



To: Hon Tim Groser, Minister for Climate Change Issues

Cabinet Paper – New Zealand's post-2012 Mitigation Commitment and Linkages to the ETS

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Action Sought:	Forward a copy of this briefing note to Hon Simon Bridges, Associate Minister for Climate Change Issues Lodge A3 with Cabinet Office	Response/Signature Needed by:	3 May 2012

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Executive Summary

1. This note provides an A3 paper for submission to Cabinet Strategy Committee (STR) - *New Zealand's post-2012 Mitigation Commitment and Linkages to the ETS*. The paper reflects your comments to date, consultation with departments and feedback from Officials Committee. The paper is due to be lodged with Cabinet on 3 May 2012, for the Committee meeting on Monday 7 May.
2. Internationally, New Zealand is alone amongst developed countries in not declaring either a domestic target or whether we will join a second Commitment Period (CP2) of the Kyoto Protocol. Maintaining maximum influence and flexibility is particularly important for the period up to 2015 when a new global agreement for post-2020 is being negotiated.
3. Upcoming amendments to the Emissions Trading Scheme (ETS) are closely linked to international decisions. A domestic cap on the supply of NZUs and limit on offshore purchasing are currently being consulted on, in part to avoid excess purchasing of international units by ETS participants.
4. A domestic target can provide international credibility without sacrificing negotiating flexibility. It can also improve domestic market certainty and maintain incentives to reduce emissions.
5. Due to the linkages between an international target and a domestic cap on supply of NZUs, it may be desirable for Cabinet to consider the two issues together in October 2012.
6. Appendices provide technical information to explain the assumptions behind the graph on New Zealand's emissions trajectory, the high level analysis on cost and comparability of the working hypothesis and how auctioning could function under the ETS.

Situation Analysis

7. The December 2011 United Nations Climate Change Conference in Durban resulted in agreement to a second commitment period (CP2) under the Kyoto Protocol and to negotiate a new comprehensive agreement to cover all major emitters. This global agreement is targeted for completion by 2015 to come into force by 2020.
8. New Zealand has not yet decided 'where' to take our next set of international commitments, either under the CP2 of the Kyoto Protocol, or via alternative arrangements under the United Nations Framework Convention on Climate Change (UNFCCC).
9. New Zealand is already facing considerable international pressure to join a CP2, with warnings our credibility will be severely damaged if we continue to "duck and dive". However, this pressure could be mitigated somewhat through separating a decision on the level of ambition from the question of whether New Zealand joins a CP2 or takes a commitment under the UNFCCC.
10. In February 2012, Cabinet invited [EGI Min (12) 2/3] the Minister for Climate Change Issues to:
 - submit an item to STR as soon as practicable on "the overall strategic direction and policy priorities of the government in relation to New Zealand's post-2012 mitigation commitments and any related changes to the ETS"; and
 - report back to EGI no later than November 2012 on:
 - i. Options for where New Zealand will take post-2012 mitigation commitments (under the Kyoto Protocol or under the UNFCCC);
 - ii. When New Zealand will make such a commitment; and
 - iii. The level of New Zealand's mitigation commitment or a minimum unilateral target.
11. Your final submission for STR is scheduled to be lodged 10:00am Thursday 3 May.

Advice – the STR A3 and Supporting Information

12. Following your feedback to officials last week (11 April 2012), the attached paper frames a discussion on strategic direction and policy priorities in five sections. These are summarised with supporting material below.

Context

13. The first Commitment Period (CP1) of the Kyoto Protocol ends on 31 December 2012. Our existing conditional 2020 target range, negotiations for a new global agreement, and upcoming amendments to the ETS all form a backdrop to the choices Ministers will face.
14. New Zealand is alone amongst developed countries in not declaring either a domestic target or whether we will join CP2 during the transition period to a new global agreement. Australia has not yet declared whether they will join CP2, but already has a minimum commitment.

Relevant considerations and related decisions

15. Upcoming domestic amendments to the ETS are closely linked to international decisions. A domestic cap on the supply of NZUs and limit on offshore purchasing are currently being consulted on, in part as measures to avoid excess purchasing of international units by ETS participants.
16. While setting a domestic cap is not identical to taking an international target, it can signal the Government's longer term commitment to both ETS participants and the New Zealand public. It can also provide a buffer against pressure in the international negotiations to join CP2 as it is evidence of good faith during the transition period.
17. Domestically, this signal from the Government can help to provide market certainty for ETS participants when CP1 expires at the end of this year. Over the long term, New Zealand will face increasing drivers to take responsibility for its emissions. The ETS will be best able to support New Zealand's long term economic resilience if investors have confidence that the scheme will provide for a carbon price in future that will reward lower carbon investments now. Setting a domestic target can thus also encourage improved productivity and long term economic resilience and competitiveness through better steering investment decisions and business planning.
18. Internationally, maintaining maximum influence and flexibility is particularly important for the period up to 2015 when the agreement for post-2020 is being negotiated. A domestic target can provide credibility without sacrificing flexibility. It may also be critical in pre-empting expectations at the UNFCCC meeting in Qatar later this year that New Zealand will announce a target that falls within our existing conditional range of -10% to -20%.
19. It is difficult at present to determine clearly how New Zealand's target compares with those proposed by other countries. Maintaining the status quo of our existing conditional target range could allow greater clarity on the actions of our trading partners and competitors, enabling greater analysis of comparability of effort, as well as more certainty on CP2 rules.

Working hypothesis

20. You may wish to consider setting ETS parameters to equate to a domestic target of -5% on 1990 emissions by 2020. Whether or not to join a CP2 could be decided at a later date. These domestic settings could be communicated internationally, and formally reported to the UNFCCC under our existing reporting obligations.
21. This could preserve flexibility while avoiding a loss of credibility in the international negotiations. It could also help to maintain a clear long term signal for the ETS and help position the New Zealand economy to be resilient in the face of future targets.

Timetable

22. The timetable in the A3 outlines key dates when decisions will be needed in both the international and domestic spheres over the coming 12 months.
23. If Ministers wish to enable auctioning to take place through the ETS in 2014, either in a pilot or in full, an in-principle decision on a domestic cap would be needed by December 2012/January 2013. If Ministers wish to have a position on domestic action for the international negotiations in Qatar in December 2012, a decision by Cabinet would be needed by October 2012. This would ensure New Zealand is prepared if we come under intense pressure to make an announcement.
24. Due to the linkages an international target and a domestic cap on supply of NZUs, it may be desirable for Cabinet to consider the two issues together in October 2012.

Indicative supporting material

25. Side two of the A3 provides indicative high-level analysis of the implications of the working hypothesis.
26. New Zealand's emissions continue to rise. A -5% 2020 target on 1990 levels sits below our predicted business as usual emissions. At a \$25 carbon price, our best estimate of the cost of this target for the 2013-2020 period is approximately \$500 million in purchasing.
27. There is considerable uncertainty within predictions of New Zealand's net emissions. This relates mainly to harvesting behaviour and forestry accounting rules. Consequently, direct costs of a -5% target could range from \$-0.4 billion to \$2.4 billion and harvest liabilities¹ of up to \$200 million spread over future years (see Appendix 1 for more detail).

Risks and Mitigations

28. We understand from informal conversations with Treasury that some Ministers may raise the question of whether to make an international commitment before the post-2020 agreement has been concluded in 2015. To a certain extent, considering this question requires judgements about how much credibility in negotiations can be gained (or avoided being lost) through making a commitment. It also raises questions over whether there will be much greater clarity to be gained over the comparability of others' targets by 2015 and the materiality of this. Notwithstanding this, there are sufficient domestic policy drivers to anchor ETS settings sooner rather than later and provide certainty for ETS participants.
29. Public interest in New Zealand's post-2012 mitigation commitment is likely to grow over time. A public messaging strategy will be needed if Ministers do not wish to take a decision on a domestic target ahead of the UNFCCC meeting in Qatar in December 2012.

Consultation

30. Officials from the Ministry of Foreign Affairs and Trade have been closely involved in the drafting of the attached paper. Officials from the Treasury, Ministry of Primary Industries, Ministry of Transport and Ministry of Economic Development have also been consulted. The Department of Prime Minister and Cabinet has been informed.

Next steps

31. Pending your advice on any update to timetables, officials will continue to work on advice for your report back to EGI by November 2012 on:
 - Options for where New Zealand will take post-2012 mitigation commitments (under the Kyoto Protocol or under the UNFCCC);
 - When New Zealand will make such a commitment; and
 - The level of New Zealand's mitigation commitment or a minimum unilateral target.

¹ This refers to harvesting emissions that will be accounted for over time, depending on what the wood is used for.

Recommended Action

We recommend that you:

- | | | |
|----|---|-----------------|
| a) | Approve and submit the attached A3 to Cabinet | Yes / No |
| b) | Forward this cover note and attachments to Hon Simon Bridges, Associate Minister for Climate Change Issues | Yes / No |

Stuart Calman
Climate and Risk Policy Directorate

Date

Hon Tim Groser
Minister for Climate Change Issues

Date

Appendix 1: Background to NZ's Emissions Trajectory and Associated Costs

1. Between 2013 and 2020 New Zealand is projected to emit approximately 650 mega-tonnes (Mt) of CO₂ equivalent. In the A3 'Projected emissions to 2030' graph, this is represented by the area under the red 'gross emissions' line.
2. Under a -5% 2020 target on 1990 levels, we would commit to emitting no more than 500 Mt over 2013 to 2020. This is 150 Mt below projected gross emissions.
3. Approximately 130 Mt is projected to be sequestered by forestry over 2013 to 2020. The remaining 20 Mt must be purchased internationally:

Figure 1: Emissions and purchasing implications of a -5% domestic target

Emissions projections	Emissions 2013 – 2020 (Mt)
Gross emissions	650
Commitment at -5% target	500
Forestry sequestration	130
Remaining units	(20)
Purchasing required to meet target	20

4. The choice of target in percentage terms directly impacts the quantity of units New Zealand will need to purchase. Each percentage point of ambition for 2020 compared to 1990 levels corresponds to approximately 3Mt. For example:

Figure 2: International purchasing required by different domestic targets

	Units 2013 – 2020 (Mt) – target on 1990 levels		
	0%	-5%	-10%
Emissions	650	650	650
Commitment ²	515	500	480
Forestry sequestration	130	130	130
Remaining units	(5)	(20)	(40)
Purchasing required to meet target	5	20	40

Purchasing costs – a fiscal cost to Government

5. Under a -5% target and at a carbon price of \$25 a tonne, the required purchasing of 20 Mt corresponds to **\$500 million**. Each additional percentage point of a 2020 target on 1990 levels corresponds to approximately \$85 million.
6. In reality, government will be collecting sufficient international units from Emissions Trading Scheme (ETS) participants to meet a 20 Mt deficit. However, to meet our international obligation, the Government will need to 'write off' these international units, removing an asset from the Crown financial position.
7. Direct purchasing costs arising from a domestic target are therefore a **fiscal** cost to the Crown. Exactly when this expense will need to be recorded in Crown accounts is not yet clear – technical accounting discussions between MfE, the Treasury and Audit New Zealand are required.

² Figures presented here appear asymmetrical due to rounding.

8. The Government would also need to decide how to treat its surplus against its CP1 target (and the carryover of surplus AAUs) in relation to its 2020 target.
9. Further information on the functioning of the ETS and its link to costs is included in Appendix 3.

Forestry liabilities

10. As described in the A3, offsetting emissions through forestry sinks must be 'paid back' when trees are harvested. Forestry sequestration is effectively a loan to New Zealand.
11. Costs after 2020 reflect the need to repay this loan. Almost half of the direct cost of a -5% target between 2021 and 2028 is the result of forestry activity in 2013 to 2020.
12. Additionally, harvesting liability figures in the A3 reflect that forestry rules record only a proportion of emissions when trees are harvested. The remainder is incurred over time, depending on what the wood is used for. As an example, wood harvested then used to build houses will not be fully recorded as an emission for several decades.

The uncertainty in projections and fiscal costs

13. A projection of 650Mt in emissions over 2013 to 2020 is in fact the midpoint to a range of possible figures. Although \$500 million is the best midpoint estimate of the cost of a -5% target, 'high' and 'low' emissions scenarios correspond to direct costs of approximately \$2,400 million and -\$400 million respectively. This uncertainty also applies to the potential implications of a -5% target on the period 2021 to 2028 (when forestry harvesting is forecast to occur):

Figure 3: Direct costs of a -5% target under different scenarios

Time period	Direct cost	Future harvest liability
2013 - 2020	\$-0.4bn to \$2.4bn	\$0bn to \$0.2bn
2021 - 2028	\$2.6bn to \$7.4bn	\$0.7bn to \$1.7bn

14. These ranges reflect that our future emissions will be influenced by a number of factors including the domestic price of carbon, forestry behaviour, growth in GDP and oil prices. In particular the high and low emission scenarios are significantly different because:
 - a. Energy emissions are heavily influenced by GDP projections. Scenarios reflect a high and low GDP growth scenario, corresponding to 1% above or below reference level respectively.
 - b. Agriculture emissions vary in response to different domestic carbon prices. The low and high emissions scenarios reflect a \$100 and \$0 domestic carbon price respectively.
 - c. Forestry projections will depend on two main factors. First, industry behaviour, including harvesting and planting activity in New Zealand over time. Second, how forestry rules will influence when our emissions are recorded, for example the proportion of New Zealand wood that is manufactured into 'long-term' wood products such as houses, rather than paper.
 - d. Sources of emissions such as waste and synthetic gases reflect different Statistics New Zealand population growth projections, and different growth rates in the quantum of industrial processes performed by New Zealand businesses.

15. The majority of uncertainty in emissions projections comes from the forestry and energy sectors, based on different assumptions of forestry behaviour and GDP growth:

Figure 4: New Zealand emissions under different modelling scenarios and the source of uncertainty

	2015	2020	2025
High scenario net emissions (Mt)	70	80	100
Mid scenario net emissions (Mt)	60	70	90
Low scenario net emissions (Mt)	60	60	80
Proportion of uncertainty from forestry and energy (%)	98%	97%	95%
Proportion of uncertainty from other sectors (%)	2%	3%	5%

16. In addition to sensitivities resulting from emissions projections, the **form** of domestic target expressed by New Zealand, and **where** we take our target, will influence the costs faced. For example, applying a different form of ‘carbon budget’ would modify our absolute commitment over 2013 – 2020 in Mt, as would different assumptions about which accounting rules will be permitted internationally.

Appendix 2: Background to the Comparison with Other Countries

1. A domestic target for New Zealand can be compared to the commitments of other countries in a number of ways. Different 'metrics' or measurement tools give different results for a single target. For example, our relatively low GDP means that New Zealand is generally estimated to have high emissions intensity (emissions divided by output). On the other hand, the structure of our economy and population projections lead to low estimates of New Zealand's emissions per capita and high 'effort' in terms of the cost of domestic mitigation.
2. A number of assessments are likely to inform an overall picture of New Zealand's 'fair share', in conjunction with current climate change negotiations. A small number of metrics are presented on page two of the A3. Even before economic or demographic considerations, the minimum targets of countries such as Canada and the United States change in appearance significantly when adjusted to a 1990 reference year.
3. One more metric that could be used in assessing fair share is framing targets as a percentage reduction on business as usual (i.e. projected emissions in the year 2020):

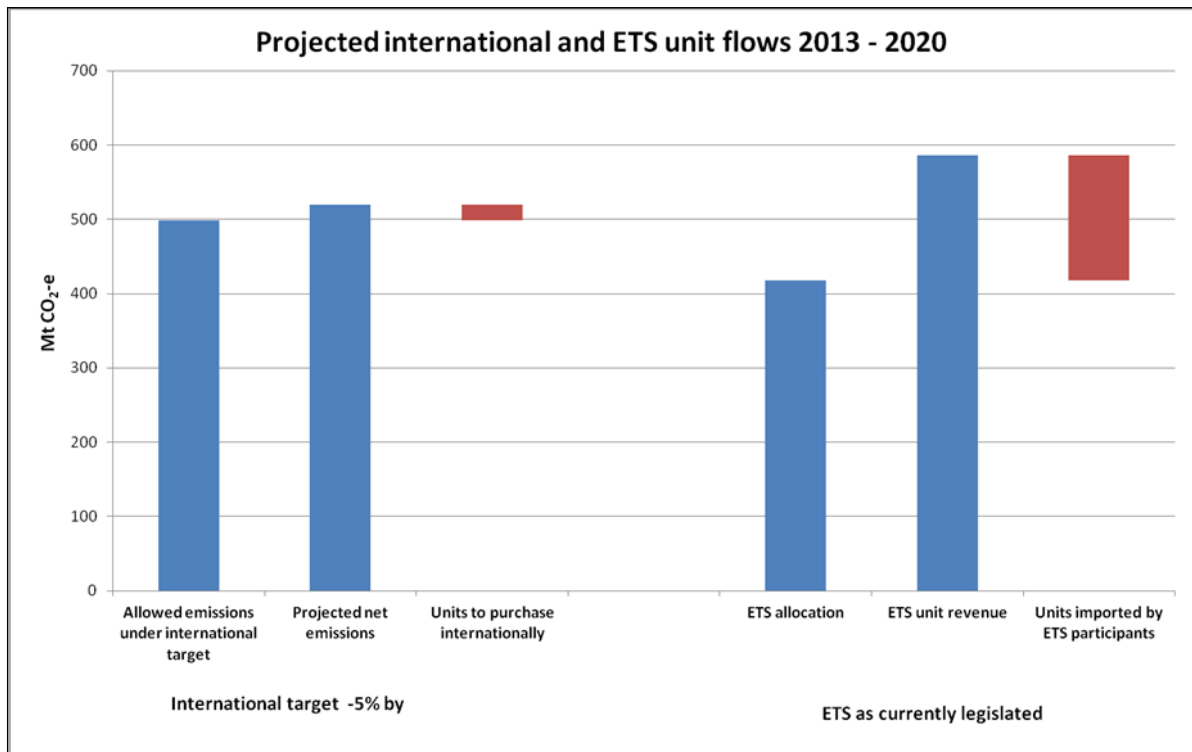
Figure 5: The lower-end 2020 pledges of Annex 1 Parties

Annex 1 Party	Lower-end 2020 pledge relative to 1990 levels	Equivalent pledge on BAU 2020
Australia	-4%	-19% to -23%
Canada	+3%	-20%
EU27	-20%	-5%
Japan	-25%	-20%
NZ w. hypothesis	-5%	-28%
NZ conditional range	-10% to -20%	-32% to -40%
Norway	-30%	-44%
USA	-4%	-5%

4. Comparability information included in the A3 is sourced from publicly available international data, including an international abatement cost calculator and world emissions database.
5. The 'Cost (% of GDP)' column reflects the cost of both international purchasing and domestic mitigation costs. Cross-country analyses require a nuanced comparison of the information presented to ensure a consistent approach. Such estimates are also very sensitive to assumptions about different economies and the ease with which countries can curb domestic emissions. For example, the cost calculator assumes that the United States could increase its GDP by performing domestic abatement in its energy sector.
6. Cost figures are therefore a useful indicator of the **relative** costs of each country meeting its target. Figures are not likely to be accurate indications of the absolute GDP impacts of targets on different countries.
7. Work to update and refine this information will be performed to inform further comparability advice in 2012.

Appendix 3: Background to ETS Amendments and Auctioning Extra NZUs

1. ETS amendments in 2012 are being driven by a need to increase the **flexibility** of the scheme. Government should be able to ensure that international purchasing by participants will not exceed what is required for New Zealand to meet its domestic target.
2. Forecasts indicate that, as currently legislated, the ETS will see participants purchase more international units than are necessary to meet a -5% 2020 target on 1990 levels. Calculated in the same way as the indicative costs of meeting a target on the A3, forecasted international purchasing corresponds to a domestic target of approximately -30% by 2020.



3. An amendment to the ETS currently being considered is to introduce auctioning into the scheme. This will allow Government to influence the total supply of domestic units.
4. The graph below describes how Government could **auction additional units** to ensure that the supply of NZUs is set at a level that would prevent unnecessary purchasing - the combination of units auctioned and units allocated will match our target level of emissions:

