use and that the current exemption for small importers of motor vehicles should be removed.

7.6 The Government should ensure such a levy is administratively simple for importers while minimising competitive distortions with New Zealand manufacturers.

7.7 The Government should recycle a proportion of the levy revenue into industry-led initiatives which will reduce synthetic greenhouse gases emissions.

7.8 The Government should prohibit knowingly releasing synthetic greenhouse gases into the atmosphere.

Transition phase

278 The Panel has already recommended (see recommendation 3.6) the SGG sector should have an identical transition phase to that which will be applied to other sectors over 2013 to 2015 (see *Transition phase* section in chapter 3). In addition, and as noted in the *Transition phase* section of chapter 3, the SGG sector should be subject to the recommended price caps (see recommendation 3.4).

8 Waste

279 The *Issues Statement* asked if new sectors should enter the ETS on current time-scales, and under what conditions. The current timetable for the entry of operators of waste disposal facilities into the ETS is mandatory reporting in 2012, followed by reporting and surrender obligations from 2013 onwards.

280 The Panel considers the waste sector should enter the ETS as currently planned. This decision is based on the considerations in chapter 2, *The wider context and implications for the ETS.* The Panel made this decision with reference to the objectives of the ETS, equitable treatment of emitters, and the need to transition the economy towards a carbon price.

281 Discussions with submitters on the coverage of waste by the ETS have mainly focused on the impacts on smaller landfills that service more remote communities, who have limited alternatives for waste disposal.

282 For these landfills, the installation of landfill gas capture facilities is less economically feasible than for larger landfill sites. As a result, these more remote communities are likely to face a higher cost impost as a result of the ETS. The imposition of the ETS could force early closure in some instances, and consequent transport of waste to larger landfills which are some distance away. It could also include high potential for fly tipping or incineration.

283 Thresholds exist in other sectors where the combined costs of administering the ETS and compliance for participants overwhelm the probable environmental benefits. However, deciding on a fixed threshold for exemption of a class of persons is complex for landfills. For example:

- there is a potential for waste flight from landfills that face ETS costs, to those landfills that might be exempt
- if a size threshold alone is implemented and applied to new as well as existing landfills, exemptions could also create a perverse incentive to open new, small landfills
- location factors will be an important factor in determining what alternative waste disposal options communities have. These factors are difficult to incorporate into a fixed threshold.

284 Reflecting these points, the Panel recommends the exemption of landfills that meet the following criteria:

- geographic isolation
- low volume of waste disposed of
- alternative disposal options not available.

285 This discretionary power would:

- apply only to existing landfills
- apply for the remaining life of the landfill

- be exercised by the administering authority (i.e. the chief executive of the agency responsible for the administration of the ETS)
- be discretionary.

286 The Panel considered whether the ETS should apply to emissions from closed landfills. While these sites are sources of emissions, the Panel notes these are sunk investments and earn no revenues. Consequently, imposing a cost on the emissions would be unfair.

287 Finally, some submitters questioned the methodology for calculating emissions from waste disposal. The Panel decided that while the current methodology is a simple proxy for actual emissions, it allows for the application of the ETS cost at the point of the revenue stream. A methodology that directly measures emissions does not have that important advantage.

Transition phase

288 The Panel has already recommended (see recommendation 3.6) the waste sector should have an identical transition phase to that which will be applied to other sectors over 2013 to 2015 (see *Transition phase* section in chapter 3). In addition, and as noted in the *Transition phase* section of chapter 3, the waste sector should be subject to the recommended price caps (see recommendation 3.4).

The Panel recommends:

8.1 The Government should introduce a discretionary power to exempt landfills from obligations under the ETS that are (i) geographically isolated, (ii) have a low volume of waste disposed of, and (iii) do not have alternative disposal options.

8.2 The Government works with Local Government New Zealand to define criteria relating to landfill size.

9 Operation of the ETS

289 The *Issues Statement* asked for views on the administrative efficiency of the ETS, in terms of compliance costs (including brokerage fees), complexities of ETS reporting requirements (such as accounting methodologies), penalties for breaching ETS obligations and the organisation of this administration across government. Few concerns were raised in relation to the administration of the ETS, with the general perception appearing to be that it is running well, and that there are no over-burdensome transaction costs. However, some stakeholders suggested administration and compliance costs may be higher for small businesses. Iwi representatives said there was also some anecdotal evidence that Māori trusts and incorporations were confronting hurdles and were not resourced or organised for speedy collective responses. The ownership framework for Māori land also created complications.

Administrative efficiency

Administration of ETS across government and the role of the Environmental Protection Agency

290 A number of submitters stated the administration of the ETS should come under one agency. The main reason given for this was it would be more efficient and simpler to deal with one agency. Other submitters suggested an independent allocation agency should be established. Others supported the Ministry of Agriculture and Forestry maintaining its role in the forestry sector, with the administrative role under one agency.

291 The Panel was not convinced there are any fundamental issues in the functioning of the ETS administration. It noted the introduction of the Environmental Protection Agency (EPA)[43] brings together a greater number of the functions, which is likely to address many of the submitters' concerns. In addition, it believes the Act places a number of constraints on the Minister's decision-making powers and that this reduces the need for an independent body. The Panel was not presented with any evidence at this point, and prior to the introduction of the EPA, that there are any fundamental issues in the functioning of the ETS administration; therefore it recommends no changes.

292 The Panel noted that should the point of agricultural obligation shift in the future to the farm level then the Ministry of Agriculture and Forestry should have delegated authority as per forestry, because of the synergies between different landowners. This would also allow landowners to continue to deal with the same people they deal with on a day-to-day basis.

The Panel recommends:

9.1 No changes should be made at this stage in relation to the administration of the ETS across government.

[43] For further information on the EPA see: www.epa.govt.nz

Penalties

293 A range of views were expressed by submitters on the penalties for breaching ETS obligations. Some thought the penalties are excessive and disproportionate, while others felt penalties need to be significant enough to encourage compliance.

294 ETS participants will have to surrender eligible emission units to the Government in order to meet their obligations for the first time at the end of May 2011. Therefore, at the time of writing this report, there has been no practical experience of how the surrender regime works and any compliance (or rather non-compliance) issues. As a result, no ETS participant has yet incurred a penalty for non-compliance. Therefore, the Panel felt it was difficult to assess at this stage whether there are any real and significant issues in relation to penalties and that there was no basis for reaching a different conclusion to what was originally reached by Parliament.

The Panel recommends:

9.2 No changes should be made at this stage to the penalties in the Act.

Security of registry

295 Four submitters raised concerns about the current security arrangements for the New Zealand Emission Unit Registry (NZEUR).[44] They argued that improvements are needed to reduce the risk of unauthorised or fraudulent access to emission unit holding accounts in the NZEUR.

296 The Panel agrees that security of the NZEUR is important and it would expect certain standards of verification to be in place, for example, of identity before transactions take place. The Panel notes, however, increased security should not come at the expense of transparency; it is not what you see on the NZEUR but how it operates that determines its security. The Panel is also aware of the security problems that the EU emissions trading scheme has had.

297 The Panel concluded the integrity of the register is an important issue as it affects confidence in the ETS. However, it was not provided with any concrete evidence of security issues with the NZEUR to date. In addition, the Panel understands the Ministry of Economic Development is currently assessing whether the security of the NZEUR should be increased, and it supports this work.

The Panel recommends:

9.3 The security of the ETS register should be subject to periodic assessment/review.

[44] For more information about the NZEUR see: www.eur.govt.nz

Market information

298 The Panel is aware that the administering authority is obliged to produce an annual report on the operation of the ETS including levels of allocation, units surrendered, and so on. The Panel is also aware the administering authority is entitled to publish such information at other appropriate times. The Panel suggests the Government considers how the market information it holds – such as volumes of transactions and sources of supply of units (imports/exports) – can be released in a timely way while preserving commercial confidentiality in relation to individual transactions.

Education

299 The Panel was concerned about the level of understanding around the ETS, given its complexities. The Panel was made aware of businesses affected by the ETS who didn't know that they were. Furthermore, general awareness and understanding of the ETS appears to be low. The Panel also noted this was a particular issue for iwi/Māori. In addition, the Panel believes the level of understanding of the ETS among certain professions (i.e. legal, accounting) was poor and needed up-skilling.

300 The Panel noted the current lack of understanding and awareness of the ETS was understandable given the focus to date has been on getting the ETS up and running. The Panel is aware some efforts have already been made to educate people about the ETS. However, the Panel believes more could be done.

301 Education can be viewed from both general and sector/topic-specific perspectives. The Panel considers that three dimensions to education are all required in relation the ETS:

- educating those directly impacted by the ETS, including actual or potential participants or allocation recipients. Significant effort has already been focussed on this by the Government. For example, the Ministry of Agriculture and Forestry has held meetings across the country to educate owners of pre-1990 forests about their obligations and entitlements
- educating those indirectly impacted by the ETS, in essence, everybody else who faces additional costs in their energy bills, to drive behaviour change that will both reduce emissions and minimise the cost impact of the ETS. The work of EECA, through its various business and consumer campaigns, is important here. Industry bodies and trade associations could also play a role in educating their members
- promotion and explanation of the purpose, public policy objectives and need for the ETS. This will be critical if the ETS is to continue to endure into the longer term and to encourage a positive response from individuals and businesses. It is also important in signalling the ETS is here to stay.

The Panel recommends:

9.4 The Government should consider what further education resources could be provided to enhance current levels of understanding of the ETS.

Regulatory issues

302 A number of submitters raised concerns on specific issues. The Panel noted that for a number of these issues there are already provisions in the Act or regulations that could be used if there was a compelling case for change.

Eligible units beyond 2012

303 The Panel believes it is in New Zealand's interests for the ETS to be as open as possible (that is, access to international carbon markets), as this will minimise the cost impact on the economy. The Panel notes the EU has decided to exclude certain types of units such as HFC CERs from its scheme. The UN is also currently considering the status of these units and the methodology for creating these units. The Panel also notes the concerns raised by some submitters that if these units are excluded from the EU emissions trading scheme but remain eligible under New Zealand's ETS, then there is a risk these units will flood the New Zealand carbon market and drive down the NZU price. This could impact on New Zealand's incentives to abate, including in particular on forestry investments and on the reputation and integrity of the ETS.

304 While New Zealand operates within an international framework, it is entitled to decide what units to exclude. The Act already allows the Minister to change the regulations specifying which emission units are eligible under the ETS. Furthermore, it does not automatically follow that just because certain types of emission units are ineligible under one emission trading scheme then they should also be ineligible under the ETS. For example, New Zealand does not exclude CERs from hydro-electricity projects (as the EU emissions trading scheme does), nor did anyone argue that we should. However, a number of submitters drew the Panel's attention to the issue of HFC CERs.

305 The Panel agrees that to maintain the integrity of our ETS, New Zealand may need to consider making some international units ineligible, pending resolution of the position of the UN. The best outcome would be for this issue to be addressed internationally. However, the Panel is concerned this may not happen in a timely way. Accordingly, the Panel recommends the Government urgently considers whether HFC CERs should be made ineligible under the ETS. If the Government decides these units should be ineligible then the Panel believes that a reasonable notice period should be given so that businesses which have already bought these units in good faith have an opportunity to surrender them. In deciding what a reasonable notice period is, consideration should be given to whether other options are available to businesses to dispose of these units, such as selling them in the open market (whether domestically or overseas).

The Panel recommends:

9.5 The Government should urgently consider whether HFC CERs pose a significant risk and whether a time limit should be imposed on their eligibility.

International shipping

306 A submitter raised concerns that the ETS is adding to cabotage issues, by giving competitive benefits to international shippers carrying cargo between various New

Zealand ports. They argued that overseas shippers should not be exempt if they carry goods within New Zealand. The Panel was not clear how much the ETS exemption adds significantly to the competitive pressure on New Zealand shippers.

307 The Panel noted that the right of cabotage has always been controversial and it is not necessary for it to consider whether or not that right should exist. Power already exists in the Act to include international shipping in the ETS; however, this has not been exercised to date. The Panel believes if this can be proven to be a significant issue then the Minister can recommend change. Therefore, this issue does not need to be addressed by this review.

Other issues raised

308 A number of other operational or regulatory issues were raised by submitters which the Panel has not reached a recommendation on, such as:

- the opt-in thresholds for voluntary participants e.g. liquid fossil fuels
- default factors for flare gas value and flare gas density should be provided to calculate emissions from flaring activities
- the definition of "venting" should be clarified, with examples of activities that would be captured within the definition
- the number of decimal places required for reporting emissions should be specified to provide consistency.

309 As noted in chapter 1, the Panel has focused on those issues that appear to be most important, particularly if they relate to the matters it has been asked to focus on under its ToR or must consider under the Act. The Panel acknowledges there are other issues raised about which it hasn't reached a recommendation and has already recommended that the Government considers these issues (see recommendation 1.1).

10 Fiscal and other impacts

310 During the course of its deliberations, the Panel has considered the expected impacts of its recommendations, as required under the ToR. These impacts are set out below. It should be emphasised these estimated impacts are based on many assumptions, not least the future carbon price, around which there is much uncertainty. As a result, these estimates are indicative only.

Overview: fiscal implications of ETS changes

311 There are significant fiscal considerations and implications of design changes to the ETS. This section provides an overview of how fiscal implications manifest themselves in the Government's accounts, now and in the future. This is followed by an overview of the specific impacts that flow from the recommendations of the Panel.

In the short term (2008–2012)

312 With the ratification of the Kyoto Protocol, the Government committed to paying for emissions (or carbon units) it produces during 2008–2012 that are above its 1990-level.

313 The Government finances are therefore influenced by the performance of the country as a whole against its international obligations, and any domestic policy measures put in place. The Government can be thought of as a 'cash register' where the balance depends on emissions/transactions throughout the domestic economy over time in both the international and domestic spheres. When the transactions overall do not break even any liability sits with the Crown and thus taxpayers.

314 The balance in the Government's 'cash register' is determined by the transactions under international obligations and domestic policy. This balance is known as the net government fiscal position. These elements are discussed below.

Transactions under international obligations

315 The Kyoto Protocol effectively caps the emissions that New Zealand can emit for free. The Government has been allocated 310 million international units[45] (equal to five times our 1990-level of emissions) by the UN under the Kyoto Protocol in the period 2008–2012. When the first commitment period under the Kyoto Protocol ends in 2012, the New Zealand Government is required to surrender Kyoto-compliant units to the UN (or face a financial penalty) for any emissions above 310 million units. This balance is generally referred to as New Zealand's net national or Kyoto position.

316 Our projected gross emissions in 2008–2012 are 370 million tonnes (MT) CO_2-e and a further 7MT CO_2-e have been committed to projects aimed at reducing emissions, giving a total of 377MT CO_2-e. By planting trees that 'credit' the atmosphere by storing CO_2, forestry sequestration of post-1989 forests is projected to earn us 89MT CO_2-e. So, the net national or Kyoto position is projected to be 310 – 377 + 89 = 21MT CO_2-e in surplus (after rounding).

[45] 1 unit equals 1 tonne CO_2-e emissions.

Transactions under domestic policy

317 The ETS partially devolves responsibility for New Zealand's emissions to participants (emitters). The ETS uses NZUs and other eligible international units. There is no cap on the number of NZUs that can be allocated, but where there is international trading of units the Government must meet allocated NZUs with international units. Participants monitor their emissions and surrender eligible emission units to match those emissions.

318 As the ETS currently stands, the Government is expected to allocate to participants approximately 87MT CO_2-e of free NZUs in 2008–2012, and is projected to receive 47MT CO_2-e from participants with surrender obligations. There is therefore a net outflow from the 'cash register' of approximately 40MT CO_2-e. This is known as New Zealand's net ETS position.

Net government fiscal position

319 The Government's net fiscal position is the sum of the net national/Kyoto position and the net ETS position, which gives 21 – 40 = (-) 19MT in deficit. The Government is liable for the 19MT shortfall. The dollar value of this liability depends on the price of carbon on the international market. For example, at $25 per tonne, this would be a fiscal cost of around $500 million. With a price cap in place, the Government would also bear a fiscal cost in a situation where the international price for carbon is higher than the price cap. Specifically, the Government would have to pay the difference between what emitters have paid the Government and what the Government will have to pay in the international market.

In the longer term (beyond 2012)

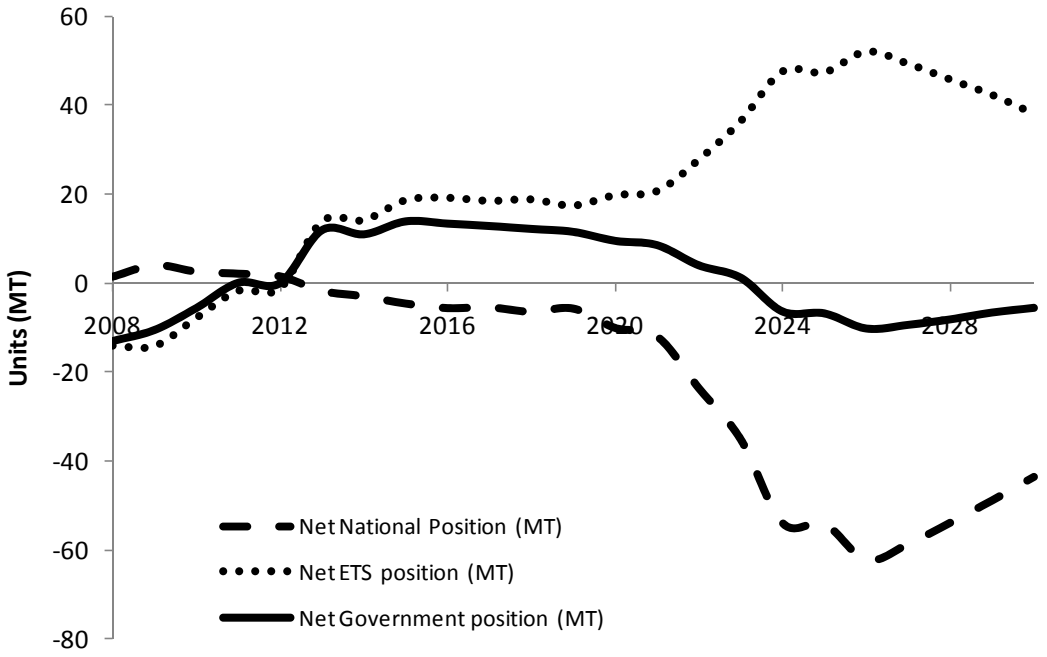
320 When the current commitment periods ends in 2012, it is less clear what will happen to the value of international emission units and NZUs, and consequently what the fiscal impact will be. In particular, the net national position is driven by New Zealand's international commitments.

321 In the absence of a second commitment period, the status and value of AAUs is unclear. Nevertheless, if the Government has surplus AAUs at the end of the first commitment period, the Panel expects the value of these units will be recognised and reflected in future regimes.

322 In the absence of international obligations, the net government position would be equal to the net ETS position. However, the value of units surrendered to the Government is uncertain. The fiscal dollar value to the Government depends on whether the Government receives emission units (such as NZUs or international units purchased by participants) or cash. Unlike cash, emission units only have a value to the Government to the extent that they could or would be sold on (at the prevailing market prices), or used for compliance.

323 Where present obligations are assumed beyond 2012, figure 10.1 shows, under a set of assumptions,[46] the approximate net national/Kyoto (dashed line), net ETS (dotted line) and net government (solid line) positions from 2008–2030 in unit terms.

Figure 10.1: The net national, net ETS and net government positions from 2008 to 2030 (based on the ETS as currently legislated)



324 When the net government position is above zero tonnes it is in surplus and is an asset; and vice versa, when below it is in deficit and faces a liability. A significant driver in the scenario relates to assumptions around forestry. By planting trees it is possible to 'credit' the atmosphere by storing carbon dioxide. However, once the trees are harvested and decompose they release emissions into the atmosphere. In New Zealand, harvesting of trees planted in 1990s is expected to occur in mid-2020s and is captured by the sharp dip at around 60MT per annum. In the long term, these projections yield a broadly fiscally neutral position for the Crown.

325 The fiscal dollar implication depends on the way a NZU is allocated (they are a potential revenue stream if auctioned or sold directly but not if allocated for free) and the value of units (reflecting market demand and supply conditions). Under an internationally linked ETS, the value of a NZU is approximately the value of an international unit.

[46] The assumptions used are consistent with those used to produce the emissions projections presented in figure 2.1 (see chapter 2) including a carbon price of $25. In addition, it has been assumed there are binding international targets to reduce emissions by 15 per cent on 1990 levels by 2020 and by 50 per cent by 2050.

Impacts of the proposed changes to extend the transition measures and new sectors joining the ETS

326 The fiscal impact of the Panel's recommendations would arise primarily in 2013 and 2014. This is largely due to the Panel's recommendation the transition phase be removed gradually from 2013, rather than be removed completely at the end of 2012 as scheduled under the current legislation. The Panel's recommendations on transition measures are explained more fully in chapter 3. The Panel notes that even with its recommended changes the Government's fiscal position is likely to remain positive in the period to 2020.

327 In the Panel's view, this increase in fiscal cost is justified by the greater certainty that the gradual removal of the transition phase will achieve. The ETS is New Zealand's primary long-term tool to address greenhouse gas emissions. Removing the transition phase more gradually over a slightly longer timeframe will help to minimise the short-term impact of the ETS on the economy and particularly on the international competitiveness of New Zealand businesses. It will also provide time for new sectors, notably agriculture, to make a smoother transition into the ETS. In the longer term, the changes recommended will make for a more robust and durable response to the challenge of climate change.

328 The fiscal cost estimates presented in this chapter do not include the costs arising from the Panel's recommended changes to domestic forestry rules. As noted in chapter 5, changes to the domestic forestry rules that are not consistent with international rules may result in additional fiscal costs and should be considered as part of the hard-headed assessment the Panel recommends the Government makes of the Panel's forestry recommendations as against New Zealand's international obligations after 2012 (see recommendation 5.1).

Table 10.1: Estimated difference in the Government's net fiscal position as a result of the Panel's recommendations (compared to the ETS as currently legislated)[47]

	2013	2014	2015	2016	2017	2018	2019	2020
Difference in net government position (million units)[48]	–11	–6	–2	–2	–2	–1	0	0
Difference in net government fiscal position ($ million)[49]	–265	–140	–50	–55	–40	–25	0	0

47 The assumptions underpinning these estimates are consistent with those in figures 10.1 and 2.1, including an assumed carbon price of $25. In addition, it is assumed (for simplicity) that emissions are the same under the ETS as currently legislated and under the Panel's recommended changes. In this regard, see paragraph 331. These estimates relate only to the Panel's recommendations on the transition measures and new sectors joining the scheme. They do not include the Panel's recommendations in relation to forestry.

48 Figures rounded to the nearest million.

49 Figures rounded to the nearest $5m.

329 The Panel reiterates that the actual fiscal position in any one year will depend on a number of factors including whether there is at that point any binding international agreement and its nature.

Other impacts

330 With a price cap there is a risk that if world prices significantly exceed the price cap then emissions will be higher than they would otherwise have been without any price cap. This is because emitters would face a high price and therefore would have a greater incentive to reduce their emissions. For example, based on NZIER modelling results, if the world price was $100 with a New Zealand price cap of $50 then emissions would be 9.6 per cent higher in 2020 than if New Zealand had no price cap at all.[50]

331 The Panel has considered the economic impacts of the ETS on households, businesses and farmers in two scenarios:

- the status quo (i.e. the ETS remains in the form as currently legislated)
- the ETS as recommended by the Panel.

332 A comparison of the economic impacts between these two scenarios are summarised in tables 10.2 and 10.3. These tables show the impact in the first instance, that is without making any assumptions as to the abatement activity that may have been undertaken and the results achieved.

Table 10.2: Summary of impacts on households and businesses (assuming a $25 carbon price)

	Status quo	Panel's recommendations
Impact on total business expenditure on energy $ million (% GDP)		
2013	$702m (0.4 % GDP)	$465m (0.3% GDP)
2015	$702m (0.4 % GDP)	$702m (0.4 % GDP)
Impact on average household expenditure on energy $ per annum (% gross income)		
2013	$266 pa (0.4%)	$176 pa (0.2%)
2015	$266 pa (0.4%)	$266 pa (0.4%)

[50] NZIER and Infometrics, *Macroeconomic impacts of the New Zealand Emissions Trading Scheme*, March 2011. Prepared for the Ministry for the Environment. Note that this estimate is based on scenarios that do not exactly match the Panel's recommended changes to the ETS. However, they are a reasonable approximation.

Table 10.3: Summary of impacts on farmers (assuming a $25 carbon price)

	Status quo	Panel's recommendations
Average dairy farmer's expenditure on energy and obligations		
2013	$6,700 pa	$4,400 pa
2015	$9,900 pa	$8,300 pa
2016	$10,200 pa	$8,400 pa
2017	$10,500 pa	$9,200 pa
2018	$10,800 pa	$10,100 pa
2019	$11,200 pa	$11,200 pa
Average sheep and beef farmer's expenditure on energy and obligations		
2013	$2,400 pa	$1,600 pa
2015	$5,500 pa	$3,900 pa
2016	$5,800 pa	$4,100 pa
2017	$6,100 pa	$4,800 pa
2018	$6,400 pa	$5,700 pa
2019	$6,700 pa	$6,700 pa

11 Summary of recommendations

333 The table below ETS outs all the recommendations made by the Panel in this report.

The Panel recommends

General

1.1 The Government considers those issues raised during the Panel's consultation which it has not been able to reach a recommendation on using the *Summary of Submissions* as a starting point.

2.1 The Government continues to accord priority in international negotiations, as well as in wider bilateral and regional engagements, to the development of international carbon markets generally, and specifically to ensure New Zealand has the ability to sell NZUs and buy international emission units.

2.2 The Government continues to monitor the development of the carbon pricing mechanism in Australia and that, while it is desirable for the New Zealand and Australian schemes to work broadly in harmony, we should not be bound by the features of any particular overseas scheme.

Transition phase

3.1 The price cap should be retained after 2012, but should increase by $5 per annum from 2013 to 2017, starting at $30 per NZU in 2013 and reaching $50 per NZU in 2017.

3.2 The next review of the ETS should consider whether a price cap is needed after 2017.

3.3 For the liquid fossil fuels, stationary energy and industrial processes sectors, the one-for-two surrender obligation should scale up to a full surrender obligation progressively from 2013 to 2015, increasing at equal intervals per annum, that is to 67 per cent in 2013, 83 per cent in 2014, and 100 per cent in 2015 (rounded to the nearest percentage).

3.4 The price cap should be available to all the new sectors entering the scheme after 2012, including the agriculture, synthetic greenhouse gases and waste sectors.

3.5 Participants in the synthetic greenhouse gases and waste sectors should have access to a 67 per cent obligation in 2013 and an 83 per cent obligation in 2014, and should assume full surrender obligation from 2015.

3.6 Participants in the agriculture sector should have a one-for-two surrender obligation in 2015 and 2016, a 67 per cent obligation in 2017, and an 83 per cent obligation in 2018, and should assume full surrender obligation from 2019.

3.7 The ban on NZU exports from non-forestry sectors should be removed when the price cap is removed, or sooner if the price cap is significantly above the international carbon price (and hence the risk of arbitrage is minimal).

3.8 An ETS price floor should not be introduced.

The Panel recommends (continued)

Allocation

3.9 The existing allocation thresholds of 90 per cent allocation for highly emissions-intensive activities and 60 per cent allocation for moderately emissions-intensive activities should be maintained.

3.10 A value-added test for determining eligibility for industrial allocation should not be introduced.

3.11 The Government further examines the potential inclusion of additional eligible emission sources for determining eligibility and allocative baselines under the Act.

3.12 The Government further examines the potential inclusion of fossil fuel proxies for biofuels and new material proxies for recycled materials as eligible emission sources for determining eligibility under the Act.

3.13 The current phase-out rate of 1.3 per cent per annum of the previous year's allocation should be revised to an annual reduction of 1.3 percentage points, to clarify the exact phase-out rate and the year in which the free allocation of NZUs will cease.

3.14 The Government gives consideration to the risks associated with the potential for new, emissions-intensive activities to significantly expand the volume of allocation, and options to mitigate these risks.

3.15 The potential introduction of an allocation cap should be further considered in the next ETS review.

Agriculture

4.1 Agriculture remains within the ETS on the timetable that is currently legislated, with mandatory reporting beginning in 2012 and surrender obligations beginning in 2015.

4.2 The point of obligation for agriculture should be at the farmer level rather than the processor level.

4.3 The free allocation of NZUs for agriculture should be 90 per cent of a baseline initially, phased out at 1.3 per cent per annum on a straight-line basis from 2016.

4.4 To support farmers within the ETS, the Government and industry should continue to focus on technology transfer for existing mitigation options and the development of future options and tools to reduce emissions.

Forestry

5.1 The Government should make a hard-headed assessment of the Panel's recommended changes to the domestic ETS forestry rules after 2012, taking account of the international position, the potential fiscal impact/risk and financial impact/benefit to foresters and other stakeholders, with a view to changing the ETS forestry rules along the lines recommended, if necessary unilaterally.

5.2 The forest ownership associated persons' test rules should be reviewed to determine whether the associated persons' percentage thresholds should be increased or varied to recognise the situation of related family farming operations.

The Panel recommends (continued)

5.3 The Government should undertake further study on the amalgamation of smaller forestry blocks and the application of section CB25 of the Income Tax Act 2007.

5.4 Subject to recommendation 5.1, pre-1990 forestry offset planting should be introduced within the rules for pre-1990 forestry from 2012.

5.5 The Government should introduce a claw-back provision for the second tranche of the pre-1990 forestry allocation, if offset planting is introduced into the ETS (as recommended by the Panel – see recommendation 5.4) and taken up by a participant.

5.6 There should be no changes to the two-hectare pre-1990 deforestation threshold.

5.7 The Government reviews applications for pre-1990 allocations and exemptions in November 2011 and considers whether there is a need to extend the current application timeframes.

5.8 The Government continues to promote understanding within the forestry and land-use sectors about post-1989 harvesting liabilities and options for managing these.

5.9 The Government should ask the International Accounting Standards Board and the soon-to-be-established New Zealand External Reporting Board to look into the treatment of post-1989 forest actual and contingent liabilities (of future harvesting) in financial accounts.

5.10 Subject to recommendation 5.1, the ETS rules in relation to post-1989 harvested wood products should be modified to reflect an 'emissions to atmosphere' approach if agreement on this has been reached internationally.

5.11 Averaging should be available as an option from 2012 for post-1989 forests. The Government should consider whether a ceiling on the maximum size of forest that could participate in this option would be required.

5.12 The Government gives consideration to, and consults on the establishment of, a self-insurance pool of units for post-1989 forests, along the lines of that proposed in Australia (5 per cent retention). Such a scheme would have no recourse to the Government and should not result in any further liabilities to the Government.

5.13 The Panel recommends that owners of less than 100 hectares of forest have the option, at their cost, of undertaking actual measurement.

5.14 The Panel recommends that the Government consider whether the 100-hectare threshold should be increased.

5.15 The pre-1990 tree weed exemption should be available beyond 2012.

5.16 The Government should consider the appropriateness and means of introducing a voluntary ETS equivalent for pre-1990 indigenous forests.

Māori

6.1 The continuation of complementary measures such as the home insulation programme in order to mitigate the impacts on vulnerable households, including Māori.

The Panel recommends (continued)

6.2 The Government continues, and considers strengthening, the existing afforestation schemes to encourage greater Māori participation in respect of post-1989 forests and to take into account the particular issues faced by Māori.

6.3 The Government develops amendments to the Act that address the application requirements that affect Māori land, including:

- reducing the application requirements for Māori freehold land in multiple ownership or owned by trustees of Māori trusts
- ensuring the Māori Trustee can apply for the 50-hectare exemption on the basis of individual Māori trusts' ownership rather than on the basis of its total landholding.

6.4 The Government should explore whether temporary extensions to the exemption and allocation deadlines for Māori owners are necessary, while these issues are being addressed.

6.5 The Government should establish a working group to work with the Māori Trustee to address the application requirement issues, as suggested by the Māori Trustee.

6.6 The Government should monitor the level of engagement and capacity of Māori land trusts in relation to the ETS and consider ways to provide support where appropriate.

Synthetic greenhouse gases

7.1 The point of obligation under the ETS should be on users of SF_6 in electrical switchgear rather than importers of SF_6.

7.2 The ETS obligation of users of SF_6 in electrical switchgear should be based on estimates of actual emissions.

7.3 The Government should consider the treatment of SF_6 contained within equipment and still remaining upon disposal.

7.4 No changes should be made to the current ETS framework for bulk imports of non-SF_6 synthetic greenhouse gases.

7.5 A levy, equivalent to the market price of emission units and reflecting the transition phase arrangements, should be placed on imported goods containing synthetic greenhouse gases which are not for personal use and that the current exemption for small importers of motor vehicles should be removed.

7.6 The Government should ensure such a levy is administratively simple for importers while minimising competitive distortions with New Zealand manufacturers.

7.7 The Government should recycle a proportion of the levy revenue into industry-led initiatives which will reduce synthetic greenhouse gases emissions.

7.8 The Government should prohibit knowingly releasing synthetic greenhouse gases into the atmosphere.

The Panel recommends (continued)

Waste

8.1 The Government should introduce a discretionary power to exempt landfills from obligations under the ETS that are (i) geographically isolated, (ii) have a low volume of waste disposed of, and (iii) do not have alternative disposal options.

8.2 The Government works with Local Government New Zealand to define criteria relating to landfill size.

ETS operation

9.1 No changes should be made at this stage in relation to the administration of the ETS across government.

9.2 No changes should be made at this stage to the penalties in the Act.

9.3 The security of the ETS register should be subject to periodic assessment/review.

9.4 The Government should consider what further education resources could be provided to enhance current levels of understanding of the ETS.

9.5 The Government should urgently consider whether HFC CERs pose a significant risk and whether a time limit should be imposed on their eligibility.

Annex 1 Matters outlined in the Act

Issues the Panel must consider	Consideration
Section 160: Reviews of operation of emissions trading scheme (5) Without limiting the scope of the review, a review under subsection (1) must consider—	
(a) whether an amendment to this Act in relation to the emissions trading scheme is necessary or desirable; and	This is an overarching consideration in this report.
(b) whether New Zealand has undertaken, or is expected to undertake, any international obligations with respect to its emissions and removals that are different from or additional to any international obligations that New Zealand had undertaken when this section came into force, or since the last review under this section; and	New Zealand's current international obligations and potential options for any future international framework are considered in chapter 2.
(c) the stringency of any of the international obligations specified in paragraph (b); and	As above.
(d) the contribution of the emissions trading scheme established under this Act towards any targets that are in effect in accordance with section 224 or 225 at the time the review is initiated; and	This is considered in Annex 3.
(e) the types of Kyoto units and overseas units that may be surrendered for compliance with the emissions trading scheme established by this Act; and	The emission units that may be surrendered for compliance under the ETS is considered in chapter 9. The Panel makes a recommendation in relation to this, see recommendation 9.5.
(f) the operation of the commitment period reserve (if any); and	The Panel considered the operation of the commitment period reserve but did not make any recommendations on this.
(g) the potential for linkage of the emissions trading scheme established under this Act to other greenhouse gas emissions trading schemes, including (but not limited to) Australia's carbon pollution reduction scheme; and	Linkages to other emission trading schemes are considered in chapter 2. The Panel makes a recommendation in relation to this (see recommendation 2.1).

Issues the Panel must consider	Consideration
(h) the appropriateness of any methodologies that are prescribed for calculating emissions and removals; and	Some submitters raised some issues in relation to methodology for calculating emissions. In relation to waste, these are considered in chapter 8. In relation to other emission sources (see chapter 9 for some examples) the Panel has recommended the Government considers these issues further (see recommendation 1.1). Methodologies for calculating removals have been considered in chapter 5. The Panel makes a recommendation in relation to this (see recommendation 5.13).
(i) whether it is necessary or desirable to— (i) omit any of the activities from Schedule 3 or 4; and (ii) add any additional removal activities to Part 2 of Schedule 4; and (iii) amend the level of participant opt-in thresholds in Schedule 4; and	The Panel has considered whether certain activities (agriculture, synthetic greenhouse gases and waste) should be omitted (see chapters 4, 7 and 8 respectively). Some submitters argued that other removal activities should be added (such as soil carbon) and the opt-in thresholds should be amended. The Panel has recommended the Government considers these issues further (see recommendation 1.1).
(j) whether changes to the provision of any allocation to industry or agriculture under subpart 2 are necessary or desirable, having regard to— (i) whether New Zealand has undertaken, or is expected to undertake, any international obligations with respect to its emissions and removals that are different from, or additional to, any international obligations that New Zealand had undertaken when this section came into force, or since the last review under this section; and (ii) the stringency of any of the international obligations specified in subparagraph (i); and (iii) any change proposed to the activities listed in Schedule 3 or 4 following consideration of the matters specified in paragraph (i); and (iv) the relative climate change obligations and emissions policies of New Zealand's trade competitors and trading partners; and (v) any significant changes in emissions mitigation technology; and (vi) the cost to the taxpayer and the economy of providing free allocation under subpart 2;	Allocation is considered in chapters 2 and 4. The Panel makes a number of recommendations in relation to this (see recommendations 2.9 to 2.15, and 4.3)

Issues the Panel must consider	Consideration
(k) the appropriateness of the penalties in subpart 4 of this Part; and	Penalties are considered in chapter 9. The Panel makes a recommendation in relation to this (see recommendation 9.2).
(l) the implications (if any) of the following matters for the notification of intention under section 69: (i) New Zealand's annual emissions for the 5 years before notification; and (ii) the average price of units for the 2 years before notification; and	This is not applicable as there has been no such notification to date.
(m) the impacts of the forestry sector elements of the emissions trading scheme established under this Act on biodiversity within New Zealand; and	The impact on biodiversity is considered in chapter5. The Panel makes a recommendation in relation to this (see recommendation 5.14).
(n) the costs and benefits of establishing an independent or quasi-independent government body to carry out the allocation process, or any part of the allocation process, contained in subpart 2; and	The administration of the ETS, both generally and in the context of allocation, are considered in chapter 9. The Panel makes a recommendation in relation to this (see recommendation 9.1).
(o) the social, economic, and environmental effects of the emissions trading scheme established by this Act (other than those considered under paragraphs (a) to (n)); and	These effects are considered throughout the report and in particular chapters 2, 4, 5, 6 and 10.
(p) any other matter that the Minister responsible for the administration of this Act considers relevant.	The other matters that the Minister considers relevant are set out in the Panel's ToR (see chapter 1). These matters are considered throughout this report.
Section 3A(d)(ii) The review panel must consult with the representatives of iwi and Māori that appear to the panel likely to have an interest in the review.	The Panel has consulted with representatives of iwi and Māori, see chapter 6 and Annex 2.

Annex 2 Stakeholder engagement

334 The table below provides a list of the respondents to the Panel's *Issues Statement*.

1	Bryan Leyland	41	Pacifica Shipping (1985) Limited
2	Terry Dunleavy	42	Wood Processors' Association of New Zealand
3	The New Zealand Climate Science Coalition	43	The New Zealand Refining Company Limited
4	Bob Doran	44	South Waikato District Council
5	W J Newsham	45	Trust for the Destruction of Synthetic Refrigerants
6	Escea Limited	46	Synlait Milk Limited
7	Talley's Group Limited	47	OMFinancial Limited
8	David Slack	48	Ballance Agri-Nutrients Limited
9	Arthur Lewis Thorstensen	49	[Name withheld at submitter's request]
10	M W Dumbar	50	Climate Realists (NZ)
11	Steven James O'Connor	51	The Proprietors Of Taharoa C Block
12	Peter Foster	52	Motor Trade Association (MTA)
13	John Adams	53	Genesis Energy Limited
14	Bill Sayer	54	Temperzone Limited
15	Forest Management Limited	55	World Wildlife Fund New Zealand
16	Taranaki Regional Council	56	Wairakei Pastoral Limited
17	Gelita NZ Limited	57	ALSCO New Zealand
18	Steve Wrathall	58	Wellington City Council
19	Fisher & Paykel Appliances Limited	59	[Name withheld at submitter's request]
20	Grahm Kehely	60	[Name withheld at submitter's request]
21	Simon Breeze	61	DairyNZ
22	Rosemary Adams	62	Hastings District Council
23	The New Zealand Phrenology Support Group	63	Simon Johnson
24	Rockies Mining Limited	64	350 Aotearoa
25	Raymond Allan Scampton	65	Seafood Industry Council
26	David Lloyd	66	Nova Trust
27	Solid Energy New Zealand Limited	67	EnviroWaste Services Limited
28	Hamilton City Council	68	New Zealand Pork
29	Southern Forestry Limited	69	Northland Regional Council
30	Marlborough Forest Industry Association	70	Employers & Manufacturers Association
31	Taumarunui Sustainable Land Management Group	71	Basil Walker
32	BOC Limited	72	Environment Waikato
33	Qualityarns New Zealand Limited	73	Electricity Networks Association
34	Piers Maclaren & Associates	74	Bowron Sheepskins
35	Refrigeration and Air Conditioning Industry Group	75	Forest Management NZ Limited
36	Tony Norton	76	Fletcher Building Limited
37	Motor Industry Association (MIA)	77	NZ Forest Owners Association
38	Cavalier Wool Holdings Limited	78	Kyoto Forestry Association
39	New Zealand Farm Forestry Association	79	BP Oil New Zealand Limited
40	Carter Holt Harvey Pulp & Paper Limited	80	Oregon Group and Ernslaw One Limited

81	[Name withheld at submitter's request]	122	Origin Energy Limited
82	Te Uri o Hau Settlement Trust	123	Central Hawkes Bay District Council
83	New Zealand Business Roundtable	124	Bank of New Zealand
84	Straterra Inc	125	Māori Trustee
85	Greenpeace New Zealand	126	Oamaru Landscape Centre
86	KiwiRail Group	127	[Name withheld at submitter's request]
87	SKOPE Industries Limited	128	Heaphy Mining Limited
88	Western Bay of Plenty District Council	129	Porirua City Council
89	Contact Energy Limited	130	Mighty River Power Limited
90	Ecologic Foundation	131	Robin Grieve
91	New Zealand Fertiliser Manufacturers' Research Association	132	Coal Association
92	Meridian Energy Limited	133	Carter Holt Harvey Limited (Woodproducts New Zealand)
93	Linfox Logistics	134	Powerco Limited
94	Rio Tinto Alcan New Zealand Ltd	135	New Zealand Steel Limited
95	Environmental Defence Fund	136	Catherine Harris
96	Richard Leckinger	137	Federated Farmers of New Zealand
97	Vector Limited	138	Bioenergy Association
98	Nelson Forests Limited	139	Motu Economic and Public Policy Research
99	Local Government New Zealand (LGNZ)	140	Mobil Oil New Zealand Limited
100	Imported Motor Vehicle Industry Association	141	ACT New Zealand
101	O-I New Zealand	142	Lake Taupo and Lake Rotoaira Forest Trust
102	Carbon Farm Limited	143	Office of the Parliamentary Commissioner for the Environment
103	New Zealand Sugar Company Limited	144	Craigmore Forestry
104	ExportNZ	145	Carbon Market Solutions Limited
105	Methanex New Zealand Limited	146	OraTaiao: New Zealand Climate and Health
106	Independent Forestry Services Limited (IFS Growth) and Craigpine Timber Limited	147	PlusGroup Horticulture Limited
107	Beef + Lamb New Zealand Inc, Meat Industry Association and Deer Industry New Zealand	148	Horticulture New Zealand
108	Euan Mason	149	Business New Zealand
109	Federation of Māori Authorities	150	General Electric Energy
110	Royal Forest and Bird Protection Society of New Zealand	151	The Sustainability Council
111	New Zealand Coal & Carbon Limited	152	Mark Milke
112	Holcim (New Zealand) Limited	153	The Campaign for Better Transport Inc
113	NZ Anglican Church Pension Board	154	Blakely Pacific Limited
114	Greenhouse Policy Coalition	155	Max Hill
115	Birchfield Coal Mines	156	Sanford Limited
116	Taylor Coal Limited	157	Shell Exploration NZ Limited
117	Prof Don J Cleland	158	Qantas Airways Limited
118	Transpower New Zealand Limited	159	Climate Change Iwi Leadership Group (CCILG)
119	New Zealand Institute of Forestry	160	Harry Mowbray
120	Fonterra Co-operative Group Limited	161	Environment and Conservation Organisations (ECO)
121	[Name withheld at submitter's request]	162	Greenhouse Cleantech Limited

335 The table below provides a list of all stakeholders the Panel (or certain Panel members) met in its formal capacity during the course of its review.

Dr Jan Wright - Parliamentary Commissioner for the Environment	7 March
Greenhouse Policy Coalition	7 March
Major Energy Users Group	7 March
Environment and Conservation Organisations (ECO)	7 March
Royal Forest and Bird Protection Society of New Zealand	7 March
Greenpeace New Zealand	7 March/13 April
World Wildlife Fund New Zealand	7 March
Climate Defence Network	7 March
Oxfam	7 March
OraTaiao: New Zealand Climate and Health	7 March
The Sustainability Council	7 March
Business New Zealand	9 March/13 April
Peak Group	9 March
Climate Change Iwi Leadership Group (CCILG)	9 March/15 April
BeyondCarbon Limited	9 March
OMFinancial Limited	9 March
Westpac Institutional Bank	9 March
Carbon Market Solutions Limited	9 March
Hon Tim Groser - Minister for International Climate Change Negotiations	9 March
Local Government New Zealand	14 March/15 April
Contact Energy Limited	14 March
Mighty River Power Limited	14 March
Genesis Energy Limited	14 March
Meridian Energy Limited	14 March
Refrigerant Recovery New Zealand Limited	14 March/13 April
Institute of Refrigeration, Heating & Air Conditioning Engineers (IRHACE)	14 March/13 April
Transpower New Zealand Limited	14 March
Temperzone Limited	14 March/13 April
Refrigerant Air Conditioning Companies Association (RACCA)	14 March/13 April
Independent Motor Vehicle Association	14 March
Motor Industry Association	14 March/13 April
Adrian Macey - Chair of the UNFCCC Kyoto Protocol negotiations	14 March
Jill Duggan - European Commission's Directorate General of Climate Action	28 March
Holcim Limited	13 April
Solid Energy New Zealand Limited	13 April
Fisher & Paykel Appliances Limited	13 April
Fletcher Building Limited	13 April
Carter Holt Harvey Pulp & Paper Limited	15 April
Wood Processors' Association of New Zealand	15 April
NZ Forest Owners Association	15 April
Forest Management Limited	15 April
Federation of Māori Authorities	15 April
The Office of the Māori Trustee	15 April

Australia: National Farmers Federation Blair Comley, Secretary for Climate Change and Energy Efficiency, and other officials at the Department of Climate Change and Energy Efficiency Gary Banks, Chairman of the Australian Productivity Commission, and other members of the Commission Martin Parkinson, Secretary of the Treasury, and other Treasury officials Rodd Sims, Adviser to the Multi-Party Climate Change Committee, New Zealand High Commission Allan Behm, Chief of Staff for Minister Combet, and Advisers Kristin Tilley and Peter Nicholas Rio Tinto Australia Professor Ross Garnaut and members of the Garnaut Review Update Secretariat	18/19 April
Agriculture ETS Advisory Committee	20 April
Fonterra Co-Operative Group Limited	20 April
Federated Farmers of New Zealand	20 April
The Pure Advantage	20 April
Carbon Farming Group	20 April
BP Oil New Zealand Limited	20 April
Cavalier Wool Holdings Limited	16 May

Annex 3 Targets currently in force

336 The table below sets out the seven targets notified in the Gazette on 16 October 2008 aimed at reducing domestic emissions. As noted in chapter 2, the Act requires the Panel to consider the contribution of the ETS towards meeting these targets. An assessment of progress towards these targets is also set out in the table below. The Panel's has based its assessment of the contribution that the ETS has made towards meeting these targets on the evidence available to it. However, and as also noted in chapter 2, it is still early days to assess the full impact of the ETS given the lack of data due to the short period of time that many sectors have been in the ETS.

Target	Current situation
By 2025, 90 per cent of our electricity generation will be from renewable sources (based on an average hydrological year).	The ETS has raised the cost to electricity generators using thermal energy. At an effective emissions price of $12.50 tCO_2 the additional generation costs are estimated as follows: for generation by coal this effect is estimated to be a cost increase of $13.48MWh, for gas generation this is estimated to be $7.98MWh, while geothermal generation costs will have increased by up to $1.80MWh for those fields with significant fugitive emissions. The effect has been to make electricity generated from renewable energy sources, where available, a relatively more profitable option for electricity companies than prior to the ETS. It has also raised the cost to companies of using thermal energy for direct use. Renewable options such as woody biomass, where available, are now relatively cheaper than before the ETS and the Ministry of Economic Development projects that there will be a steady increase in woody biomass use. Since the ETS was introduced the merit order of new generation sources into the future has become more weighted towards renewable energy sources. In the December quarter 2010, electricity generated from renewable sources reached 76 per cent, the highest renewables percentage since March 2004. The ETS, however, is only one of several factors influencing the development of renewables. The location and availability of resource also influence the merit order for the development of energy supply. The 90 per cent electricity generation target is cited in the draft New Zealand Energy Efficiency Strategy.[51]
By 2025, we will utilise up to 9.5PJ per year of energy from woody biomass or direct use geothermal in addition to that used in 2005.	
By 2040, our per capita transport greenhouse gas emissions will be reduced by half of those in 2007.	From the progress published on the Ministry of Transport website, CO_2-e emissions from domestic transport per capita have reduced from 3.28 to 3.19 tonnes per capita between 2007 and 2009.[52]
By 2015, the average emission performance of light vehicles entering the fleet will be 170g/km of CO_2.	The Ministry of Transport has published that grams of CO_2 per km driven for new vehicles entering the light fleet has reduced from 221.7 g/km when records began in January 2006 to 198.2 g/km in March 2011. However, there is substantial variation in the monthly figures.

51 See: www.med.govt.nz/templates/MultipageDocumentTOC___44065.aspx

52 See: www.transport.govt.nz/ourwork/TMIF/EI004/

To promulgate a National Policy Statement on Biodiversity by 1 February 2011.	This target was not met. The proposed National Policy Statement on Indigenous Biodiversity was released for public comment in January 2011.[53] Submissions closed on 2 May 2011. The Ministry for the Environment will evaluate and produce a summary of the submissions, and will provide recommendations to the Minister for the Environment.
By 2020, we will achieve a net increase in forest area of 250,000 hectares above that in 2007.	As reported in the New Zealand National Greenhouse Gas Inventory, to 2009 there has been 2783 hectares of net increase in forest area above that in 2007.[54]
By 2013, we will reduce greenhouse gas emissions from the agriculture sector compared to business-as-usual by 300,000 tonnes of CO_2 equivalent.	In 2008, the business-as-usual for 2013 was projected to be 39.9MT. The latest projections show that the projected emissions have now changed to 35.71MT. The reduction is primarily due to methodology improvements and reduced stock numbers. At the time the target was set, agricultural obligations under the ETS were scheduled to start in 2013. That date has now moved to 2015.

53 See: www.mfe.govt.nz/publications/biodiversity/indigenous-biodiversity/index.html

54 See: www.mfe.govt.nz/issues/climate/greenhouse-gas-emissions/