

# Consultation on setting New Zealand's post-2020 climate change target



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## Contact information

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## Objectives for the contribution

Do you agree with these objectives for our contribution? No

1b. What is most important to you?

There is a risk that climate change may lead to a civilisation degradation or even collapse, the extreme being the extinction of our human species. Observers in the Arctic are expressing concern at the increase in Methane emissions and the possibility of a feedback process leading to a global rise in temperature of 10C or more.

The Yamal peninsula blow holes or the Laptev sea eruptions reported by various press.

<http://www.dailymail.co.uk/sciencetech/article-2073686/Fountains-methane-1-000m-erupt-Arctic-ice--greenhouse-gas-30-times-potent-carbon-dioxide.html>

There is a concern that arctic methane may not degrade as fast as elsewhere.

Recently there have been measurements of methane in the atmosphere of approximately three times the historical concentration at Barrow, Alaska

<http://arctic-news.blogspot.co.nz/>

The recent destabilisation of glaciers that are not accounted by the IPCC sea level rises.

<http://www.independent.co.uk/environment/climate-change/glaciers-in-part-of-antarctic-thought-to-be-stable-suddenly-melting-at-a-massive-rate-say-scientists-10268053.html>

Whilst the modelers appear to believe that the methane problem is not serious, the observers on the ground are concerned. Certainly the IPCC has underestimated the speed of change, for example the arctic ice is disappearing much faster than the earlier estimates.

Currently the ice is tracking well below previous lows.

<http://nsidc.org/arcticseaicenews/>

There are two components to the risk, first is that the climate may warm up rapidly, much more and much quicker than is envisaged by the IPCC or in the discussion document.

Secondly there is a longterm risk that the processes we have started may severely impact future generations beyond 2100. There is also an assumption that a rise of 2C is safe, James Hansen who drew the worlds attention to climate change in 1980 believes the safe threshold is 1C not 2C. The 2C was a political not an evidence based policy.

Further that the 2C is based on short term climate sensitivity, long-term sensitivity is double.

<http://pubs.giss.nasa.gov/abs/ha00410c.html>

More worrying <http://www.apollo-gaia.org/Climate%20Sensitivity.pdf>

There is an implicit assumption that the IPCC view is right, when in fact that the reports are as much political as scientific.

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

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set?

Given the possible risk involved I believe NZ should provide moral leadership. Essentially many Governments round the world want others to reduce the risk, but wish to preclude any economic penalty to their own economies. A multiplayer form of Prisoners Dilemma.

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 would be a reasonable reduction in annual household consumption?

We currently make an investment that I do not have quantified. If we additionally added say 50% of any increase in income, and also increased the research expenditure to say 3% of government spending over say 5 years.

However a diversion of current spending say away from motorways and distant to town center real estate development both of which contribute to gridlock may be sufficient. If we stopped the stupid stuff it may well be enough but without doing OIA requests and spending considerable time say, in line with the implicit assumptions in the Landcare and Discussion Document, 1% or 2% would be a guess and not evidence based.

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?

We have an expensive transport system, that produces an appreciable amount of CO<sub>2</sub>. We could reduce the fossil fuel component for urban city transport, both for passenger and goods delivery by electrification. Other cities such as Vancouver utilise trolley buses with off grid capacity, hydrogen buses, and driverless subway trains, the Skytrain. Siemens manufactures electric trucks that provide intercity freight. Trains, that could be automated and much faster than the current trains use between 1/4 and 1/10 the energy of road transport. We should electrify and automate our rail system. Further the cost of construction and maintenance of railway lines are much lower than the costs of roading. As we implement this, over say 20 years, we should double track, and possibly alter the gauge of our railways. Canal based transport for heavy goods is incredibly energy efficient, whilst sea transport could be partially sail powered. Rural and small towns could be covered using biofuels.

A first step would be to make sure that rail does not receive a lower degree of subsidy than road transport. The last re least figures were 50% rail to 70% road.

The elimination of fossil fuels should benefit our balance of payments by about \$4billion.

Secondly in Agriculture we do not have an international agreement on the measurement of carbon incorporation, hence carbon credits, to do with soil. Whilst grass fed beef and milk production has a premium in the USA (due to nutrients like Omega3 and other factors) we are currently importing feedstuff (although nowhere near Netherlands levels). Another area needing research is that of perennial grain production saving considerable carbon loss due to cultivation. There is considerable scope for soil carbon maintenance by modifying current practice, if not going to total organic production.

Forestry could be promoted by allowing the aggregation of shelter belts and small woodlots into the credit system, currently set at 1H minimum. Also making sure that the credits have sufficient value to encourage plantation. The long acre could be planted both in Rural areas and Urban. Center Pivot Irrigation development is desirable for efficient water use but necessitates the removal of all trees above a few metres in the path of the machine. Corner and odd areas not in the pathway could be planted with trees, also boundaries. The added joined up policy is that there would be reduced leaching from the paddocks.

We could reduce immigration to try to stabilise energy use.

Summary

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

Given the time lags in adopting new technologies (I seem to remember Vaclav Smil has described this) , whilst say roadbased induction may become commercial existing trolleybus technology works and would be quick impliment and is certain.

Whilst greater hydro development may be necessary, along with greater windpower the rise of distributed solar electricity and realtime billing may enable at least some component of our transport system to operte at reduced cost when the sun shines or wind blows.

However we should take an option and invest in other countries research in say Thorium Reactors.

We should also invest in research into say steam technology. Stem cars used to be popular in the 1930's in the USA, multifuel and fast.

Other comments

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

Currently pedestrian supermarket shoppers subsidise motorised shoppers as the cost of provision of parking is built into the cost of the goods sold. City design, the provision of bicycle and walkways can both make the population heathier and also lower the consumption of fossil fuels. We need to impliment a 'low input' energy policy in all walks of life from the design of buildings , urban and rural planning, insulation, low input agriculture etc looking at total product lifetime.

We actually need 'joined up policy based on evidence'. We need policy analysts and Managers who are STEM (Science, Technology, Engineering and Mathematic) qualified, contrary to the advice to managers, The Policy Advice Initiative: Opportunities for Management, <https://www.ssc.govt.nz/node/4720> on the State Services website with its list of graduates none of whom could reasonably be expected to understand modern probability theory or model a non-linear or complex situation.

For instance this website form would be much more useful if one could save ones work as one produces and refines the submission!

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What would be a fair contribution for New Zealand?

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The policies that are publicly discussed for controlling climate change appear to revolve around taxation or marketable climate credits.  
The credits seem to apply to industry, both of these policies seem aimed at consumption, that is demand. An alternative is a policy aimed at supply with respect to the production of fossil fuels.  
In terms of Barrels of Oil Equivalent Carbon (BOEC), as opposed to BOE an energy measure, what if we took a quota approach (like Fisheries in N. Most countries there is data on Oil, Gas and Coal production. What if we took the average production over the last say 5 years to establish a baseline, take the lower of current production and the baseline, then agreed to cut production by say 6 percent (this is the estimated crude oil depletion rate). This would cut the fossil fuel supply by half every 12 years. The quota would be transferable within a country and saleable.  
New production in the pipeline under development would be allowed either by purchase of quota or by increasing the reduction rate overall to say 8% at the design stage.  
Obviously more details are required but the key is cutting supply of fossil fuels. For example there may need to be an increase in the rate of quota reduction to take account of feedback production in the Arctic. (See "Arctic News

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Blog', there are is a growing risk of major disruption)

The expected effects of reducing supply would include higher prices for BOEC and greater certainty for business.

1/Higher prices may compensate for decreased production.

2/Devaluation of existing reserves

3/Increased financial viability for non-fossil fuel energy supply

4/Market pressure on transport systems and distribution systems to change operating systems, for instance using inter and urban electric trucks (Siemens has trolley trucks), greater use of electric and Steam rail, lighter than air transport, canal electrification and greater use of sail.

5/Reduced exploration and activity costs.

6/Increased maintenance costs for existing roading

7/Decreased use of individual passenger vehicles, resulting in less gridlock and less new road construction

8/An improved rail system resulting in faster passenger trains and a decrease in within island Air travel..

9/These effects would be ongoing, some may take 20 years to fully implement

I posted a similar proposal as a Guardian comment under "Robmilo".

Agriculture and Forestry would still need credits/tax