

Setting New Zealand's post-2020 climate change target

Submission form

The Government is seeking views on New Zealand's post-2020 climate change contribution under the United Nations Framework Convention on Climate Change (UNFCCC).

You can have your say by making a submission using this form or using the online tool available at www.mfe.govt.nz/more/consultations.

For more information about this consultation:

- Read our [Consultation on New Zealand's post-2020 international climate change contribution web page](#)
- Read our discussion document: [New Zealand's Climate Change Target: Our contribution to the new international climate change agreement](#)

Submissions close at 5.00pm on Wednesday 3 June 2015.

Publishing and releasing submissions

All or part of any written submission (including names of submitters), may be published on the Ministry for the Environment's website www.mfe.govt.nz. Unless you clearly specify otherwise in your submission, we will consider that you have consented to website posting of both your submission and your name.

Contents of submissions may be released to the public under the Official Information Act 1982 following requests to the Ministry for the Environment (including via email). Please advise if you have any objection to the release of any information contained in a submission and, in particular, which part(s) you consider should be withheld, together with the reason(s) for withholding the information. We will take into account all such objections when responding to requests for copies of, and information on, submissions to this consultation under the Official Information Act.

The Privacy Act 1993 applies certain principles about the collection, use and disclosure of information about individuals by various agencies, including the Ministry for the Environment. It governs access by individuals to information about themselves held by agencies. Any personal information you supply to the Ministry in the course of making a submission will be used by the Ministry only in relation to the matters covered by this consultation. Please clearly indicate in your submission if you do not wish your name to be included in any summary of submissions that the Ministry may publish.

Questions to guide your feedback

Your submission may address any aspect of the discussion document, but we would appreciate you paying particular attention to the questions posed throughout and listed in this form. You may answer some or all of the questions. To ensure your point of view is clearly understood, you should explain your rationale and provide supporting evidence where appropriate.

Contact information

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Organisation (if applicable)	
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I have worked in atmospheric science and climate research for around 30 years and was involved in the writing of the Working Group 1 report of both of the two last IPCC Assessments (4th and 5th). I am well-versed in the physics of the climate system and I believe I understand the gravity of the situation we face as a global community. I am writing this submission as an individual citizen. The views expressed here are my own and are not necessarily those of my employer nor of any professional group to which I belong.

Objectives for the contribution

1a. We have set the following three objectives for our contribution:

- it is seen as a fair and ambitious contribution – both by international and domestic audiences
- costs and impacts on society are managed appropriately
- it must guide New Zealand over the long term in the global transition to a low emissions world.

Do you agree with these objectives for our contribution?

- Yes, but the costs and impacts must be compared against the costs and impacts of insufficient action.
- No

1b. What is most important to you?

Avoiding dangerous interference with the climate system is my paramount concern. The global community must make every effort possible to limit climate change, preferably to less than 2°C of warming, although even this is no guarantee of safety.

The most important thing for me, of the above list of three considerations, is the first: *it is seen as a fair and ambitious contribution – both by international and domestic audiences*. The key word here is ‘ambitious’. Since the beginnings of the UNFCCC and the supporting IPCC process well over 20 years ago, there has been a marked lack of ambition from the international community, New Zealand included. Emissions have risen rather than fallen and no efforts have been made to date to rein in climate change. We have squandered the last 25 years and it is well past time to make a serious effort.

What would be a fair contribution for New Zealand?

2. What do you think the nature of New Zealand’s emissions and economy means for the level of target that we set?

New Zealand is a relatively rich ‘Annex I’ nation (as defined under the UNFCCC) and our emissions per head of population are in the top 10 globally. As noted on the Ministry’s climate change web site www.climatechange.govt.nz/reducing-our-emissions/our-responsibility.html -

We are a small country but our carbon footprint per capita is still significant. Our greenhouse gas emissions are growing rapidly. In 2013 we produced 21 per cent more than in 1990. If we look at our greenhouse gas emissions on a per capita basis, a person in New Zealand accounts for nearly twice the amount of emissions than a person in the UK and more than seven times the amount of a person in India.

On that basis I feel we have a responsibility to be one of the leaders in the global mitigation effort. Like all developed nations, the New Zealand economy has profited from fossil fuel use for many decades, in a way that many developing nations have yet to experience. We should therefore aim high in terms of our target for emissions reductions. The UNFCCC proposes that countries such as New Zealand should be aiming for 80-95% reductions in net emissions by 2050.

New Zealand should therefore aim for a 40% reduction in net emissions (compared to 1990) by 2030.

Such a target is in line with many of our trading partners, and in line with the science of climate change.

Our unusual position of having around half our total emissions coming from agriculture, and a high proportion of electricity already generated renewably, is no excuse for a low target. In recent decades, emissions growth has been largest from the transport and energy sectors and there are many things we can do as a nation to reduce those emissions significantly. For example: vigorous encouragement of the use of electric vehicles and increased support for renewably-powered public transport; encouraging distributed generation of electricity through support for domestic solar PV and wind generation, combined with further development of a 'smart grid' for electricity. Such moves would be sure to reduce emissions from the transport and energy sectors and could take us to 100% renewable electricity. Rapid afforestation would buy us some time to develop the above ideas, and other new technologies, such as in ruminant animal emissions reductions.

How will our contribution affect New Zealanders?

3. What level of cost is appropriate for New Zealand to reduce its greenhouse gas emissions? For example, what do you think would be a reasonable impact on annual household consumption?

This is a very difficult question to answer as posed. The table given on page 14 of the discussion document seems a very simplistic and one-dimensional approach to the question of costs. Few of the assumptions that went into these estimates are given. There must be very large uncertainties associated with the estimated cost per household. Moreover, New Zealand already has a "50 by 50" (i.e. a 50% reduction in emissions by 2050) target, and a 5% reduction in net emissions (compared to 1990) by 2020. The costs given on page 14 must be considered in relation to existing targets, which the government is presumably already committed to spending money on. Also, the impacts listed in the table on page 14 may be re-cast as benefits deferred. Recently-released work by Infometrics suggests that the difference between no target and a 40% reduction by 2030 is a change in GDP growth from 2.2% per annum to 2.1% per annum. Hence, we need only wait a short time to be as well off with large emissions reductions as we would have been with none. Finally, we need to consider the co-benefits of action on emissions, in terms of new technologies and business opportunities.

The key consideration is what's at stake. The risks we face from unmitigated climate change are hard to overstate. As discussed in the recent World Economic Forum *Global Risks 2015* report, climate change can combine with other pressures on global stability to trigger major breakdowns in social order. The costs could be essentially incalculable, dwarfing any of the impacts featured in the discussion document.

Hence we must do everything we practicably can to limit climate change. The short-term cost should not be the prime consideration.

4. Of the opportunities for New Zealand to reduce its emissions (as outlined on page 15 of the discussion document), which do you think are the most likely to occur, or be most important for New Zealand?

All of these are important, and all are likely to occur. Of those listed, the last one is likely to be most important. If we don't keep up with the international community, we risk being ostracised in terms of global trade and diplomacy. Moreover, the energy and technological transition we are entering is akin to the industrial revolution of the 18th century in terms of the breadth of change. Those at the forefront of the industrial revolution in the 1700s reaped the economic rewards. So it is today – those at the forefront of emissions reductions and the transition to a zero-carbon economy will reap the economic rewards. Those who trail will be the economic also-rans.

Summary

5. How should New Zealand take into account the future uncertainties of technologies and costs when setting its target?

New Zealand should take future uncertainties very seriously. The risks we face from climate change are enormous, and have their own uncertainties. Many aspects of the climate system are already changing faster than anticipated, and records of past climates tell us that changes can occur rapidly, once triggered. As a country we should adopt a precautionary approach and do everything we can to reduce our emissions. The co-benefits from new technologies and our international leadership on this issue are likely to outweigh present-day perceived costs.

Other comments

6. Is there any further information you wish the Government to consider? Please explain.

The actions of humanity to date will be visible in the geological record a million years from now. Just as the earth's last period of elevated atmospheric carbon dioxide concentrations (around 400ppm) is written in the chemistry of the rocks laid down three million years ago, so will today's similar concentrations be preserved into the future, written into the crust of the planet. In the past century or two, humanity has released a vast store of carbon laid down over tens of millions of years. The climate system responds to such changes in ways that persist for millennia. The last time CO₂ concentrations were as high as they are now, sea levels were around 10-20 metres higher than they are today (IPCC AR5). Given time, sea levels will again rise this far, unless CO₂ concentrations are significantly reduced. That change, combined with associated profound changes in rainfall and temperature patterns, would put billions of lives at risk from displacement, hunger, thirst and conflict.

The discussion of climate change and emissions reductions targets must be much broader than the narrow economic analysis presented in the Ministry's Discussion Document. There are moral and

ethical dimensions that totally override our considerations of monetary loss and gain. What cost the livelihood, culture and even lives of those set to lose their homelands through rising seas and inhospitable climate? The gamble we are taking with humanity through this unplanned geophysical experiment has truly stupendous risks associated with it. I do not discern any real sense of the urgency and danger of this situation in the international negotiations so far. New Zealand has the opportunity to really change the conversation by taking positive action now.

Limiting global warming to 2°C is a principle that most nations have signed up to. Yet even this does not guarantee our collective future as it would still entail significant changes to the global climate system that humankind has grown used to over the last 10,000 years. According to the latest IPCC report, to cap global warming at 2°C, we (the global community) would need to reduce global emissions to zero shortly after 2050 and then to make them negative through the rest of the 21st century, via carbon capture and storage technology – which has yet to be developed. The Discussion Document identifies this clearly in Figure 1 on page 6. According to that figure, we (as a global community) need to go to *zero* CO₂ emissions within 20 years at most, if we are to have a two-thirds chance of limiting warming to 2°C. The reality of that is inconsistent with our present path of 5% reductions by 2020 and with “50 by 50”. New Zealand has the innovation potential and the renewable resources to lead the way on this greatest issue for humankind.

If not now, when? If not us, who?

When your submission is complete

Email your completed submission to climate.contribution@mfe.govt.nz or post to Climate Change Contribution Consultation, Ministry for the Environment, PO Box 10362, Wellington 6143.

Submissions close at 5.00pm on Wednesday 3 June 2015.