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Setting NZ's Climate Change Target:

Personal Submission by

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1. Reducing our agricultural emissions is NOT difficult: The document says the world needs more food and we are a food producer, we can't stop producing food - true but we don't have to produce the same foods. Eating ruminant animals and drinking their milk is a global warming hazard. This needs to be priced into those who buy this stuff to help a shift in eating habits. While it is unrealistic in the short term to expect a change to veganism, a shift to less climate damaging food is desirable and possible. It should be noted that the pigs and chickens you show on the greenhouse emissions chart don't actually produce methane like the ruminants. If people must eat slices of animals then they can still eat chicken, duck, geese, turkey and emu, they can still eat pork and seafood.

So its not that dairy farmers have to stop farming, it's just that they need to stop farming ruminants - Fonterra should be producing soy milk from soy beans, beef farmers should change to farming emus, to cropping if their land is suitable, to tree crops.

Mothers can be encouraged and incentivised to feed their babies breast milk : humans like pigs don't belch methane). They need to be discouraged from using milk formula to feed their babies, therefore we will need to produce very little milk for this.

However if the issue is really about feeding the planet, feeding people off animals is a very inefficient use of land. The old proverb is that you can feed a village off an acre of land if its in vegetables but only a family if it's from milk and only one person if it's from meat.

It should be noted here that its a non-argument to say there will be a cost in transitioning away from farming ruminants: should China keep burning coal because getting electricity from something else is dearer? Of course not - all this CO2 and methane pollution needs to be accounted for, its needs its pollution priced in, not treated as an externality. Dairy farming is only lucrative because no one's paying for the pollution. Price in the pollution and we will see how other types of farming become more lucrative.

2. Uncertainties around Technology: Targets set using known technology We should set our targets using known technologies, not hope for some new technology that might miraculously stop cows burping. See below for how NZ can easily get to less than half 1990 levels while using only existing technology. New technology will only make it easier to get to our targets.

3. International Carbon Price Won't Affect Cost of Our Target if we don't use rely on international carbon credits. This is a ruse anyway as so many of these international carbon credits aren't real carbon reductions (eg Ukranian slag heap mining carbon credits for not digging a new coal mine). It is clearly immoral to meet our targets using carbon credits that we even suspect are not real reductions. I therefore call to use only domestic carbon credits to meet our targets and that these credits must be checked and verified.

4. NZ Climate Change Emissions small in absolute terms, Large in Per Capita terms: I'm sorry, but it is an immoral argument that our emissions are small. Our emissions are large, we're in the top dirty dozen of OECD polluters per capita. It is morally wrong to claim that we somehow deserve to have higher per capita emissions than another country.

5. Fair Share - global per capita emission level - what right do we have in demanding that we deserve to emit more pollution than a Papua New Guinea villager? We don't. It seems to me the only moral standpoint is that we have a global emissions per person that the planet can take, those that are over this emission level, need to pay those that are under it for the difference.

6. Developed Countries have Caused Problem, should bear cost of Mitigation: New Zealand like most developed countries has been emitting global warming gases for a long time - countries like China only a short time. A country's response should be related to the extent of its historical emissions. From this it can be seen that although China is the biggest emitter of CO₂, this is only a recent phenomenon. European Countries and the USA have been huge emitters for a long time and should reduce emissions in relation to their historical emissions, not just their present emissions. This is not to say developing countries should do nothing, we just need to be clear who got us into this mess.

7. Cost of Targets to NZers: The figures given in the discussion document are interesting in a number of ways:
1 they don't give a range of costs to households - high carbon lifestyles will (or they jolly well should) be affected much more than those people with a low carbon lifestyle - why weren't a a range of figures given?
2 They don't balance these costs against the costs of inaction. What is the cost of a 2m sea level rise to the country - I don't see this figure, I've looked but can't find it. Where is the figure for increased insurance costs for increased storm damage for more frequent and more severe storms? This is a very serious oversight as inaction is going to be far more expensive to us than a low target.
3 It is stunning the tiny increase in costs the document shows - eg the difference in (average?) annual household consumption from going from a 5% target to a 20% target is only \$130 a year per household!

8. How to meet a really serious climate change emission reduction target:

8.1 Moving our population's eating habits away from ruminant meat. We know it's healthier to eat less meat, why not just have meat on certain days or certain occasions?

8.2 Moving exports away from ruminant meat by using the polluter pays principle: Ruminant farmers must pay for their pollution, just as fossil fuel burners must.

8.3 Moving away from drinking ruminant milk and milk products: Fonterra needs to be move to be producing Soy milk. This has the double advantage that as soy beans are a nitrogen fixer: added nitrogen is not needed, nitrous oxide is not produced.

8.4 Methane capture from far more things - every landfill (eg Nelson's hospital boiler is ¾ run by landfill gas), every new sewerage treatment plant incorporates a methane digester as a first stage process.

8.5 Methane to displace natural gas and coal (eg Nelson's hospital boiler is ¾ run by landfill gas, used to be all coal), gas peaking power stations run on methane from landfills rather than fossil gas.

8.6 Transport - electrify main trunk both islands, minimise diesel trains, move more freight by rail for longer distances by bringing in a real carbon charge on diesel. Containers have to a large extent overcome issues with double handling from truck to rail, rail to truck. With containers this is very fast and easy. That it doesn't happen now is only because the polluters aren't paying. If they factored their climate change pollution into their economic modelling things would be very different.

Electric Delivery trucks are available now and can compliment the rail long distance movement.

Electric fast charging service stations throughout the country: We already know that cars like a Tesla model S, can and has, driven from Picton to Christchurch without refueling, but it would be useful to have more charging stations scattered across the country to make this easier for electric cars that are less efficient or have smaller batteries than this Tesla.

It is important to grasp this, that urban recharging stations are not what is needed in NZ. Cars are a poor means of commuting to work simply from the room they take up - public transport is far better for this. But for those that do use their cars (perhaps for other things than commuting) their daily car usage is generally less than 50km and even the worst electric cars have a range greater than that: they can charge up at night from the power socket in the garage. What is important to grasp is the really great and irreplaceable role for cars in NZ is to get out into the countryside - and that is where we need the charging stations.

8.7 Government Encouragement Publicity to adopt a more climate friendly lifestyle - encourage people to tramp in NZ rather than trek in Nepal, to Windsurf rather than jetski, to mountainbike rather than motorcross, to use active modes to get to work rather than slouch on a seat

8.8 Electricity Supply: Move to fully renewable electricity by using geothermal plants as seasonal peaking stations - ie to gradually ramp them up over winter to balance hydro loads and ramp down over summer, letting the fields recover for next winter. They are not run like this at present and although they can't generally be ramped up and down quickly, they could according to a GNS expert I spoke to, be ramped up and down seasonally. And of course our hydro is perfect for daytime load balancing inputs from solar and wind power. As for overall quantity of power available in NZ, this is such a non issue: A GNS scientist has said how our Geothermal load generation is 1GW, when the capacity is 4GW. Mike Donn of Waikato university worked out that the additional load on the grid of all cars being electric was only 10% extra (assuming off peak nighttime charging in the main and assuming cars were designed to be electric, not all electric conversions of heavy old unaerodynamic Internal Combustion Engine cars). Solar power we have hardly touched and there are still lots of hydro project possible, albeit most of them smaller than what we have built in the past. Wind we have hardly scratched the surface with. Wood chip fired thermal heat and power stations could also be used alongside greenhouses - these could produce valuable winter evening power to the grid at exactly the time the grid needs it most and at the same time provide heat for the glasshouses exactly when they need it. So we don't need to wait for tidal current and wave power plants. Biochar plants may well come but we don't need to rely on them for power and carbon storage. However they may become a good export earner of high quality carbon credits.

8.9 Efficiency - although some gains have been made in energy efficient building, it's only scratching the surface. If we had mandatory energy rating before any house could be rented or sold then suddenly people would be more interested in energy efficiency than granite benchtops. I know how to build houses that use very little energy to heat and none to cool at almost no extra initial cost.

8.10 Carbon Storing buildings and structures - We know we can build not only timber framed houses, but multistory commercial buildings using timber structure instead of concrete or steel. The timber columns and beams in these buildings are net negative on carbon emissions. Steel and Concrete framed buildings on the other hand have large carbon footprints. We can replace concrete railway sleepers with naturally durable hardwood ones (see NZ Driland Forest Initiative), we can replace concrete power poles with wood. All that is needed to encourage this is for the concrete users to pay for their pollution.

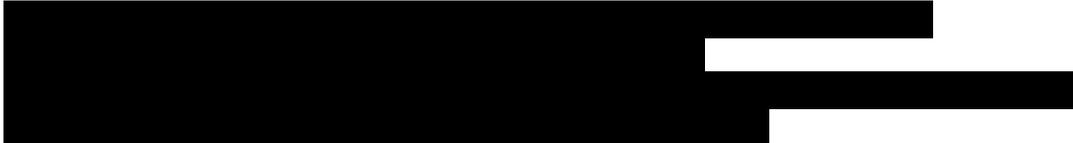
8.11 Two Kids Maximum: This should be government encouragement policy: We know that the more humans on the planet, the more load we put it under: reducing the population needs to be a priority. This could be done by both information and a sliding scale of family benefits - your get less for the third kid, less again for the fourth and so on.

8.12 Moving closer to town: we know that the further away from where you work, go to school etc means the more energy you use to get yourself there. We need to encourage people to buy or live closer to where they work, study and play.

8.13 Discourage Consumption; the more stuff you buy , the more load on the planet. This might require a change in measuring the state of the nation from using GDP growth to measuring GDH (Gross Domestic Happiness)

9 Target must be Morally Appropriate: It is time for NZ to stand up on the world stage and make a moral stand. We need to stand up and be counted and reduce our per capita emissions to the below the global average to the per capita levels that scientists tell us is necessary to avoid dangerous climate change. This is the target I am asking for and I'm up for it!

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