

Regulatory Impact Statement

The Moderated New Zealand Emissions Trading Scheme

Regulatory Impact Statement

EXECUTIVE SUMMARY

The New Zealand Emissions Trading Scheme (NZ ETS) came into force on 26 September 2008. The key purpose of the NZ ETS is to enable New Zealand to comply with its international obligations under the Kyoto Protocol and the United Nations Framework Convention on Climate Change (UNFCCC) (including for reducing and reporting on emissions levels) while providing certainty for economic growth, equity and flexibility to respond to possible changes in the post-2012 international framework.

There is concern that the NZ ETS as currently designed may not meet these objectives, given the current weak state of the economy and the recent developments in the Australian Carbon Pollution Reduction Scheme (CPRS). There is a need to ensure that there is a smooth transition for industry into the NZ ETS in order for it to adjust to the scheme while coping with the current economic recession. There is also a need to ensure that the levels of assistance (in the form of free allocation) are appropriate and key sectors of the economy do not experience undue competitive impacts as a result of the NZ ETS. Finally there is a need to provide business with some certainty regarding the future of the NZ ETS and the levels of emissions reductions that New Zealand will be committed to meeting in the long term.

A number of problems have been identified with the NZ ETS, which the current government has committed to addressing. The issues fall into two categories:

1. Economic impacts – This includes concerns that the scheme could have large initial impacts on businesses given the current economic climate and that in the longer term, it could result in the loss of key industries that are exposed to a carbon price ahead of international competitors. A key initiative since the development of the current NZ ETS is the Australian CPRS. The proposed CPRS will provide greater assistance to emissions intensive, trade exposed (EITE) industries than the NZ ETS. This could disadvantage New Zealand firms that compete in markets with Australian firms.
2. Implementation timeframes - There are some implementation dates in the Climate Change Response Act (CCRA) which will be difficult to achieve as

there is not enough time for allocation plans to be developed and for the sectors to prepare to enter the NZ ETS. The most pressing is the entry date of the Stationary Energy and Industrial Processes (SEIP) sectors which will begin to accrue obligations under the NZ ETS from 1 January 2010.

Accordingly it is proposed to make amendments to the NZ ETS. These are aimed at reducing the impacts and smoothing the transition for industry during the current recession and revising the allocation methods to align with Australia, providing greater protection for the competitiveness of the EITE sectors of the New Zealand economy.

The proposed amendments will allow New Zealand to comply with its international climate change obligations while retaining an incentive for emissions reductions within New Zealand and minimising the impacts on the economy.

The key amendments included in the preferred option are:

- A low price phase from July 2010 to 31 December 2012 which will lessen the impacts of the NZ ETS on industry in the early years of the scheme. The low price phase includes:
 - a price cap of NZ\$25 per tonne; and
 - A revised core scheme obligation for participants in the SEIP and Liquid fossil Fuels (LFF) sectors of only 1 unit for every 2 tonnes of CO₂e emitted for the period 1 July 2010 to 31 December 2012;
- Uncapped, intensity-based allocation for EITE industries from July 2010. Eligibility thresholds will be set to reduce trans-Tasman competitiveness risks;
- A reduced price period will operate from January 2013 to July 2015 for the agriculture sector, through a progressive obligation requiring participants to surrender only one unit for every two tonnes CO₂-e emitted. Free allocation to the agriculture sector will be provided on an intensity basis (consistent with industry), and an initial processor-level point of obligation will apply; and
- The introduction of a domestic target for New Zealand of a 50 per cent reduction of net greenhouse gasses from 1990 levels by 2050.

ADEQUACY STATEMENT

Treasury's Regulatory Impact Analysis Team (RIAT) was provided with

- limited regulatory impact analysis (RIA),

- only a draft Cabinet paper, and
- very limited time in which to review the RIA and the RIS.

In the time available, RIAT formed the view that the level of analysis presented is not commensurate with the significance of the proposals, which represent major design changes to the Emissions Trading Scheme, and that the RIS does not provide an adequate basis for decision-making. Major information gaps include:

- The rationale and analytical basis for the proposal to align key design elements of the New Zealand ETS with those in the currently proposed Australian Carbon Pollution Reduction Scheme, including assessment of the implications of adopting allocation formulas designed specifically for the Australian economy;
- Analysis of the potential equity effects on firms which will fall below the qualifying threshold for assistance under the proposed intensity-based allocation system;
- The basis for the proposed 50 per cent by 2050 emissions reduction target; and
- The likely effectiveness of the proposals in delivering on the stated policy objectives.

STATUS QUO AND PROBLEM

Outline of current situation

The New Zealand Emissions Trading Scheme (NZ ETS) came into force on 26 September 2008.¹ 'Emissions trading' is a market-based approach for achieving environmental objectives where emission units are traded between participants. In effect, those emitting greenhouse gases have to pay for increases in emissions and are rewarded for decreases. This encourages emissions reductions.

The NZ ETS covers emissions of the following six greenhouse gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆). These are the greenhouse gases covered by the Kyoto Protocol².

The NZ ETS covers the following sectors of the economy: forestry, liquid fossil fuels (transport), stationary energy, industrial processes, synthetic gases, agriculture and waste.

In respect of each sector covered by the NZ ETS, there are a number of 'participants'. Each participant must calculate the emissions from their

¹ Except for the sections of the Act relating to GST which came into force on 1 January 2009.

² Under the Kyoto Protocol New Zealand has committed to limit its emissions to 1990 levels in the first commitment period (2008-2012). This can be achieved through domestic emissions reductions or international offsetting.

activities and surrender to the government one emission unit for each tonne of greenhouse gas emissions (measured as CO₂-e) for which they are responsible. There are various types of units that participants can use to meet their obligations under the emissions trading scheme.

The primary unit of trade for the New Zealand emissions trading scheme is the New Zealand unit (NZU). The NZU is a unit issued and allocated by the government under the scheme. One NZU corresponds to one tonne of carbon dioxide equivalent emissions.

In addition, participants can use most types of international Kyoto emission units for compliance. As with NZUs, this is done by transferring the Kyoto emission units to a surrender account. Kyoto emission units are units established under the rules of the Kyoto Protocol and include units assigned to parties at the start of the commitment period (currently 2008-2012) and for certified emissions reductions or removals.

The Climate Change Response Act identifies who is required to be a participant under the NZ ETS. For example, in the transport sector, importers of liquid fossil fuels are required to be participants. In general, the 'point of obligation' is established at a high level in the supply chain so that there are relatively few participants in each sector. Householders are not participants under the NZ ETS.

Under the NZ ETS, different sectors start to have obligations under the scheme at different times. The forestry sector has an obligation to surrender units in respect of relevant emissions from 1 January 2008. Under the current legislation, further sectors will "enter" the scheme as follows:

- The stationary energy and industrial processes sectors will have obligations to surrender units in respect of their emissions from 1 January 2010.
- Participants in the liquid fossil fuels sector will have obligations to surrender units in respect of emissions from 1 January 2011.
- Participants in the waste, agriculture and synthetic gases sectors will have obligations to surrender units in respect of emissions from 1 January 2013.

A sector is said to have "entered" the NZ ETS from a certain date where it has obligations to surrender units in respect of emissions from that date.³

As well as imposing an obligation on participants whose activities are covered by the scheme, the NZ ETS provides for 'allocation' of units to certain participants. Introducing an emissions trading scheme will impact on certain parts of the New Zealand economy and society more than others. Allocation is a means of providing assistance or compensation to strongly affected parties.

There are two main reasons for providing assistance to firms. One is to provide compensation where the introduction of a carbon price has reduced the value of assets. The other is to protect the competitiveness of firms,

³ A sector may have obligations to report on its emissions (but not surrender units) prior to its "entry" date.

particularly those that are emissions-intensive and trade-exposed as they are unable to pass the carbon cost on to consumers. The appropriate method of allocation will depend on the reason for providing it.

Under the current NZ ETS, allocation has been provided to pre-1990 forest land, to compensate land owners for the loss in value of their land as a result of the costs imposed by the NZ ETS. A similar equity rationale applies in the case of allocation to fishing vessel operators. In respect of other sectors, the purpose of allocation is to avoid the loss of industries that would not have occurred if our competitors had adopted equivalent emissions pricing. The detail of how units are to be allocated to these persons will be set out in the relevant 'allocation plan' for that sector. No allocation plans have yet been finalised.

Summary of Problem

The key purpose of the NZ ETS is to assist New Zealand to comply with its international obligations under the UNFCCC and the Kyoto Protocol to reduce emissions, while providing certainty for economic growth, equity and flexibility to respond to possible changes in the post-2012 international framework. There is concern that the NZ ETS as currently designed may not meet these objectives, given current weak state of the economy and the recent developments in the Australian CPRS.

A number of problems have been identified with the NZ ETS, which the current government has committed to addressing, in a manner which is consistent with New Zealand's international trade obligations, including under the World Trade Organisation. . The issues fall into two categories:

1. Economic impacts

Given the current economic environment, there are concerns about the impact of the NZ ETS on key sectors of the economy. There are two main areas of concern:

Initial impacts of the NZETS on businesses given the current economic climate.

There is a need to provide smoother transition into the scheme while participants are dealing with the current recession and becoming familiar with their obligations and the operations of carbon markets.

The loss of production from key industries

These concerns are greatest for firms that are both emissions-intensive (where production leads to significant levels of emissions) and trade-exposed (compete against goods produced in other countries that do not face similar emissions costs). The fear is that a loss of competitiveness from these firms will result in carbon leakage, with market share being lost to countries that do not have emissions reduction policies in place. This will see a loss in production in New Zealand with no global environmental benefit.

There is justification for providing greater protection to avoid the loss of key industries that are expected to be competitive once international competitors adopt equivalent carbon pricing regimes and there is a concern that the phase out of free allocation under the current scheme may cause key industries to lose competitiveness. Other countries (in particular Australia) are developing emissions trading schemes incorporating greater assistance for at risk firms than is currently provided under the NZ ETS.

Harmonisation with the Australian Carbon Pollution Reduction Scheme (CPRS)

A key initiative since the development of the current NZ ETS is the Australian CPRS. The proposed CPRS will provide greater assistance to EITEs than the NZ ETS. This could disadvantage New Zealand firms that compete in markets with Australian firms.

The New Zealand and Australian economies are closely linked, with many companies operating and trading across the Tasman. Further, Australia is New Zealand's principal export market – 22.9 per cent of New Zealand's total exports were to Australia in the year to June 2008 and New Zealand is Australia's sixth largest export market – 5.6 per cent of its total exports were to New Zealand in the year to June 2008. Australia and New Zealand also compete in third markets. Of the top 10 export markets for each country, New Zealand and Australia have 6 in common. Differences between the emissions trading schemes of both countries, particularly levels of protection, could have a large impact on levels of trade between the two countries.

The table below sets out New Zealand's top 20 merchandise exports to and imports from Australia in to June 2008. This gives an initial indication of the key areas of trade between the two countries.

Table 3 - New Zealand – Top 20 Exports to/ Imports from Australia – June 2008

Exports NZ\$000		Imports NZ\$000	
Petroleum oils, crude	1,803,341	Petroleum oils, not crude	797,891
Gold	380,766	Motor vehicles	446,349
Cheese	248,604	Petroleum oils, crude	397,869
Wine	246,371	Aluminium oxide	309,751
Confidential items	207,630	Medicaments	268,162
Timber	170,607	Media, unrecorded	147,695
Refrigerators, freezers, etc	129,432	Copper; bars, rods and	134,731

		profiles	
Chemical wood pulp	115,615	Wheat	129,178
Food preparations	106,372	Trucks and vans	126,692
Plastic articles	100,394	Bread, pastry, cakes, etc	117,329
Carded wool	98,904	Wine	104,159
Live horses	93,671	Computers	96,307
Bread, pastry, cakes, etc	93,087	Chocolate	91,192
Insulated wire, cable and other electric conductors	88,206	Organic surface-active agents	87,456
Frozen vegetables	86,430	Uncoated paper and paperboard, nes	85,001
Fish fillets	84,496	Paper towels, etc	83,332
Carpets, tufted	82,999	Food preparations	83,200
Butter	79,110	Books, etc	81,292
Waters, sugar added	78,188	Iron or non-alloy steel, angles, etc	79,815
Paper towels, etc	77,007	Confidential items	79,706
<i>Top 20 as % of total exports to Australia</i>	<i>48</i>	<i>Top 20 as % of total imports from Australia</i>	<i>43</i>

Source: Statistics New Zealand

Emissions-intensive industries which may form a significant part of trans Tasman trade include:

- aluminium oxide
- copper
- dairy products
- petroleum
- pulp and paper
- iron or non-alloy steel.

Together these categories of export are worth around NZ\$500 million and NZ\$1.5 billion per annum to New Zealand and Australian exporters respectively. Seen only in terms of trans-Tasman trade, this represents a significant proportion – around 7 per cent of trans-Tasman exports from New Zealand (possibly rising to 10 per cent of New Zealand exports if it assumed

that all 'confidential exports' are emissions intensive), and around 15 per cent of Australian trans-Tasman exports.

These figures describe areas of export risk for trans-Tasman trade. They also describe some of the key areas of import substitution risks if importers concerned are being treated more favourably than domestic producers. However this is not an exhaustive list, there may be exports that could become trade exposed once a carbon pricing regime is adopted.

The main source of competitiveness concerns relates to the allocation of permits under the two schemes. Stakeholders in both countries have raised this as an issue. The CPRS currently allows for intensity-based allocation. Under this method, allocation is awarded on a unit of production basis for particular activities, based on the industry average emissions for that activity for the period 2006-08. The total pool of allocation to the industry sector is uncapped and both new and existing firms will be eligible for assistance. Initial levels of assistance are 94.5 per cent of emissions for highly emissions-intensive activities, and 66 per cent for moderately emissions-intensive activities. The free allocation is phased out at the rate of 1.3 per cent per annum.

This method of allocation provides greater protection to levels of competitiveness because it minimises the marginal impacts of an emissions price. It provides an incentive for firms to improve efficiency, but does not provide an incentive to reduce levels of output.

In contrast, the NZ ETS currently prescribes a cap on the total pool of free allocation to the industrial sector equivalent to 90 per cent of 2005 emissions from eligible firms. The free allocation is phased out from 2018 to 2030 (a faster rate than under the CPRS). This method aims to avoid large reductions in output and unemployment but otherwise leaves firms facing the full cost of carbon. This will invariably lead to some reduction in output.

Differences in allocation methodology between the two countries could also affect longer term investment decisions and there is a risk that industries may shift production across the Tasman. It is difficult to quantify the potential extent of this occurring.

In summary, although competitiveness will depend on a variety of factors, all other things being equal differences in allocation methodologies could lead to certain activities becoming more productive in one country over another, leading to one country losing market share or production shifting across the Tasman.

Allocation under the European Union Emissions Trading Scheme (EU ETS)

Another competing economy with an emissions trading scheme is the European Union. Phase 3 of the EU ETS (2013-2020) will provide two levels of allocation for those at significant risk of carbon leakage, and other covered industries. Firms deemed at significant risk of leakage could receive up to 100 per cent allocation based on 2005-2007 emissions. However, the free

allocation to individual installations will not exceed the level of a benchmark corresponding to the 10 per cent cleanest technologies in the EU. If an installation emits more than that, it will need to acquire allowances up to the level of its actual emissions. The allocation to significantly at risk firms decreases by 1.74 per cent per year. Not at risk sectors will receive 80 per cent allocation based on 2005-2007 emission levels, decreasing to 30 per cent in 2020 and zero in 2027.

The overall allocation of the scheme is made on an absolute basis, with an effective intensity-based allocation to individual participants within the pool via the top 10 per cent benchmark. This approach would be difficult to implement in New Zealand as some industrial sectors have a small number of participants which could lead to difficulties in establishing a benchmark.

It is difficult to quantify the level of allocation for firms deemed to be significantly at risk as this will depend on work yet to be completed on benchmarks and the distribution of emissions efficient technologies within industries. Therefore it is also difficult to determine whether this approach is more or less generous than the Australian and New Zealand schemes. Nominally it is more generous than the current NZ ETS allocation methodology, but whether this is the case in practice will depend on the stringency of the benchmarks. However it is worth noting that at risk sectors under the EU ETS will represent 80 to 90 per cent of total industry emissions, which is a larger proportion than the emissions intensive industries defined under the CPRS.

2. Implementation timeframes

The third problem with the current NZ ETS is that some implementation dates in the CCRA will be difficult to achieve as there is not enough time for allocation plans to be developed and for the sectors to prepare to enter the NZ ETS. The most pressing is the entry date of the SEIP sector which will begin to accrue obligations under the NZ ETS from 1 January 2010. If this date remains, there is likely to be a significant time lag between obligations beginning to accrue for these participants and an allocation plan being finalised (and units transferred).

OBJECTIVES

Under the Kyoto Protocol New Zealand is obligated to return emissions to 1990 levels during the first commitment period (2008-2012), or take responsibility for the difference through international offsetting. Additionally, New Zealand is currently participating in negotiations for a future international climate change agreement which is likely to involve deeper commitments for emissions reductions from 2013 onwards.

The key purpose of the NZ ETS is to enable New Zealand to comply with international obligations under the UNFCCC and its Kyoto Protocol while providing certainty for economic growth and the flexibility to respond to possible changes in the post-2012 international climate change framework.

There is concern that the NZ ETS as currently designed may not meet these objectives, given current weak state of the economy and the recent developments in the Australian CPRS. There is a need to ensure that there is a smooth transition for industry into the NZ ETS in order for them to adjust to the scheme and cope with the current economic recession. There is also need to ensure that the levels of assistance are appropriate and key sectors of the economy do not experience undue competitive impacts as a result of the NZ ETS. A further objective is to provide business with some certainty regarding the future of the NZ ETS and the levels of emissions reductions that New Zealand will be committed to meeting in the long term. The scheme must also be workable and affordable.

ALTERNATIVE OPTIONS

1. Change implementation dates in existing legislation.

The first option is to leave the majority of the NZ ETS as it is currently legislated, and change the entry date for the Stationary Energy and Industrial Processes (SEIP) sectors.

The entry of the SEIP sectors would be delayed by 12 months from 1 January 2010 to 1 January 2011. This would incur a fiscal cost of roughly \$200m. The benefits are that the sector has more time to prepare to enter the NZ ETS, which could reduce the impacts to some extent. It also allows government sufficient time to prepare allocation plans.

This option however does not address all of the objectives listed above. It does not improve the competitiveness issues or provide assistance in early years of the scheme. Key differences would remain between the NZ ETS and the CPRS limiting harmonisation between the two schemes leaving the potential for increased transaction costs and competitiveness distortions.

2. Abolish the NZ ETS

The second option is to abolish the NZ ETS. Under this option, the New Zealand government would meet its commitments under the Kyoto Protocol by purchasing emissions credits from international markets.

The fiscal cost of abolishing the NZ ETS is estimated to be \$1.5bn in Commitment Period 1 of the Kyoto Protocol (2008-2012). The costs for future commitment periods would depend on the emissions reductions required under the 2020 target, but it can be assumed that they would be significantly higher than this.

This option is not preferred as it is not the long-term least-cost option for New Zealand to meet its international climate change commitments and it would not encourage any emissions reductions within New Zealand. The NZIER and Infometrics report (2009) found that in the short run (to 2012) there is little difference between the economy wide welfare impacts of the government

paying, and a narrow tax/trading scheme⁴. However the government pays option has a key disadvantage as it does not establish a price signal for carbon into the New Zealand economy. This means that firms have little incentive to change their production patterns or invest in emissions-reducing technologies. As the carbon price rises above a certain level⁵, the modelling showed that that an emissions trading scheme becomes the cheaper option.

Climate change is a long term problem and an international climate change framework of some description will exist long after 2012. In order to meet future international climate change commitments at least-cost to the economy, it is desirable to introduce a carbon price while the cost is still relatively low. This allows sectors time to adjust and smoothly transition to a low carbon economy. Delaying adjustment could be costly in the future as New Zealand would lock in investment choices that are inefficient in the long run when climate change agreements become more stringent and the world moves towards carbon pricing. Retaining the NZ ETS would also bring New Zealand in line with developments in other countries including the European Union, Australia and the United States.

2. Replace the NZ ETS with a carbon tax

An alternative price-based mechanism to an emissions trading scheme is a carbon tax. This is a very similar instrument to an emissions trading scheme, the fundamental difference being the mechanism by which the price is set. Under a carbon tax regulators set the price per unit of emissions, whereas under an emissions trading scheme regulators set an allowable level of emissions or 'permits'. A scarcity of these permits creates a price. A carbon tax therefore provides greater certainty over the price as changes to taxes are usually signalled well in advance, whereas an emissions trading scheme provides greater certainty over the level of emission reductions.

The other important difference is the ability to link the domestic policy response to climate change with the international response. The current global agreement is based around restricting quantities of emissions produced and an international emissions trading scheme. A domestic emissions trading scheme will allow linking with the international regime and other domestic emissions trading schemes. This provides New Zealand firms with access to the cheapest emissions reductions, regardless of where in the world they occur.

Arguments in support of a carbon tax are that greater certainty over price makes the liability easier for businesses to manage, and the administrative costs are likely to be lower than under an emissions trading scheme.

A carbon tax is not the preferred option for the following reasons:

⁴ NZIER and Infometrics (2009) – Economic modelling of New Zealand climate change policy, page x.

⁵ The point at which a carbon price becomes preferable differed between the models. At \$25/tonne Infometrics' model ranks a carbon price equal to a government pays scenario while the NZIER model slightly favours the latter. At higher prices both models show that carbon pricing is least cost.

- An emissions trading scheme can ensure New Zealand access to least-cost abatement (within the constraints of any restrictions placed on imports of units) because it gives New Zealand firms the ability to access the international emissions market.
- An emissions trading scheme leaves New Zealand well placed to meet commitments to expected future international climate change agreements
- Emissions Trading Schemes are increasingly the domestic climate change policy instrument choice of New Zealand's trading partners. Adopting emissions trading in New Zealand provides the best chance of our businesses facing an emissions price that is in tune with the economic climate that New Zealand businesses and their competitors face.

PREFERRED OPTION

The preferred option is to retain the NZ ETS with amendments to reduce the impacts and smooth the transition for industry during the current recession. It is also desirable to revise the allocation methods to align with Australia, providing greater protection the competitiveness of the emissions-intensive trade-exposed sectors of the New Zealand economy. This option therefore allows New Zealand to comply with its international obligations and retains an incentive for emissions reductions within New Zealand, while minimising impacts on the economy.

The key amendments included in the preferred option are:

- A low price phase from July 2010 to 31 December 2012 which will lessen the impacts of the NZ ETS on industry in the early years of the scheme and smooth the transition. The low price phase includes:
 - a price cap of NZ\$25 per tonne; and
 - a revised core scheme obligation for participants in the SEIP and LFF sectors of only 1 unit for every 2 tonnes of CO₂e emitted for the period 1 July 2010 to 31 December 2012.
- Uncapped, intensity-based allocation for EITE industries from July 2010. Eligibility thresholds will be set to reduce trans-Tasman competitiveness risks.
- A reduced price period will operate from January 2013 to July 2015 for the agriculture sector, through a progressive obligation requiring participants to surrender only one unit for every two tonnes CO₂-e emitted. Free allocation to the agriculture sector will be provided on an intensity basis (consistent with industry), and an initial processor-level point of obligation will apply.
- The introduction of a target for 50 per cent reduction of net greenhouse gasses from 1990 levels by 2050

SEIP and Liquid Fossil Fuels (LFF) sectors

There will be two main changes to the SEIP and LFF sectors; a low price phase from July 2010 to June 2012 and intensity-based allocation.

Low price phase July 2010 to December 2012

The stationary energy and industrial process (SEIP) and liquid fossil fuel (LFF) sectors would both be brought into the scheme on 1 July 2010 and would face a reduced price for the period from the date of entry to 31 December 2012. For those 2 ½ years, the price of carbon in the NZ ETS will be moderated through the combination of two design changes:

- a revised core scheme obligation, with participants required to surrender only 1 unit for every 2 tonnes of CO₂ emitted (effectively providing a 50% discount); and
- a price cap of NZ\$25 per tonne

In order to prevent arbitrage occurring while the price cap is in place, a ban will be placed on the export of NZUs converted to AAUs.

Together, these two changes would ensure that the *effective* price of carbon facing participants in these sectors would never exceed \$12.50 per tonne before 1 January 2013, and could be lower if the international carbon price fell below NZ\$25 over that period.

These changes will substantially lessen the impact of the NZ ETS on participants in these two sectors until the end of 2012, providing a far smoother transition for industry and the economy as a whole. In turn this will help to ensure that households do not face large price increases. The changes will therefore provide a significant improvement for the important first years of the scheme's operation, when participants are becoming familiar with their obligations and the operation of carbon markets. Although there could potentially be a big jump in the carbon price at the end of the low price phase this should not have a large impact on the sector as they will have time to prepare and will be able to monitor movements in the carbon price during the transition period.

This change will reduce the level of abatement from the scheme during the low price phase. However as firms will be aware that they will face a higher carbon price in the future there will still be an incentive to invest in emissions reducing technology and practices. New Zealand will still meet its commitments under the Kyoto Protocol, but the government may have to purchase emissions units from overseas in order to do so. This is discussed in more detail in the section on wider economic impacts.

Intensity-Based allocation approach for industry

The second change is the adoption of an intensity-based approach to the free allocation of units to emissions intensive, trade exposed (EITE) industry. This will see New Zealand adopting a similar approach to allocation to that which is expected to be put in place in Australia.

Under an intensity-based approach the number of units each firm receives will be updated each year to reflect changes in output levels, effectively reducing the price of carbon faced by those firms eligible to receive assistance. The key elements of the proposed intensity-based approach include:

- activities will only be eligible to receive assistance if they meet trade exposure and emissions intensity tests (with thresholds set to reduce trans-Tasman competitiveness risks, at a level similar to the CPRS)
- more emissions intensive industries (likely to be in industries such as food beverage and tobacco manufacturing, petroleum coal and chemical manufacturing and machinery and equipment manufacturing) will receive a higher rate of assistance than less intensive ones. Initial levels of assistance under the CPRS have been increased to 94.5% and 66% respectively through the Global Recession Buffer Mechanism. However, given the reduced price period until December 2012 and absence of any initial phase-out of free allocation the initial levels of assistance of 90% and 60% respectively are appropriate under the NZ ETS.
- consideration will be given to the possibility of providing an allocation to strongly affected industries with strategic importance to New Zealand, whose emissions-intensity falls below the threshold rates
- during the period that the low price phase is in place (see above) the amount of assistance will be reduced by 50%
- the number of units each firm is eligible to receive will be calculated on the basis of the average emissions-intensity for each industry, not each firm's actual intensity (to ensure that firms with higher than average emissions per unit of output are not rewarded for being less efficient)
- new entrants, or firms that are expanding, will automatically see their allocation increased, while shrinking firms will see their allocation decreased;
- The level of assistance will phase-out at a rate of 1.5% per annum beginning in 2013; and
- Phase-out of allocation will also be considered through a five-yearly review of free allocation, with the first review conducted in 2012. Any significant changes to the provision of free allocation will require a five year notice period.

This adoption of an intensity-based approach to allocation will provide ongoing protection for the subset of New Zealand firms that would otherwise be most at risk of suffering a substantial loss of competitiveness under the NZ ETS. This is because intensity-based allocation will reduce the marginal cost impacts of an emissions price. An increase in output of a firm will lead to both an increase in the liability to surrender emission units, and the number of emissions units issued. The marginal cost and competitive effects are therefore reduced by the free allocation. Additionally, free allocation can be provided to both existing firms and new entrants. As this form of assistance

takes into account expansion of production of emissions-intensive trade-exposed industries, it supports growth in these industries and reduces the likelihood of carbon leakage.

An intensity-based approach to allocation will therefore help to avoid undue disruption to the economy, and maintain the ability of businesses in sectors where New Zealand currently has a clear competitive advantage to continue to grow. This change would provide savings over the early years of the scheme's operation, but impose increasingly large fiscal costs over the long term.

The allocation methodology and thresholds would be based as much as possible on the Australian CPRS model. This model uses allocative baselines based on the historical industry average of emissions per unit of revenue or value added. This method provides an incentive for firms to be more efficient than the industry average while still maintaining competitiveness with international firms.

This change will reduce the level of abatement from the scheme particularly beyond 2018 (when the current allocation is due to start phasing out). New Zealand will still meet its commitments under the Kyoto Protocol, but the government may have to purchase a greater amount of emissions units from overseas in order to do so. Again, this is discussed further in the section on wider economic impacts.

Implementing the Australian allocation methodology would bring about benefits from reduced transaction costs for businesses operating across the Tasman and reduced trans-Tasman competitiveness distortions, particularly for emissions-intensive companies.

Given the increased benefits that industry will receive under intensity-based allocation, the current Innovation Fund will be removed from the Act as it is no longer necessary.

Forestry sector

Only minor changes will be made to the treatment of forestry under the modified NZ ETS:

- the reduced 1:2 core obligation will not apply to either pre 1990 or post 1989 forests. This mitigates the risk that a short term reduction in price could drive short term deforestation, causing an increase in emissions.
- the NZ\$25 price cap will apply to any emission liabilities from pre 1990 or post 1989 forests (that accrue before 1 January 2013); and

These changes are expected to have only minimal impacts on the sector and the wider economy. The \$25 price cap is in line with the expected international price, so the sector faces the same incentive to reduce emissions as under the current scheme. It will provide a modest benefit to forest owners wishing to deforest during CP1, through greater price certainty.

Agriculture sector

The main amendment to the agriculture sector is to shift to an intensity-based approach to allocation. The approach to phase out will be consistent with industry. In line with the industry allocation provisions, there would be a review of allocation policies every five years. A reduced price period will also operate from January 2013 to July 2015, through a progressive obligation requiring participants to surrender only one unit for every two tonnes of CO₂e emitted. From January 2013 to July 2015 (while the progressive obligation applies) the level of assistance will be reduced by 50%.

The adoption of an intensity-based approach will protect the competitiveness of this industry until more effective emission abatement technologies have been developed, or until there is more effective global action on agricultural emissions including by developing countries, than is the case with the current international framework.

The progressive obligation will substantially lessen the impact of the NZ ETS on the agriculture sector until the end of June 2015, providing far smoother transition for the sector and the economy as a whole.

There are several other minor changes to the treatment of agriculture under the NZ ETS:

- a processor level point of obligation⁶ will initially be adopted (as the Act currently allows for); and
- a change will be made to allow a shift to a farmer-level point of obligation at a later stage, subject to stakeholder views and a number of key administrative challenges being successfully addressed; and
- The options for a hybrid point of obligation will be removed
- Other aspects (including entry date) will remain unchanged.

Fishing sector

As fishing is an emissions-intensive trade exposed sector, the allocation will be increased from the current level of 50%, to 90% of 2005 emissions for two and a half years (July 2010 to December 2012). The fiscal and economic impacts of this change are likely to be small.

Introduction of a '50 by 50' emissions reduction target for New Zealand.

The New Zealand government intends to introduce a 50 per cent reduction in New Zealand's carbon-equivalent net emissions, as compared to 1990 levels, by 2050. The '50 by 50' target is intended to:

- Make a definitive and credible statement about New Zealand's long-term contribution to addressing climate change; and

⁶ The point of obligation refers to the participant who is obliged to surrender units for the emissions related to their production. For the agriculture sector, this could be at the farm level or the food processor level.

- Give taxpayers, business, industries and farmers clear, long-term certainty about where domestic climate change policy is headed so that they can plan and invest accordingly.

Key criteria in the development of the '50 by 50' target were that it needs to be internationally credible, suitable to New Zealand's unique economic profile and time-bound. A '50 by 50' target is not inconsistent with the IPCC's 450 parts per million climate stabilisation scenario and New Zealand's international negotiating position proposes supports a global long-term concentration target of not more than 450ppm. It is also broadly equivalent to the Australian long term target of a 60 per cent reduction by 2050 compared to 2000 emission levels.

Fiscal impacts

The table below sets out an assessment of the fiscal implications of the preferred option:

Proposed changes	Fiscal cost before 31 December 2012 (\$m)	Fiscal cost from 1 January 2013 (\$m)
Reduced price until 31 December 2012 (combined with a 1 July 2010 start date for the LFF and SEIP sectors)	\$600m (with risk of increased costs if price goes above \$25)	N/A
Intensity-based approach to allocation for EITE industry	Likely <u>saving</u> of \$100 - \$200m ⁷	<u>Saving</u> of \$90 - \$160m in 2013 <u>Saving</u> of \$40 - \$100m in 2020 Costs thereafter depend on phase-out rate for free allocation
Reduced price for agriculture until July 2015	N/A	\$190m (with risk of increased costs if price goes above \$25)
Intensity-based approach to allocation for agriculture (assuming a 90% rate of assistance)	N/A	<u>Cost</u> of \$20 - \$30m in 2013 \$100 - \$150m in 2020 Costs thereafter depend on phase-out rate for free allocation
Increased fisheries allocation	<u>Cost</u> of \$3-4	<u>Saving</u> of \$7 - \$8m

Implications for the wider economy

Low price phase

The low price phase will operate for a relatively short period of time, and there is expected to be minimal change in total costs to the economy between this option and the status quo. The difference will be where the costs fall within the economy.

⁷ All fiscal estimates for intensity-based allocation are subject to assumptions on growth rates, and decisions on thresholds, assistance rates and phase-out rates. Fiscal estimates from 1 January 2013 are based on the adoption of phase-out rates similar to those proposed under the CPRS. As such, costs are indicative.

The low price phase will result in lower cost to industry than the NZ ETS as currently legislated for this period if the international carbon price is above \$12.50 per tonne (which is expected to be the case). Firms in the SEIP sector are expected to benefit the most. The duration of the low price phase is too short to affect investment decisions, and as firms will be aware that they will face a higher carbon price in the future there will still be an incentive to invest in low emissions and energy efficient technologies.

The low price phase will result in a smaller increase in fuel costs than the current NZ ETS, lowering the cost to households. Petrol is expected to rise by about 3c/litre (1.8 per cent) which is less than the 6.1c/ litre (4 per cent) that is estimated to result from a carbon price of \$25 per tonne, and the increase in electricity prices is estimated to be 0.8c/KWh (3.6 percent) compared to 1.4c/KWh (19 per cent) from a carbon price of \$25. These figures assume that the carbon costs are fully passed through.

However, while the low price will reduce costs to industry the government will have to meet any difference between the price cap and the international carbon price in order to meet New Zealand's liability under the Kyoto Protocol.

One sector that could experience significant impacts is the forestry sector. This sector can adjust quickly to changes in the carbon price, so there is the potential that a short term reduction in price could drive short term deforestation as foresters seek to convert land while the prices are relatively low. This would cause a short term increase in emissions. The forestry sector has therefore been excluded from the reduced obligation and will face a price cap of \$25, which approximates the expected international carbon price over this period providing the same incentive to reduce emissions as the current NZ ETS.

Unlike the SEIP sector, the pre-1990 forest sector will also receive a full allocation of units during the low price phase as the free allocation represents compensation for the long term reduction in land values faced by the sector.

The ownership of post-1989 forests is currently the only 'net removal activity' allowed under the NZ ETS. In contrast to the rest of the economy, owners of these forests benefit from a higher price on carbon. Accordingly, there may be some resistance from the sector to the ban on exports and some forest owners may feel that the value of their free allocation will be reduced until the ban is removed. A ban on exports will cost the sector if the international carbon price rises above the price cap of \$25. In this case, the impact of a ban on exports would be minimal if there is no ban on banking, as forest owners could simply bank the permits until the end of the fixed prices phase.

Another group that could be disadvantaged are Iwi yet to settle Treaty claims that involve crown forest licence (CLF) land. Iwi are likely to be resistant to any attempt to reduce the level of free allocation for CLF land below 18 units per hectare as this level of allocation has been widely discussed with Maori, and is included in the CNI Deed of Settlement. Accordingly any change to this allocation would require further negotiation with Iwi.

Regarding the progressive obligation for the agriculture sector, the total fiscal costs are estimated at \$150 million. The economic costs from this proposal are expected to be minor.

Intensity-based allocation

Intensity-based allocation to EITE industry is likely to give rise to a fiscal saving from 2010 to 2012 of \$100-200 million, as initially a smaller proportion of firms will receive assistance. From 2013 there is likely to be a saving of \$90 - \$160m, a saving of \$40m - \$100m in 2020. Costs thereafter will depend on the phase out rate for free allocation. The fiscal cost arises from the government taking responsibility for a proportion of emissions from the firms that receive free allocation and the cost will depend on the chosen rates of assistance.

An intensity-based allocation approach will provide greater protection to the competitiveness of the industries that receive assistance and will lower the cost of the emissions trading scheme on these participants. Protecting the competitiveness of more firms by providing a higher rate of assistance for a longer period will benefit eligible firms, but will come at a cost to the economy as a whole, by delaying the transition of the New Zealand economy to a carbon constrained world. Account would also need to be taken of consistency with New Zealand's international trade obligations.

The costs and benefits of intensity-based allocation on the wider economy are somewhat ambiguous. Economic theory suggests that placing responsibility for emissions with those who reduce them is the least-cost way to meet emissions targets; however this ignores adjustment costs, economic regrets when other countries may introduce emissions pricing in the future and some general equilibrium effects, particularly around reduction in exports. Recent economic modelling by NZIER and Infometrics suggests that these factors may be significant, and that it may be beneficial to freely allocate units to emissions-intensive trade-exposed firms. NZIER and Infometrics also found that free allocation based on a lump sum payment to compensate firms for stranded assets is more costly than production-linked free allocation.

The Infometrics/NZIER report (2009) concluded that free allocation, linked to production could be beneficial when there is limited action by the rest of the world and when there are few technology options available to industry. As technology options become available and the rest of the world takes steps to implement equivalent pricing regimes, the benefit of free allocation becomes reduced. Although the phase out of free allocation under this option is gradual, it will be subject to a five yearly review and can be changed if New Zealand's economic circumstances are such that this level of assistance is no longer beneficial.

Under an intensity model, highly emissions-intensive firms will receive more assistance than under the previous allocation approach. However some firms that would have received assistance under the previous approach will fall below the emissions-intensity thresholds and will be ineligible to receive assistance under the new approach. The firms that do not receive allocation

will however still benefit from the low price phase in the first two and a half years of the scheme.

Preliminary analysis from the Ministry for Economic Development suggests that the firms eligible for assistance would come from the following industries:

- Food, beverage and tobacco;
- Non metallic mineral products;
- Petroleum, coal and chemical manufacturing;
- Machinery and equipment manufacturing;
- Aluminium drawing, rolling and extruding; and
- Basic iron and steel manufacturing.

Using the same approach as Australia for allocation methodologies and price controls could bring about benefits from reduced transaction costs for businesses operating across the Tasman and reduced trans-Tasman competitiveness distortions, particularly for emissions-intensive companies. It will also enable New Zealand to draw on the Australian experience and analysis when developing allocation methodology.

Introduction of a '50 by 50' emissions reduction target

The economic implications of setting the '50 by 50' target in the purpose provisions of the CCRA are likely to depend on New Zealand's obligations under any future international climate change agreement. If New Zealand's international emission reduction obligations are less stringent than 50 per cent by 2050 then the target could impose costs on the economy. To prevent this, the Government could be to adjust the target to reflect New Zealand's international commitment.

No economic modelling of the costs and benefits of a '50 by '50 target has been completed for New Zealand. However, studies completed internationally, including work by the Garnaut Climate Change Review and the Australian Treasury suggest that economies continue to grow when taking on large emissions reductions targets, albeit at a slower rate. For example the Australian Treasury found that with an emissions reduction target of 60 per cent below 2000 levels by 2050, average annual economic growth is reduced from an 1.3 per cent to 1.1 per cent for Australia. This model assumed staged international participation of carbon pricing by the rest of the world.

The costs to New Zealand of such a target will be influenced by the actions of the rest of the world and will be lower if other countries take on similar targets. However economic modelling still indicates that the economy will continue to grow even when international participation is limited. Although the recent modelling by NZIER and infometrics only modelled scenarios out to 2020, the results showed that the New Zealand economy continued to grow under all scenarios, even under a \$100 carbon price and no action by the rest of the world.

The 2006 Stern Review found that if the world does not act to address climate change, the overall risk could be equivalent to losing at least 5 per cent of global GDP per annum now and forever. If a wider range of risks are taken

into account, this could rise to 20 per cent or more. Similarly the Garnuat Climate Change Review conducted in 2008 also found that the costs of inaction were greater than the costs of action.

Although New Zealand is only responsible for a small proportion of global emissions, there is a risk that New Zealand could suffer significant environmental effects as a result of climate change. Additionally, if the global economy is affected this will have flow-on effects to the New Zealand economy. The only way to address these environmental and economic risks is through a global agreement and New Zealand's ability to influence global agreements relies on its active participation in negotiations, and its reputation as a country that is willing to do its fair share and meet its international obligations.

In addition, there are international and trade risks if New Zealand is not perceived to be doing its fair share to address climate change. New Zealand is a small, open economy that relies on international agreements and treaties to support its trade. There is also a risk that trade barriers could be established against countries that have not taken on emissions reduction commitments.

Risks

Fiscal cost to the crown being higher than anticipated. Both the low price phase and the intensity-based allocation shift some of the costs of New Zealand's international liability from emitters to the crown, and subsequently increase the risk to the Crown. This is a particular risk for intensity-based allocation. If the cost is on emitters, emitters have the choice as to whether to purchase permits to cover their emissions, reduce output or invest in mitigation options. The Crown has fewer options for managing emissions, and will be liable for any emissions that exceed the level of emissions specified in Kyoto and successive agreements.

The low price phase will operate for a relatively short period of time so the risk is not large. Intensity-based allocation is a long term provision that could potentially expose the crown to large risks. However the 5 year review will provide a mechanism for the policy to be changed if the cost is becoming excessive.

Arbitrage arising from the price cap. If units issued through the price cap fall below the international price the units could be sold at a profit at the Crown's expense. The level of arbitrage risk will depend on the difference between the price cap and the expected international price. There are a couple of options for mitigating this risk:

- Ban the export and sale of these units. This removes the risk of arbitrage completely however it may be complex to administer.
- Banning the export of freely allocated units, but not the banking of units issued to sectors that can access the price cap. This will not reduce the

risk of arbitrage completely (since banking is still possible), but might reduce the level of administrative complexity.

Compressed timetable. There is a risk that the allocation process would not be complete by the entry date of the Stationary Energy and Industrial Processors and Liquid Fossil Fuel sectors of 1 July 2010. The most likely option for mitigating this risk is to draw on work completed under the Australian CPRS such as the eligibility thresholds for assistance. Drawing on Australian work is likely to allow the timetable to be met.

IMPLEMENTATION AND REVIEW

The Bill for substantive amendments to the NZ ETS will be introduced into the House in late September, and is due to be passed in December 2009. Allocation plans and determinations for the SEIP and LFF sectors will be prepared over the period January to June 2010, in order for these sectors to enter the scheme in July 2010.

Updated draft regulations for the stationary energy and industrial processes sectors involvement in the NZ ETS were released for consultation alongside draft regulations on unique emissions factors and other removal activities on 2 June 2009. These regulations are due to be finalised by 30 September 2009.

Low price phase

The fixed price would operate by the Crown issuing a limited number of units at a fixed price. In order to implement the export of units would be banned in order to minimise the risk of arbitrage. A ban on the exports of units could be achieved through existing regulatory powers, but legislative changes may be needed to ban the conversion of NZUs for export.

Intensity-based allocation

Prior to implementation, allocation plans and determinations for industry sectors will be developed.

Review

It is necessary to review the NZ ETS and the allocation model on a regular basis. Five yearly reviews are proposed, which is in line with the Australian CPRS. In terms of operation, the scheme will be effective if participants are calculating emissions and surrendering returns on a timely basis.

CONSULTATION

The New Zealand government announced a Special Select Committee Review of the Emissions Trading Scheme and related matters on 12 December 2008. The Review has very broad terms of reference, which include (among other things):

- consider the impact on the New Zealand economy and New Zealand households of any climate change policies, having regard to the weak state of the economy, the need to safeguard New Zealand's international competitiveness, the position of trade-exposed industries, and the actions of competing countries
- examine the relative merits of a mitigation or adaptation approach to climate change for New Zealand
- examine the relative merits of an emissions trading scheme or a tax on carbon or energy as a New Zealand response to climate change

The period for public submissions closed on 27 February 2009. In total 278 submissions on the terms of reference were received and 102 submissions were heard by the Select Committee. Key industry submissions highlighted concerns about loss competitiveness if faced with a price on carbon prior to international competitors. Additionally many were in favour of a smoother transition into the NZ ETS and many submitters supported price caps in early years of the scheme and an output based approach to free allocation. The submissions to the ETS Select Committee and the findings from the Review have been reflected in the development of these amendments.

A process for engagement on modifications to the NZ ETS has been agreed between Minister Smith, the Climate Change Iwi Leadership Group and the Māori Reference Group Executive. The agreed process provides for discussion of in-principle decisions made by Cabinet and hui in September to discuss proposed changes to the NZ ETS.

In addition, updated draft regulations for the stationary energy and industrial processes sectors involvement in the NZ ETS were released for consultation alongside draft regulations on unique emissions factors and other removal activities on 2 June 2009. Submissions on this package of draft regulations closed on 13 July 2009. Submissions made during this process raised the issue of fugitive coal seam emissions and proposed its exclusion from the NZ ETS. The proposed amendment to exclude fugitive emissions from the NZ ETS reflects these submissions.

The Ministry of Economic Development, Ministry of Transport, Ministry of Agriculture and Forestry, Ministry of Fisheries, Ministry of Foreign Affairs and Trade, Te Puni Kōkiri and the Treasury were consulted on these proposals.