

Greenpeace NZ Submission on New Zealand's target to propose at Bonn 3

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Summary

Climate change is the greatest threat that humanity has faced. It is more than an environmental issue, it is one fundamental to our economy, society and survival. It demands a precautionary approach. We will not get a second chance.

The science is clear - a 40% reduction from 1990 levels by 2020 for developed countries is needed to give a reasonable chance of avoiding runaway dangerous climate change (likely to occur above a 2 degree Celsius global temperature increase). Recent research indicates that even a 40% cut would only give a 50:50 chance of preventing runaway climate change and that even with temperatures less than 2 degrees impacts will be significant.

There is a strong public mandate for the Government to adopt a strong target. To do less than New Zealand's fair share will damage our international reputation and our clean green image.

Accordingly, Greenpeace recommends that the Government adopt a target of 40% emission reductions on 1990 levels by 2020 and announce this target in time for the climate change negotiations in Bonn starting Monday 10 August 2009.

Recommendations:

Greenpeace asks that the Government:

Note that a responsibility target can be met through mitigation, removals and trading although Greenpeace prefers mitigation

Note that the current state of science indicates that an Annex 1 country aggregate target of 40%+ below 1990 levels by 2020 is needed to enable the world to have a reasonable chance of avoiding dangerous levels of climate change.

Note that New Zealand is a member of Annex 1

Note that an overwhelming majority of countries support a 2020 Annex 1 aggregate reduction target of 40% or more below 1990 levels

Note that on the basis of the United Nations Convention on Climate Change (to which New Zealand is a signatory), the grounds for determining a fair share of the aggregate target is responsibility and capability

Note that Germany and Scotland have announced national targets for 2020 to reduce emissions to at least 40% reductions on 1990 levels (42% in the case of Scotland)

Note that almost 84,000 New Zealanders have stated they support a 40% by 2020 target

Note that economic modelling used to oppose a 40% target:

- ignores almost every form of mitigation available
- assumes no significant changes in behaviour are possible to reduce emissions
- falsely assumes New Zealand is already an efficient emitter of greenhouse gases
- ignores the benefits of taking action on climate change
- ignores the threat to New Zealand's clean green brand

Note that there is a serious threat to New Zealand's clean green brand from New Zealand failing to do its 'fair share'

Note that New Zealand's fair share of a 40% Annex 1 aggregate has been calculated at 40.6% below 1990 levels by 2020

And accordingly:

Adopt a mid term responsibility target of 40% emission reductions on 1990 levels by 2020 and announce this target in time for the climate change negotiations in Bonn starting Monday 10 August 2007.

What is a responsibility 'target?'

The target under discussion in the climate change negotiations is New Zealand's initial offer for a responsibility target. There is some confusion over what a responsibility target is. A responsibility target is not a domestic emission reduction target. Instead it sets the amount of emissions that New Zealand would take responsibility for. There are three ways this can be done:

- New Zealand can take responsibility for emissions by reducing them through mitigation action (such as clean energy, smart farming or better public transport). This is Greenpeace's preferred method
- New Zealand can take responsibility for emissions by offsetting through removals (such as forest planting)
- New Zealand can take responsibility for emissions by trading with countries that have credits because they have reduced emissions or invested in cleaner production

This can be illustrated by New Zealand's responsibility target of reducing greenhouse gases to 1990 levels by 2012, which will be achieved because of tree planting, even though emissions are estimated to be 22% higher than 1990 levels.

As a consequence, assessments of the technical feasibility of achieving a target that don't take into account all three options are false (such as the "we'd need to halt all agricultural" argument), although the more that can be done through mitigation, the better.

The current state of climate science

The Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) in 2007 recommended an aggregate target range for 2020 annex 1 countries (NZ) in the range of -25 to -40% below 1990 levels.

The aggregate range of 25-40% by 2020 was what was considered to be science's best guess at the time for keeping the eventual rise in global average temperature below 2 degrees. 2 degrees is considered to be the 'guardrail' beyond which 'dangerous climate change' would be unavoidable as a tipping point might be crossed.

More recent scientific research indicates that even with temperatures less than 2 degrees impacts will be significant. Targets in the lower part of the range will not be sufficient.

The sense of urgency among climate scientists has grown consistently since the publication of the IPCC's (AR4) in late 2007. This is a consequence of increased knowledge of the climate system and its interactions with other global systems and of the impacts of those interactions on human well-being.

The most recent scientific updates (Synthesis Report University of Copenhagen, March 09 - 2500 scientists) states that:

"recent observations show that greenhouse gas emissions and many aspect of the climate are changing near the upper boundary of the IPCC projections...as in the case of sea level rise where current estimates indicate that ocean warming is about 50% greater than had been previously predicted by the IPCC";

"One of the most dramatic developments since the IPCC report is the rapid reduction the area of Arctic sea ice in summer" They conclude that "atmospheric CO2 concentrations are already at levels predicted to lead to global warming of between 2 - 2.4 degree." And say that "if society wants to stabilise greenhouse gas concentrations at this level, then global emissions should, theoretically, be reduced by 60 - 80 per cent immediately"

In short, climate scientists now believe that the climate is more sensitive to greenhouse gas forcing and that the response of other geochemical and ecological systems is stronger and faster than was thought in 2007

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As John Holdren, President Obama's Science Advisor stated on January 17th 2009

"the disruption and its impacts are now growing much more rapidly than almost anybody expected even a few years ago. The result of that, in my view, is that the world is already experiencing "dangerous anthropogenic interference in the climate system.""

New Zealand's '50 by 2050' target

New Zealand's domestic target of emission reductions of 50% below 1990 levels by 2050 is incompatible with its negotiating position of supporting a stabilization goal of 450ppm. In the Fourth Assessment Report of the IPCC, a 50% reduction in emissions below 1990 levels was identified as the *global average* for reductions. It should be noted that the average includes countries whose present per-capita emissions are a small fraction of New Zealand's on a per capita basis. New Zealand is the 5th worst greenhouse gas emitter in the developed world per person (according to the OECD).

On the basis of the Fourth Assessment Report developed countries need to be in the range of 80-90% emission reductions by 2050.

For New Zealand to place itself substantially below the range for developed countries implies a very pessimistic view of New Zealand's long term economic outlook. In fact, given that almost every country in the world is far below New Zealand's level of per-capita emissions, the disparity between New Zealand's objectives for the world as a whole and New Zealand's objectives for itself, New Zealand is sending a signal that it expects other parts of the world to pick up it's fair share of effort. Such a signal will eventually prove damaging to New Zealand's international reputation.

What is an appropriate aggregate target for developed country emission reductions?

The assessment of a wide range of countries and organizations calling for a 40%+ aggregate reduction in emissions from Annex 1 countries is based on the science of what is required to keep global temperature rise well below 2 degrees above preindustrial levels.

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The starting point for this assessment the Fourth Assessment Report of IPCC 4 which proposed a range of 25-40% below 1990 levels for developed countries. However this range creates a substantial risk of overshooting 2 degrees and because latest science indicates that climate change is happening faster, and with greater environmental impacts, than the IPCC models had assumed for the Fourth Assessment Report.

As a result, a majority of countries in the climate change negotiations are calling on developed countries like New Zealand to commit to an aggregate target of 40% or more. Any country proposing to do less than this needs to show what other country could do more.

Has any country adopted a 40% emissions reduction target?

Already Germany and Scotland have announced national targets for 2020 that are either at or above 40% reductions on 1990 levels.

Which countries are calling for a 40%+ emission reduction target?

The countries calling for an aggregate emission reductions target of at least 40% below 1990 levels for developed countries include:

China

Members of G77:

Afghanistan, Algeria, Angola, Antigua and Barbuda, Argentina, Bahamas, Bahrain, Bangladesh, Barbados, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Brunei Darussalam, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Chile, China, Colombia, Comoros, Congo, Costa Rica, Côte d'Ivoire, Cuba, Democratic People's Republic of Korea, Democratic Republic of the Congo, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Ethiopia, Fiji, Gabon, Gambia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Jordan, Kenya, Kuwait, Lao People's Democratic Republic, Lebanon, Lesotho, Liberia, Libyan Arab Jamahiriya, Madagascar, Malawi, Malaysia, Maldives, Mali, Marshall Islands, Mauritania, Mauritius, Micronesia (Federated States of), Mongolia, Morocco, Mozambique, Myanmar, Namibia, Nepal, Nicaragua, Niger, Nigeria, Oman, Pakistan, Palestine, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Qatar, Rwanda, Saint Kitts

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and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Saudi Arabia, Senegal, Seychelles, Sierra Leone, Singapore, Solomon Islands, Somalia, South Africa, Sri Lanka, Sudan, Suriname, Swaziland, Syrian Arab Republic, Thailand, Timor-Leste, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkmenistan, Uganda, United Arab Emirates, United Republic of Tanzania, Uruguay, Vanuatu, Venezuela (Bolivarian Republic of), Viet Nam, Yemen, Zambia, Zimbabwe

The countries calling for an aggregate emission reductions target of at least 45% below 1990 levels for developed countries include:

Members of AOSIS:

Antigua and Barbuda, Marshall Islands, Bahamas, Mauritius, Barbados, Nauru, Belize, Niue, Cape Verde, Palau, Comoros, Papua New Guinea, Cook Islands, Samoa, Cuba, Singapore, Cyprus, Seychelles, Dominica, Sao Tome and Principe, Dominican Republic, Solomon Islands, Fiji, St. Kitts and Nevis, Federated States of Micronesia, St. Lucia, Grenada, St. Vincent and the Grenadines, Guinea-Bissau, Suriname, Guyana, Tonga, Haiti, Trinidad and Tobago, Jamaica, Tuvalu, Kiribati, Vanuatu, Maldives

India is calling on developed countries to adopt an emission reductions target of at least 40% below 1990 levels by 2020.

What is a 'fair share' for New Zealand?

Article 3.1 of the United Nations Framework Convention on Climate Change states that effort should be shared based on respective responsibility and capability. Oxfam has calculated each developed country's fair share of a 40% aggregate target based on the combined principles of responsibility and capability. Their model places New Zealand at 40.6% below 1990 levels at 2020.

If New Zealand intends to do less than this, it will need to be able to explain to other countries, and indeed consumers, who it intends to take on New Zealand's obligation on New Zealand's behalf.

How many New Zealanders are supporting a 40% target?

As well as a range of organizations, almost 84,000 New Zealanders are supporting a 40% target as part of the Sign On campaign so far.

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But New Zealand has failed to meet targets in the past?

Greenpeace was surprised that the Government has presented this argument in favour of weak targets. The failure of previous governments to put in place adequate policies to achieve its climate change targets is no excuse for the new Government to also fail.

The Government should note that other targets (such as those associated with improving New Zealand's economic rankings) are adopted without any analysis of costs and benefits or the pathway to get there.

The Government should also note that New Zealand will likely meet its responsibility target under the Kyoto Protocol, albeit through forest plantings rather than emission reductions.

What is wrong with the economic modelling about a 40% target?

Both the New Zealand Government and the Greenhouse Policy Coalition (GPC) recently commissioned macroeconomic modelling to look at costs of meeting 2020 emission reduction responsibility targets.

The type of macroeconomic modelling used by both the New Zealand Government and the Greenhouse Policy Coalition is unable to estimate the cost of meeting 2020 emission reduction responsibility targets.

Reasons for this include:

- The models falsely assume that almost every form of currently viable mitigation action is unviable in New Zealand. This is false because there are a wide range of mitigation actions available to New Zealand and New Zealand lags behind most developed countries and some developing countries in actual and proposed mitigation action.
- The models falsely assume no step change in behaviour as a result of tackling climate change. This is false because there is clearly a public mood for change and the purpose of climate change policy is to achieve step changes in behaviour
- Inability of the models to factor in the co-benefits of taking action to reduce emissions. As a result, the models are unable to demonstrate the net cost or benefit of taking action

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- Inability of the models to factor in the cost of failing to take adequate action, such as a significant loss of demand for agricultural and tourism products as a result of damage to New Zealand's brand
- The models falsely assume that New Zealand is already highly efficient in its emissions, whereas it is clear - from such examples as inadequate public transport investment, subsidies for fossil fuel extraction, lack of uptake of profitable agricultural mitigation and energy inefficient homes and businesses - that New Zealand lags behind many developed countries in the efficiency of its greenhouse gas emissions

These assumptions significantly distort the costs of taking action by ignoring the economic benefits of taking action while forcing the price of carbon well above a price that could be expected in the real world (if there is no allowance made for technology or changes in behaviour the model will require a much higher price on emissions before emissions are reduced).

Note that the modelers disclose these limitations in their work.

For example in the report to the Ministry for the Environment:

Page ii

"While our modeling does not include the response of forestry to prices on carbon, increased sequestration could offset AAU allocations."

Page iii

"Eliminating this competitive disadvantage by consistent action across the rest of the world reduces the impact on New Zealand by about a third at a low carbon price, and by about a half at a higher carbon price."

Page 2

"Assumptions.... No change in technology or forestry in response to carbon prices."

"Unless otherwise stated, we compare all scenarios with a Business-as-usual (BAU) baseline. This assumes there are no

climate change policies or international agreements, and thus no price on carbon or AAUs.”

Page 11

“We noted in the scenario development that our models do not capture the response of forestry to a price on carbon.”

On page 2 of the Infometrics report for GPC:

“Beyond \$500/tonne, and perhaps at lower prices, the model’s parameter and elasticity values are unlikely to be valid as they were not estimated over a period with such large changes in relative prices. In practical terms large changes in relative prices will lead to various responses that the model does not readily capture:

- *Industries closing completely, rather than substantially reducing output. For example can an aluminium smelter or a steel mill operate profitably at say one third capacity?*
- *Adoption of new low carbon technologies on a wide scale – eg plug in electric vehicles, the use of biofuels from forestry, and the use of less methane producing grass types in farming.*
- *Much more forest planting.*
- *Step changes in consumer behaviour such as with regard to spending on home insulation or travel to work.”*

The McKinsey mitigation cost test

A simple way to test the realism of the modelling that the Government is relying on to help make a decision on an appropriate target is to compare the modeled price on carbon required to achieve a 40% reduction on 1990 levels with the McKinsey mitigation cost curve.

This curve shows the cost of reducing greenhouse gases with various technologies. They all show substantially lower costs than the cost of carbon implied by models that the Government intends to rely on.

For example at costs below \$0:

- Lighting – switching incandescent to LED (residential)

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- Residential appliances and electronics
- Cropland nutrient management
- Tillage and residue management
- Insulation retrofit (commercial and residential)
- Hybrid cars
- Waste recycling
- Small hydro

At the bottom end of the cost curve below 11.50EUROs per tCO₂e (\$25NZD):

- Reduced pastureland conversion
- Grassland management
- Geothermal
- Building efficiency (new build)
- Organic soil restoration
- Degraded land restoration
- Pastureland afforestation

And below 34 EURO per tCO₂e (\$73.50NZD):

- Degraded forest reforestation
- Low penetration wind
- Plug in hybrid cars
- Solar PV and CSP
- High penetration wind
- Reduced intensive agriculture conversion

These compare against the costs stated in the work commissioned by the Greenhouse Policy Coalition (\$100, \$200 and \$500/tonne) and the costs stated in the work commissioned for the Ministry for the Environment (\$25, \$100 and \$200/tonne). That gap between the Government and GPC's models and actual mitigation costs is indicative of the extent to which the models distort the costs.

Modelling assumes the Government's climate change programme will fail

Key assumptions in both pieces of modelling work, especially those that assume an absence of viable mitigation options or step changes in behaviour between now and 2020 are, in effect, assumptions that the Government's climate change programme between now and 2020 will be a failure.

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Because a successful climate change programme will result in the uptake of viable mitigation technology and step changes in behaviour, a successful climate change programme will have considerably lower costs than those outlined in the modelling that is available to date.

New Zealand's clean green brand

Failure to take adequate action on climate change will damage New Zealand's clean green brand. Market research carried out by Greenpeace New Zealand indicates that failure to take strong action on climate change could be very damaging to New Zealand's brand in the United Kingdom.

Middle class consumers in developing countries such as China are also showing increasing concern about climate change and surveys show that this concern is starting to influence behaviour. Given how out of step New Zealand is with the demands of almost every developing country in the climate change negotiations, developing country consumer concerns pose a significant source of economic risk to New Zealand.

ENDS