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**Sent:** Monday, 25 May 2015 12:24 a.m.  
**To:** Climate Contribution  
**Subject:** Submission 2908

## WHAT SHOULD NEW ZEALAND DO ABOUT CLIMATE CHANGE?

It is time for New Zealand to become serious with its response to this challenge, since we are now at a stage where:

- 1) The planet's situation has become terribly dangerous, with Antarctic ice shelves now melting from below. Scientists are warning we could face 6 degrees C temperature increase (over pre-industrial levels) around the end of this century. The World Bank warned in 2012 that even a lesser level of warming might be unsurvivable. Quick action is needed in order to try to save some of that polar ice, which acts as our buffer against rapidly increasing extremes of heat.
- 2) Many big countries and groupings such as the E.U., the U.S.A., and China are now committed to action, and have led the way with significant reductions already achieved. During this period New Zealand's emissions, which at first we merely undertook to stabilise, have ballooned to the point where we are now the world's 5th largest emitter per capita. We now have some serious catching up to do, unless we want to become pariahs in the international community.
- 3) The news media and the people of New Zealand are mostly quite uninformed about this danger/challenge. The NZ government has not so far been keen to pursue active measures to reduce our emissions footprint, (partly because of its ideology which is opposed to intervention in the marketplace, and partly perhaps because of partisan resentments against those who urge reductions;) and seems happy for its citizens to remain ignorant and complacent about this issue, even at the cost of jeopardising the global effort to reduce emissions of greenhouse gases. It is probably fortunate that New Zealand is such a small country, and its emissions such a small part of the whole.

## THE MAIN DANGERS TO NEW ZEALAND AND NEW ZEALANDERS NOW ARE:

- a. degradation of our agricultural base and advantages which are based on our benign climate, with increasing droughts and storms locked-in for coming decades.
- b. very large property losses. It is already acknowledged by our government that coastal settlements and beach houses are at risk, and we have seen the extensive damage caused by recent flooding. These problems will worsen over the next decades regardless of whether humanity succeeds in its ultimate struggle.
- c. IF THE WORLD'S NATIONS DO NOT SUCCEED in averting a 2 degrees C temperature increase, and the ice caps disappear as is already happening (at around 1 degree C to date), then New Zealand, while perhaps still able to produce food for at least some of its population, is likely to be surrounded by a collapsing civilisation in the world at large, with trade and markets breaking down, desperate refugees in numbers unprecedented at this stage, and wars over territory still capable of producing food. How long do strategists think we could remain in peace as one of the world's last food producing regions??
- d. IF THE WORLD'S STRUGGLE TO RE-STABILISE THE CLIMATE DOES EVENTUALLY SUCCEED (though it will take many decades of anxious waiting before this becomes clear), then, as one of the most backward nations in this effort at the critical time, New Zealand will, as mentioned above, suffer in its reputation as well as in its development. There will be other "rogue nations" too, and all of them will suffer the economic, social and technological disadvantages and the disrepute of being "backward".

## WHAT MEASURES CAN WE TAKE?

- 1) In this situation where we are beset by danger, insurance seems like a prudent measure. Setting an ambitious target for our emissions reductions in future, and backing it with a plan to achieve it, the cost of developing and carrying out this plan can be viewed as "insurance", and paying that cost is the only rational option. Most New

Zealanders have already indicated when polled that they would like the government to do more against climate change, and most New Zealanders understand and employ insurance, so this should not be a difficult concept politically.

2) Planning and carrying out the actions needed for an ambitious target (especially from a standing start!) will require a mobilisation of NZ's society and economy not seen since World War II, and the obvious place where that would have to begin is with public education: what are the dangers we seek to avert, and what response is needed?

3) An obvious measure which could be enacted early would be regulation to improve fuel-efficiency and emissions standards of vehicles imported into this country. This would be a cost-free measure. Even the freedom to drive gas-guzzling vehicles need not be restricted, since importers could be required only to adjust the average performance of the mix of vehicles that they import. This would mean that whoever drives a gas-guzzler would have to pay a little more for it; however, the motoring public on average would benefit from lower fuel bills, and NZ's balance of payments would also improve, since the cost of imported fuel is one of its biggest items.

4) Agricultural emissions have been viewed as a very difficult case, but need not be so. With such a high profile of emissions in farming, we have great scope for improvement. Changes in land use hold the key to significant emissions reductions. Agro-forestry, the use of woodlots for producing on-farm energy, and more widespread plantings for shelter, shade, beauty, and tree crops such as fruits and nuts, could all benefit both farmers and the wider world, and could well be incentivised by the government. (NB: There is not a lot of point in incentivising short-term plantings of e.g. *pinus radiata* which come to harvest within 30 years and then release their carbon to the atmosphere again. It would be best to save incentives for more permanent land-use changes.) As has been pointed out, organic farming which avoids use of chemical fertilisers, is one of the keys to holding more carbon in the soil as well as to reducing emissions of nitrous oxide.

Studies have shown that there is great variation in the amounts of methane emitted by individual cows, so it should be possible to start breeding for lower methane-producing animals, which also tend to be more productive in converting pasture to meat and milk.

Studies have shown also that, especially while milk prices are relatively low, it is more cost-effective for dairy farmers to de-stock at least to some extent, since this saves on both feed costs and vet costs.

These are all directions which offer significant benefits.

5) Real and realistic carbon pricing would help to bring about the needed changes in direction by industry, farmers, and individuals. A straight carbon tax would be more transparent, efficient, and effective than an ETS, and therefore more acceptable to the public - particularly if the government were to return all carbon taxes collected to the public on an equal basis, so much for each adult resident and so much for each child (up to 2 children per family).

Returning the carbon tax to the public would compensate most families for the rise in the cost of living that would be occasioned by a carbon tax, and would enable them to afford to make the changes needed to reduce their carbon footprint, e.g. by buying insulation for their house, or a more fuel-efficient vehicle, or moving closer to their place of work or study.

6) Increasing the renewable proportion of our power generation would also be an easy measure if a carbon tax were brought in, since there are plenty of renewable projects already consented and ready to go. The fact that our power generation is already 80% renewable constitutes no barrier to increasing this proportion, it is only hydro that would be hard to increase. There is much scope still for wind farms, solar, and tidal energy, with the latter still requiring research and development but offering great rewards down the track.

7) Once our renewable power generation is increasing again, we can start to make real progress in reducing our transport emissions by further electrification of rail transport, buses, and private cars. The problem of electric cars being very expensive could be addressed through the development of a small industry in New Zealand like that which already exists in Australia, converting old I.C.E. (internal combustion engine) cars into electric cars. In Australia this industry turns out electric cars based on the bodies of old Suzuki Swifts etc, fully registered and warranted, for around A\$15,000. The same sort of small businesses, run by auto electricians and parts dealers, would be almost certain to arise here if a carbon tax and an electric vehicle fast charging network are brought in.

These are just a few suggestions of ways in which New Zealand could realise an ambitious emissions reduction target. The point needs to be stressed that has been made by others, that this would be best achieved through a non-partisan approach that rises above party politics for the good of the country as a whole and its future citizens.

I thank you for this opportunity to make a submission on a topic that is very important to me, because I am, as well as a farmer, a grandmother and care what sort of world we bequeath to our grandchildren.

Yours sincerely,

Jill Whitmore

