

# 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](http://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](http://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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### 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 -with some qualification (see 1.)
- No

**1b. What is most important to you?**

Objective 1: The qualification is that the word "fair" is a very subjective term. If it is intended to apply not only to New Zealand but also to: (a) developing countries who right now are experiencing the effects of climate change despite not being the cause, and (b), future generations-our grandchildren -who will experience the worst impacts of climate change later this century unless we act urgently to reduce emissions of greenhouse gases-then "yes" I can agree on this objective.

Objective 2: "costs" relate both to the measures we take now to change to a low carbon economy, and to costs resulting from cleaning up after ever more extreme weather events. In the first case, these costs can be minimised

by taking advantage of the new businesses and job opportunities that flow from moving away from fossil fuel use to cleaner technologies (e.g., homes, transport). We know from past experiences of severe storm damage, droughts etc. that the costs to our economy can be very high, diverting money away from the need to build e.g., new hospitals schools etc. A recent example is the severe storm that hit Wellington region on May 14-15, and the tornado that caused extensive damage in Tauranga. Although the costs from these events are not yet available, a recent study in Australia shows there that heat stress is responsible for about a 0.4% loss in their GDP, and is now responsible for about as much lost productivity as general illness. This study acts as a warning to other countries including New Zealand of the economic costs of inaction on climate change. I am not aware of any similar studies in New Zealand, but past impacts of extreme weather events are in the public record.

Quantifying these two aspects of costs is not only possible now, but should be accorded a high national priority, in order to better inform future-focused policy.

Objective 3: this objective should not only guide New Zealand over the long term, but must also be informed by the most recent scientific evidence (e.g., the IPCC 5<sup>th</sup> assessment reports, 2014). Evidence from this latest IPCC report clearly shows we must act urgently to cut greenhouse gas emissions, including leaving known and future- discovered deposits of fossil fuels (particularly coal, oil) “in the ground”. Also, the relative effects on warming the atmosphere of the suite of greenhouse gases we emit should guide the contribution we should make for reducing our emissions (see under 2).

## 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?**

The nature of New Zealand’s greenhouse gas emissions indicates a roughly even split between CO<sub>2</sub> emissions from industry, transport and energy, and methane and nitrous oxide emissions from agriculture. In terms of their effects on the atmosphere, CO<sub>2</sub> and nitrous oxide are the most damaging because of their long lifetimes in the atmosphere.

Agriculture presents real challenges for reducing emissions unless we move away from our dependence on ruminant animals for food production or find ways to limit their emissions; the latter is proving challenging although some promising developments are emerging for both animals and their waste emissions.

On the other hand, there are real opportunities available now to reduce our CO<sub>2</sub> emissions from transport and energy. In the past we have relied on tree planting to offset our fossil fuel emissions, and to buy time until new technologies become available. New technologies are now available but our CO<sub>2</sub> emissions have continued to rise. The latest NZ greenhouse gas inventory shows we have been removing more trees than we are planting. Furthermore, much of our planted forest estate is approaching harvest in only a few years. These factors undermine the feasibility of using planted forests in our currently ineffectual ETS. Also, internationally there may still be strong opposition to the use of such offset policies, particularly in Europe.

However, if our harvested forests are replanted, and new land planted in trees, it may be possible to partly offset our fossil CO<sub>2</sub> emissions if this is allowable under new rules to be worked out in Paris in December.

Our most rapidly rising emissions of the CO<sub>2</sub> are from transport (MfE, 2014) and, as many countries in Europe are finding, there are effective ways already available for curbing these emissions (e.g., electric and hybrid vehicles). These options include in the short term redirecting resources from building new roads which only exacerbate congestion, to upgrading and building new public transport and cycling infrastructure in our urban centres. Some countries like Denmark have clearly shown how successful these policies can be, not only in reducing CO<sub>2</sub> emissions but also in reducing health costs (e.g., from cycling). Our electricity generation from renewable energy is now about 80%, so that achieving 100% is within our reach (e.g., solar roads). Given this and the continuing rapid adoption of solar generation by home owners, we should already be building infrastructure for electric vehicles that are now becoming available (e.g., a relative of mine currently commutes into Auckland city each day in an electric vehicle at a fraction of the cost of running a petrol/diesel car, with no emissions and an enormous saving to the family budget!). The costs of renewable energy continue to fall and have much lower volatility than the current highly volatile oil prices.

In summary, we should (a) in the short term focus on our most rapidly rising emissions (transport, energy). This will deliver benefits not only in reducing our emissions to help meet tougher emissions reduction targets (a likely outcome from the Paris meeting in December), but also will create jobs in new businesses. Studies conducted in Europe have shown that there are real economic advantages of investing now rather than delaying the inevitable need to make these changes until later; (b) in the medium to longer term, to be consistent with the level of global emissions reduction necessary to limit human-induced global warming to no more than 2°C by 2100, our emissions reduction target will need to be **30-40%** below 2000 levels by 2030 to be consistent with efforts of other countries to achieve zero carbon emissions by 2050.

## 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?**

The economic cost of acting now to achieve the emissions' reductions indicated above could be as low as 0.1-0.2% of our GDP. This is based on recent Australian data (Nature Climate Change doi: org/4bf), as no similar analysis is to my knowledge available for New Zealand. This analysis is not only urgently needed but should have been made available to all New Zealanders prior to undertaking this public consultation on our post-2020 climate change target.

Assessing what is a reasonable impact on households is very subjective. It will depend on how the costs would be shared between government and individual householders, and on the economic capacity of individual households. Such an assessment will also need to balance this impact against the costs incurred directly or through insurance costs of increasingly extreme weather events. The recent extreme weather event that hit the Wellington region recently could provide a useful case study. Another recent example where costs have been assessed is from Brisbane where extremely heavy rain caused widespread damage, just the cost of fuel for the helicopters used for rescue work was reported to cost A\$1m! (Also see rising costs of extreme weather events globally from the insurance industry e.g., [www.munichre.com](http://www.munichre.com)). According to a recent IMF report, global subsidies for fossil fuels will reach US\$5.3 trillion this year. This is apparently equivalent to global expenditure on public health, and will lead to increased pollution, climate change and costs from worsening impacts. The good news is that a growing number of institutions worldwide (currently about 200 with combined assets of over US\$50 billion) have committed to divest from fossil fuels.

**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?**

Increasing fuel and energy use efficiency can definitely reduce household costs and need to be a high priority. For example, I ride a bike to work at least 1-3 days each week, walk and use buses on the other days, and have a hybrid car for local use. This gives us a saving of well over \$1000 each year, and the solar panels on our home roof save another \$600 each year. Costs of these options, including electric vehicles, continue to fall making them more affordable to a large sector of our society. For those less able to afford them, a similar scheme to that used to insulate damp homes should be introduced to encourage their uptake, assisted by government (both national and regional) provision of efficient public transport and safe cycle ways to help reduce emissions and traffic congestion. These measures will also help to educate our community about the opportunities as well as the risks we face from climate change. They will also help to make our homes and businesses more resilient to the volatility of oil prices, and along with other measures (e.g., tree planting as offsets of our fossil fuel use, timber production and for erosion control, reducing our reliance on dairying) align us more closely to the global transition to a low, and by 2050, zero carbon economy. These positive measures would however be at odds with government's current (Dom Post May 17) attempts to entice oil companies to search for new deposits in our EEZ; these activities should cease in favour of the 21<sup>st</sup> century solutions already discussed.

## Summary

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

First, a detailed analysis of **all** the costs (i.e., including likely climate change impacts) and benefits of moving to a low carbon economy is urgently needed. Once completed (by the Royal Society of New Zealand?), the information should be communicated to all New Zealanders so everyone is better informed of the risks and opportunities of acting now. I have already indicated that this should have been completed before seeking these comments on New Zealand's post-2020 climate change target.

Second, most of the technologies to tackle our burgeoning CO<sub>2</sub> emissions are already available (e.g., solar technologies (including solar roads being tested in the Netherlands and the US), electric vehicles including new tyres that can charge batteries (we have yet to invest in the charging infrastructure which is needed, and is in widespread use in some other countries). All bioenergy options need to be carefully assessed to avoid appearing to achieving the immediate goal of reducing our dependence on fossil fuels while creating another set of problems (e.g., Growing crops for biofuels is not a viable option for reducing CO<sub>2</sub> emissions as this usually results in increased nitrous oxide emissions from fertiliser use). Third, the costs can be met in part from reducing our dependence on fossil fuels and the huge subsidies they still attract(see under 3). As already discussed, building resilience into our infrastructure (e.g., more public transport to lessen car use in urban centres, improved (safer) cycle ways, electric vehicles as discussed above, tree planting for erosion control) will also create new jobs that will defray some of the regional and national costs. As mentioned already, without a comprehensive analysis of the full range of options and costs it is almost impossible to provide a useful response.

## Other comments

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

It seems unlikely that reducing our agricultural greenhouse gas emissions will be possible in the short to medium term without reducing our dependence on dairying. This contrasts with the many options currently available to us for reducing our burgeoning CO<sub>2</sub> emissions from transport and energy use, including new technologies that continue to emerge. It is clear that this is the route we should take in the short-medium term to get on track to a low carbon economy-but it needs national leadership that has been seriously lacking to date. This leadership will be needed if a new global agreement is reached in December to cut greenhouse gas emissions and limit the rise in global average temperatures to 2°C above pre-industrial levels. Prospects for success look even more likely following the recent G7 meeting in Hamburg where the ministers reached an "unprecedented consensus" on supporting a climate deal at COP21 in Paris.

A comprehensive analysis of the full range of options and costs involved for New Zealand to move to a low carbon economy is urgently needed, to inform policy and the New Zealand public so that we can all work together to move to a low carbon economy.

## When your submission is complete

Email your completed submission to [climate.contribution@mfe.govt.nz](mailto: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.**