



THE TREASURY
Kaitiaki Take Kōwhiri

Hon Bill English

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31 JUL 2009

Treasury Report: ENGLISH Emissions Reduction Target: Further Analysis

Date:	31 July 2009	Report No:	T2009/1811
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Action Sought

	Action Sought	Deadline
Minister of Finance (Hon Bill English)	Note the contents of this report	Before officials meet with you on Tuesday 4 August

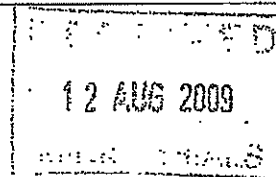
Contact for Telephone Discussion (if required)

Name	Position	Telephone	1st Contact
Andrew Blazey	Manager, Climate Change, Energy & Commercial Operations	[information deleted in order to protect the privacy of natural persons, including deceased people]	✓
[free and frank]	Analyst, Climate Change, Energy & Commercial Operations		

Minister of Finance's Office Actions (if required)

None.

Enclosure: No



Treasury:1323411v1

12 AUG 2009

Treasury Report: 2020 Emissions Reduction Target: Further Analysis

Executive Summary

New Zealand's 2020 emissions reduction target will possibly be the most important decision Ministers will make this year, because of the economic and fiscal costs it will end up imposing on the country.

As you know, Treasury is concerned about the economic impact of the targets being recommended by the Minister for Climate Change Issues. We have worked with the Minister and officials to minimise the points of disagreement, however alternative recommendations on the choice of targets remain in the Minister's paper.

This report outlines Treasury's concerns with the Minister's proposed target range, and provides you with alternative target options.

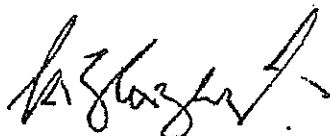
Treasury's major concern is that the Minister's proposal assumes a best-case scenario, and does not adequately recognise a number of risks. Specific concerns are that the Minister is setting a target range which:

- a. imposes higher costs on New Zealand compared with our trading partners;
- b. does not have an unconditional target, as a possible fall-back position;
- c. includes forestry credits, which are uncertain and have a future liability;
- d. puts too much emphasis on the current Kyoto Protocol target;
- e. does not adequately consider international financing commitments; and
- f. [confidentiality of advice]

We will brief you on this matter at your weekly meeting with the Secretary to the Treasury on Tuesday 4 August 2009.

Recommended Action

We recommend that you **note** the contents of this report



Andrew Blazey
Manager, Climate Change, Energy and Commercial Operations
for Secretary to the Treasury



Hon Bill English
Minister of Finance

Treasury Report: 2020 emissions reduction target: further analysis

Purpose of Report

1. This report outlines Treasury's concerns with the proposed 2020 target range that the Minister of Climate Change Issues will present to EGI on Wednesday 8 August, and provides you with three alternative ranges. Further analysis on these alternatives and comments on future forestry liabilities is presented in Annex 1.

Background

2. The 2020 target will not directly impose costs on New Zealand, however, it will form the basis from which legally binding commitments will be negotiated. The length of the commitment period is still to be negotiated, however departments have agreed to use an 8-year commitment period when assessing the costs of possible targets.

Risks with the Minister's Proposal

3. There are a number of risks associated with the proposal that the Minister for Climate Change Issues has submitted to Cabinet. Treasury's concerns are that the Minister is setting an ambitious target range which:
 - imposes higher costs on New Zealand compared with our trading partners;
 - does not have an unconditional target, as a possible fall-back position;
 - includes forestry credits, which are uncertain and have a future liability;
 - puts too much emphasis on the current Kyoto Protocol target;
 - does not adequately consider international financing commitments; and
 - [confidentiality of advice]

High relative costs for New Zealand

4. International studies consistently show that the direct costs that New Zealand would face in meeting a target of 15% above 1990 are similar to the average costs that other countries will face in meeting their proposed targets (see Annex 1). This is highlighted in table 2 and Appendix 1 of the Cabinet paper, which shows that even when a very ambitious target for other countries is assumed, New Zealand's target ought to be above 1990.

Treasury recommends: you draw attention to the independent analysis in the Cabinet paper on equal costs, and note that the Minister's proposal will cost an additional \$1 billion per annum, compared with Treasury's recommendation.

[information deleted in order to avoid prejudice to the security or defence of New Zealand or the international relations of the Government of New Zealand; to maintain the effective conduct of public affairs through the free and frank expression of opinions; and to enable the Crown to carry on negotiations without prejudice or disadvantage]

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6. **Treasury recommends** that you propose an unconditional target, as Australia and the EU have done, based on the current pledges announced by other Annex 1 countries. This would give the negotiators an anchor point, from where negotiations on binding commitments could start from.

Using credits generated by forestry

7. The Minister's proposed target takes into account the credits that will be generated by forests in 2020, which are difficult to predict as the international accounting rules are yet to be agreed and forecasting is highly uncertain. Using these credits means a more ambitious target can be announced, for a similar level of cost in 2020. However, the majority of these credits have an associated liability that must be paid back when the forest is harvested. Further, other countries such as the EU and Canada have proposed forestry-exclusive targets.
8. **Treasury recommends** you propose that the credits generated by forestry should not be used when setting a 2020 target. Further, we consider it appropriate that upon signing a new international agreement the Crown should recognise a contingent liability associated with these forestry credits (see Annex 1 for further information).

Emphasis on Kyoto Protocol target

9. New Zealand is forecast to meet its Kyoto target of 1990 levels during 2008-2012, primarily due to the 90 million credits generated by forests over this period. Without these credits New Zealand would be in a significant deficit.

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[information deleted in order to maintain the current constitutional conventions protecting the confidentiality of advice tendered by ministers and officials; and to enable the Crown to carry on negotiations without prejudice or disadvantage]

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Possible target ranges

15. Option 1 (first best) - an equal cost approach:

8% below 2005 emissions levels (equivalent to 15% above 1990), based on the current targets announced by other Annex 1 countries;
15% below 2005 levels (equivalent to 6% above 1990), conditional on Annex 1 countries increasing their effort to 25% below 1990 levels and non-Annex 1 countries reducing emissions by 15% below BAU; and
26% below 2005 levels (equivalent to 7% below 1990), conditional on Annex 1 countries increasing their effort to 40% below 1990 levels, and non-Annex 1 countries reducing emissions by 30% below BAU

Key features of proposal:

- i) internationally recognised approach
- ii) equal cost among Annex 1 countries
- iii) an unconditional target as an anchor
- iv) uses the 2005 as a base year

Potential criticisms:

- i) only uses a cost-based principle
- ii) will be difficult to sell in the negotiations

16. Option 2 (second best) - equal to the US and EU targets:

15% below 2005 emissions levels (equivalent to 6% above 1990), based on the current targets announced by the US and the EU, using a 2005 base year;
24% below 2005 levels (equivalent to 5% below 1990), based on the most ambitious target announced by the EU, and conditional on other Annex 1 countries agreeing to 30% below 1990 on average and non-Annex 1 countries reducing emissions by 15-30% below BAU

Key features of proposal:

- i) matches US and EU pledges for 2005
- ii) upper target based only on EU
- iii) is more straightforward to defend

Potential criticisms:

- i) doesn't recognise Australia's targets
- ii) has only two targets

17. Option 3 (third best) - equal per capita reductions:

14% below 2005 emissions levels (equivalent to 8% above 1990), based on the current targets announced by other Annex 1 countries;
25% below 2005 levels (equivalent to 6% below 1990), conditional on Annex 1 countries increasing their effort to 25% below 1990 levels and non-Annex 1 countries reducing emissions by 15% below BAU; and
39% below 2005 levels (equivalent to 24% below 1990), conditional on Annex 1 countries increasing their effort to 40% below 1990 levels, and non-Annex 1 countries reducing emissions by 30% below BAU

Key features of proposal:

- i) compares per capita reductions only
- ii) incorporates principle of equal rights
- iii) is promoted by Australia
- iv) uses Annex 1 countries as benchmarks

Potential weaknesses:

- i) doesn't reflect relative costs
- ii) population in 2020 is not certain

18. Option 2 and 3 provide you with some additional options to take into Cabinet. However, it is important to note that under each of these options the targets that are proposed would incur greater costs on New Zealand relative to other developed countries. Further analytical information on all three options is available in Annex 1.

Annex 1: Information on Target Options and Forestry Liabilities

Calculating the three target options

19. All of the options were calculated using independent data from the United Nations and International Institute of Applied System Analysis (IIASA). This data is publicly available and internationally peer-reviewed.

20. Option 1: (an equal cost approach): 8%, 15%, 26% below 2005

The equal cost approach determines targets for all Annex 1 countries¹ based on the internationally recognised principle that the direct costs of meeting the target (as a % of GDP) should be equal for all countries. The direct costs are calculated using 2020 data projections on the:

- relative wealth of countries;
- emissions under business as usual (BAU); and
- the opportunities that exist in each country to reduce emissions below BAU

The direct costs underestimate the real costs that an economy would face, as they assume all the opportunities that exist to reduce emissions are realised. Further, they do not take into account the wider macro-economic effects, such as the impact on exchange rates. However, they are a useful and simple guide to comparing the effort that each country would face in meeting their target. Table 1 presents a full list of proposed targets, and the associated direct costs. These costs do not include the opportunities that exists in the forestry sector to reduce emissions, because these are uncertain and mostly have associated future liabilities.

Country	Target	Direct cost (% of 2020 GDP)
Annex 1 in aggregate	15% below 1990 (current pledges*)	0.11
	25% below 1990	0.31
	40% below 1990	0.68
Australia	5% below 2000 (unconditional)	0.35
	15% below 2000	0.68
	25% below 2000	1.02
European Union	20% below 1990 (unconditional)	0.11
	30% below 1990	0.28
United States	14% below 2005	0.11
New Zealand	15% above 1990 (Treasury)	0.11
	12% below 1990 (Minister's)	0.81
	20% below 1990 (Minister's)	1.03

Table 1: the direct costs of different 2020 targets (using \$100/tonne)
* uses the unconditional targets proposed by the EC and Australia

¹ Annex 1 countries are defined in the UNFCCC, and consist of the developed countries who have commitments under the Kyoto Protocol (including the US)

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21. **Option 2: (equal to the US and EU targets): 15% and 24% below 2005**

This approach to setting targets is based on the principle that it would be fair for New Zealand to take on similar targets to the US and the EU. The US Administration has proposed a target of 15% below 2005 levels, and the European's unconditional target of 20% below 1990 also translates into 15% below 2005. New Zealand could justifiably announce an unconditional target of 15% below 2005, which correlates to a target of 6% above 1990. New Zealand would therefore be doing a comparable effort to both countries, even though it has a lower GDP/capita. More ambitious targets of up to 24% below 2005 levels could also be announced, as this is equal to the EU's most ambitious target of 30% below 1990

22. **Option 3: (equal per capita reductions to other countries): 14%, 25%, 39% below 2005**

The Minister for Climate Change Issues has proposed that one of the reasons New Zealand should propose an ambitious target is because of its high emissions per capita. To counter this argument, countries with high emissions per capita such as Australia have presented their targets as an implied per capita reduction from 1990. As New Zealand has had a high population growth since 1990, but relatively constant emissions per capita, expressing targets on a per capita basis means New Zealand's 2020 target would look more comparable to other countries. For example, a target of 15% above 1990 for New Zealand in absolute terms is actually equal to a 17% reduction in New Zealand's emissions per capita compared with their 1990 levels. The average per capita reduction announced by other Annex 1 countries is only 22% below 1990.

Estimating future liabilities

23. The Cabinet paper states that with a 12% below 1990 target, New Zealand would face an associated liability of around \$4 billion dollars over the period 2013-2020. This is equal to the projected deficit of units over the period (around 80 million) multiplied by a \$50/tonne price of carbon. Under the Treasury proposal, of a target of 8% below 2005, this liability would be reduced to about \$0.3 billion. This is because the country receives 75 million additional units under Treasury's proposal.

25. In addition to this liability, Treasury considers that it will be necessary to recognise a contingent liability on the Government's books, associated with the forestry credits that will be used to meet the countries international commitments between 2008-2020. The assumption that is made in calculating the current Kyoto position (9 million units) and the projected liability for the period 2013-2020 (80 million units) is that 180 million forestry credits will be used in the two commitments. The majority of these credits will need to be repaid when the forests are harvested. While some of the forests may never be harvested, the Crown should recognise the potential harvesting liabilities associated with these forests. At a price of \$100/unit, this contingent liability could be as much as \$18 billion for the period 2008-2020.