

NAME

Neil Henderson

SUBMITTER TYPE Individual

Question one

To help understand my answers to the questions you have set I believe it would be helpful to understand something of my position and background. I therefore ask that you read the section labelled 'Other' that comes after question 16, before continuing reading here and on through the questions.

Now to answer question one. I do not consider either pathway to be appropriate. Much is made about the need to set a long term target to provide certainty to industry and society. But this is simply not possible in such a complex situation. It is acknowledged that the climate is a complex chaotic non linear function. There is no way that the future climate can be known with any level of certainty, despite the claims of the IPCC. We can already see that the world is not warming as fast as the projections made by the models. The IPCC itself has admitted that the world is warming slower than 111 of its 114 models. They have since spent much time looking for where the heat is 'hiding'. In doing so they have failed on a basic pillar of science. If the evidence comes in that does not support the hypothesis you revise the hypothesis. You do not go looking for evidence to preserve your hypothesis. They simply should have acknowledged their models were wrong and rewritten them to align with the evidence. The only problem is that this would have necessitated reducing the effect of anthropogenic greenhouse gases on global temperature, if not entirely discarding the hypothesis altogether. But there are a very large number of people making a livelihood out of the global warming hypothesis and it would never do to kill the goose that lays the golden egg would it? Let me be rather blunt here. What would the prospects for promotion be, if those of you reading these submissions decided the appropriate course of action was to recommend the zero carbon bill be scrapped? It is clear this consultation process reinforces the vested interests at play.

So much is open to change it would be unwise to lock anything down so far in the future. The world may well start to cool in the next decade as many solar physicists believe is likely.

It may well prove to be economically impossible to meet the target. I believe this to be highly likely in the light of Bjorn Lomborg's analysis. His peer-reviewed, published analysis shows the EU's Paris promises for 2030, in the most optimistic circumstances, fully achieved and adhered to throughout this entire century, would reduce global temperatures by 0.053C by 2100 at a cost of 574 billion Euros per year.

He quotes another peer-reviewed study which has shown each dollar spent on EU climate policies will generate a total long-term climate benefit of 3c. I therefore struggle severely with the analysis of NZIER and Vivid Economics quoted in the consultation document. Have these models been verified? Have they quoted their level of uncertainty? Just looking at the differences between the two reports range of carbon prices suggests a credibility gap. A former Reserve Bank employee has stated in an article he has severe reservations about their accuracy.

I would also add that our informal farming leaders group that have made a statement supporting the zero carbon bill have done so without a mandate. A poll by Horizons found that only 19% of farmers support the need of a climate bill. A stated aim of the consultation is to take all New Zealanders along with this bill. If you truly wish to do this you need to stop talking only with our farming leaders but must open the door to direct communication with those grassroots farmers such as myself, who through study have a better understanding of the science than most of our farming leaders. Because these leaders also have to deal with government on other issues they may not feel they can always be as candid as they should be.

I therefore conclude that we should not even be setting a target for 2050.

Question two

The closest to a sensible target is option one of zero net carbon dioxide. But I repeat; we should not have a zero carbon target in shape or form

Methane is produced in a natural biological cycle. It is well known that a constant number of animals at a constant level of production do not change the amount of methane in the atmosphere and do not therefore cause warming. Any farmer who is at constant production is already at net zero for methane. Many sheep and beef farmers will in fact be carbon negative.

To rephrase this, stabilised short lived gases, as targeted in option two, are in fact net zero short lived gases. They are being removed from the atmosphere as fast they are added in the same way net zero carbon dioxide of option one is.

The notion shown in Figure 1 of the consultation document that 49% of this country's emissions are from livestock is merely the product of the accounting rules chosen. It is known that there is no practical method of comparing one greenhouse gas with another. Despite this the scientists decided to assist policy makers by producing a simple comparison and they used a metric called GWP100. They could just as easily have chosen a metric called GTP100 which would have reduced livestock's emissions to just 25% of our nation's greenhouse gas profile. This reveals an interesting dilemma. If farmers reduce their livestock emissions by 50% they will have only one effect on the climate. But they will have two different effects on our greenhouse gas profile, reducing it by either 24.5% or 12.5% respectively. This demonstrates the grave disservice done by the scientists who set up this comparison in the first place. It is resulting in flawed and nonsensical policy.

Research now exists that shows that if we rid all the world of all its livestock methane the world would only stop warming for 7.4 years. A back of the envelope calculation I have done on this reveals that the value of methane that cause one second worth of warming is \$75,000 at a carbon price of \$100/tonne. This is below the NZIER carbon price and at the top of Vivid's. But these calculations still work off the rules outlined above and take no account of the most important greenhouse gas which is water vapour. There is far more water vapour in the atmosphere than all other greenhouse gases combined. Its quantity varies significantly from day to day and area to area, depending on temperature and humidity so no absolute figure can be applied to it any one time. But it appears to average at least 10,000 parts per million (ppm) It traps the same frequency of energy that methane traps. If water vapour absorbs the energy then the methane can't.

Let me illustrate with an analogy. Suppose 10,000 lollies are scattered on a playground. Only two children (methane) are there to pick them up. In no time they will have their pockets full and there will still be thousands of lollies lying around. Now rerun the exercise. Instead of just the two children there are 10,000 children (water vapour and methane). The lollies would soon all be collected and many children will be running crying to mummy that they missed out. To further flesh out this analogy, infra red radiation exists in a 'rainbow' spectrum just like visible light. Methane can only absorb energy in a very small part of the spectrum whereas water vapour absorbs over a much wider band of the spectrum. Its band includes the narrow band that methane absorbs. This means the water vapour mops up all colours of lollies but methane only picks up one colour. Thus it is wrong to consider methane as a more powerful greenhouse gas.

Making allowances for this water vapour pushes the value of methane responsible for one second of warming to nearly three quarters of a million dollars. I believe that it would be impossible to for anyone to justify such a cost for so little gain.

Another analogy demonstrating the role of methane and showing its irrelevance to global warming is this:

Imagine a hole in your house roof that water drips through when it rains. A bucket is put in the ceiling to catch the drips. To make sure a draft in the ceiling cavity doesn't blow the bucket over before it gets some water in it, a brick is put in the bucket to hold it down. The bucket is the atmosphere. The drips coming through the hole are carbon dioxide from the burning of fossil fuel. The brick is methane from livestock. The brick does not cause the bucket to get fuller, nor does it cause the bucket to get emptier because we have a constant number of livestock.

After a lot of rain the bucket is getting full and in danger of overflowing the 'tipping point' of causing serious damage in the lounge below. What do we do? (For argument's sake, simply emptying the bucket is not practical.) One option is to take out the brick. If we rid the world of livestock, or cut livestock emissions to zero, there would be no methane in the atmosphere from livestock after a period of time. However if the hole in the roof remains it will only be a matter of time until the bucket is back in danger of overflowing. The only long term solution is to fix the hole. Reducing livestock only buys time to fix the hole. It does not fix the problem in any way, shape or form.

A further factor to consider on methane is the double standard being advanced. Farmers are being encouraged to preserve and even build wetlands. I think this is a great idea. But if global warming is as real as is claimed we have a huge problem. Wetlands produce marsh gas, which is the common name for methane. So if it is deemed that methane is so dangerous that we need to eliminate it from our livestock then it must also be so dangerous that we need to ensure our wetlands don't produce it either. We must therefore encourage the draining of as many of our remaining wetlands as possible. I say this tongue in cheek because I know this would be a bad policy. But this policy is no worse than suggesting we stop our livestock doing their natural thing.

Which reminds me. New Zealand prides itself on being pure and natural. What is more natural than meat or dairy products from an animal burping the way it was designed or evolved to do? Who would really prefer to eat a steak from an animal that has a large plastic bolus in it exuding toxic chemicals 24/7 to kill off the methane producing bacteria in the gut? If you are going to eat meat from a chemically altered animal you may as well eat a fake steak!

Nitrous oxide is considered a problem greenhouse gas because it is deemed to be almost 300 times as powerful as carbon dioxide. But it is only present in the atmosphere at two parts per billion. Multiplying this by its warming potential of 300 still makes it less than the effect of one part per million of carbon dioxide. Carbon dioxide levels are rising by more than one part million each year. That means the total nitrous oxide from all sources in the atmosphere is less than the annual increase of carbon dioxide, thus revealing that the only gas worth worrying about is carbon dioxide.

Question three

I do not agree with either option. Buying credits from other countries is an absolutely futile gesture that does nothing for the climate. It only serves to make our position look better than it really is and the other country look worse but makes absolutely no difference to the climate. If all countries are trying their best to achieve the greatest reductions possible I do not believe any countries will have credits for sale. They will want them for their own benefit to help them look the best at saving the planet. Having said this I believe there will be countries which have signed up to the Paris Agreement with an eye to their own advantage. They will quite happily generate some credits from easily achieved options, or maybe even at the expense of their population, which they then sell at a significant profit to boost their Government coffers at our expense. They will eagerly engage in the non delivery of an invisible substance to no one for significant profit at our expense.

Planting trees is also no answer to the problem, if indeed the 'problem' is real, in the long term. I agree that if there is a problem with rising greenhouse gas levels then we need to act sooner rather later for the sake of future generations. But our action must be sustainable. You cannot plant forests forever and nor do forests grow forever. All we are doing is postponing the day of reckoning. In fact I believe planting forests could well be counterproductive. People will see our emissions profile improving as the forests start storing carbon and they will relax and think the task is under control and will not be inspired to reduce fossil fuel use.

The future generations will then have the cost of removing these forests to make way for food production for the growing population. Many of these forests will be planted where it is simply not going to be economic to harvest them and get them to a processing facility.

Back in about 2009 I wrote a Farm Impact Statement that was tabled in Parliament. Here is an excerpt from it as it relates to carbon forests:

Livestock farming will become totally uneconomic and the nation will become one big carbon sink. Vast areas will be bought up by foreign companies to plant pines to offset their emissions. The carbon credits will go offshore. The people will leave rural areas. The schools will close. The communities will die. The towns and provincial cities will bleed as businesses fold. Out of work people will flock to the bigger cities in the hope of work. But just as it is now in Third World countries it will be a futile dream. There will be no work as there will be no industry. There will be no agricultural produce to process, no goods and services to provide for the rural sector. New Zealand will be a barren waste of endless miles of pines. Crime will soar.... End of quote. Is this the New Zealand our politicians want to see?

Another thing forest planting does is to reduce the area for growing food thus meaning more people starve. To be sure the food we grow does not feed the poor of the world. But if the wealthy who currently buy our food can't get it from us they will go somewhere else. The people who would have bought that food then have to go to another source and so on until the poor at the bottom of the pile miss out and die. Every food producer in the world is ultimately feeding the poor. As a food producer I do not want it on my conscience that I am causing death because I am forced to plant part of my farm in forest to satisfy some unproven hypothesis that my greenhouse gases are destroying the planet.

There is only one pathway of truly sustainable emissions reductions. That is the reduction in fossil fuel consumption. Time and again at the consultation meeting we heard that everyone must do their part. But never did we hear that involves the removal of cars from our lives. This is not surprising. What party will make it back to power if it said to its potential voters that they need to feed their cars to the car crusher without compensation? Maybe to help people understand what a zero carbon country looks like we need to start out practicing with carless hours. For one week no cars can be used between midnight and 1 am. For the second week no cars can be driven between 1 am and 2 am, the next week between 2 am and 3 am etc. I realise this would never be politically acceptable either. But maybe it should just be suggested so that people will see the stupidity of this proposed bill if carried to its full and final intent of zero carbon. When Captain Cook arrived in New Zealand nearly 250 years ago he found a carbon zero economy. Do we want to go back there? If it is considered that we can't get to zero carbon by 2050 solely by reducing fossil fuel consumption to zero then we should be honest about it and set a target based on the fossil fuel reductions we believe is attainable. To set a more ambitious target and then met it by planting trees is lacking in integrity and leads me to hold any government attempting it in strong contempt.

Any zero carbon bill that uses international credits and/or forestry to achieve its reduction target is simply engaging in an exercise in looking good on the international stage while doing little if anything for global temperature.

Question 4

Absolutely yes. New science needs to be taken into account. The lack of warming, if it continues must be considered. If other countries walk away from their Paris commitments we need to be able to abandon our plans. Already the US has withdrawn. Now the most populous Province of Canada, Ontario, has changed its provincial government to one that is abandoning its Cap and Trade system. Polls suggest that the heaviest energy using Province, Alberta will have a change of government to one that will also abandon Cap and Trade. A poll just out in Australia reveals that more people believe that Australia should withdraw from the Paris Agreement than the number who consider they should continue with it. It appears that many countries are failing in fulfilling the rhetoric promised at Paris. For example Japan is finding the cost is more than the country is willing to pay. We may well find the same is true here.

Many countries in the developing world are increasing their emissions between now and 2030, with the big emitters of China and India having annual increases that dwarf our entire emissions production.

Question 5

This seems a reasonable plan should we still insist on going down this pathway.

Question 6

Yes. There is far too much uncertainty in so many areas to set anything in concrete. Business may be unhappy about the lack of certainty this entails. But business deals with uncertainty all the time. For example they don't know what the exchange rate will be next week let alone next year.

Question 7

Yes. Reasons would include: New science on climate change, economic collapse either locally or globally, major natural disasters such as earthquakes or volcanic eruptions, major disease outbreaks such as Foot and Mouth.

Question 8

My agreement is very conditional. It is very dependent on the make-up of the commission. It must be made up of people who are truly independent and pragmatic. Much is made in the consultation document about this commissioners being independent.

But if all appointees are strong global warming believers then the so called 'independence' is worth nothing. The pragmatism is needed because I hear far too many unrealistic claims being made. We need people who are not strong believers in global warming so that they have an ability to weigh the evidence before them in a non bias manor. For example, we hear we can move to 100% renewable energy and run huge numbers of electric cars. I consider this to be a load of nonsense. Even now we cannot supply all our electricity from renewables, though we are among the highest in the world. Where is this extra energy going to come from to run electric cars? We cannot dam any more rivers. Wind is fickle and how many tourists will come to New Zealand if every hill has the visual pollution of wind turbines. We also need to consider the fact that a wind farm takes a thousand times as much resources of steel and concrete to build as a gas fired power station. What is the environmental footprint of this waste of finite resources and what is the energy costs associated with it? The only way we can power large numbers of electric vehicles with renewable electricity is by the use of nuclear. Will that be socially acceptable?

Further to this, how carbon zero are electric cars? I have heard it stated that it takes so much energy to build the battery for the car that you could run a car on fossil fuel for at least six years on the energy consumed in the battery's manufacture. This is not surprising because batteries use a large amount of what are known as the 'rare earth metals', so called because they exist in small amounts and a large amount of ore needs to be sifted through to get any quantity. They also often need very hazardous refining processes to purify them. I heard recently that they are considering mining the sea floor to get enough of the minerals needed. Again, what is the real environmental footprint of these so called green vehicles? These are examples of why our Climate Commission needs to be made up of hard-nosed realists who don't bow to political pressure.

Question 9

Yes. If there are no plans put in place to achieve the budget that then begs the question of why bother spending resources setting it in the first place?

Question 10

By far the most important issue for the Commission to consider is the rate of warming so far this century and its relationship to what the models predicted it would be. If the warming is slower than the low end predicted by the IPCC of two degrees this century the budget would be more modest in the progress needed. If there is no warming at all, as is the case now, then clearly no action is needed at all. If there is cooling then the whole carbon zero bill needs to be repealed. In ascertaining the level of warming they would use the average of the five main global temperature data sets, consisting of the two satellite sets of University of Huntsville, Alabama (UAH) and the Remote Sensing Systems

(RSS) and the three land based sets of Goddard Institute for Space Studies (GISS), National Oceanic and Atmospheric Administration (NOAA) and Hadley Climate Research Unit (HadCRU). Any of these datasets would be excluded from the compilation if they did not allow open access to their data adjustments to allow for independent review.

The second important consideration, if they first find that action is needed, is a rigorous economic assessment to ensure the benefits of acting on reducing carbon emissions outweighs the costs, environmental, socially and economically. I would also point out that the IPCC found no evidence of an increase of extreme weather of any types. It is a fact that the US has just gone through the longest period since it began records in the early 1800's without a major hurricane making landfall.

It is not correct to state, as the consultation document does that a changing climate exacerbates risks. A warming climate reduces the risks of deaths from cold, which far exceed deaths from heat. It also reduces chance of crop failure in the coldest parts of the planet. It also makes it easier for farmers here in New Zealand to feed their livestock better in the winter and have them arrive in spring in better condition to raise their young at maximum growth rates. The suggestion about exacerbated risk is a careless distortion of the truth. I sincerely hope it wasn't a deliberate attempt to misinform. Or is it in fact a case that the writers of this document are themselves unwitting victims of misinformation? I hope not, but see no reason for optimism.

Question 11

The Commission should only advise the government. We do not need unelected bureaucrats trying to run our country.

Question 12

The Commission should be limited to advice only. It is the government's job to decide how to achieve the target and the role the ETS plays in that.

Question 13

Yes. The most important of these is knowledge of the climate. Above all they need to be people of integrity who will not push the global warming barrow because that is the politically correct thing to do. Their decision must be truly science based, be peer reviewed and be open to appeal to ensure they do the job properly.

Question 14

Humanity has adapted to climate change since the dawn of history. It has dealt with warming, cooling, droughts, floods and all other possibilities. No one truly knows what the climate will be like in 20 years, though some have tried. Their failure to predict the current world temperature is proof enough of their failure. To legislate for a particular form of adaptation is to attempt to pick winners and could leave some sectors very badly placed if the decision is wrong. For example in the farming world many areas are being advised to prepare for more dry summers and many resources are going into pushing this barrow. No one is looking at the real possibility that the world will cool so farmers are

not being prepared about how to cope in a colder world. The best we can do is look at all possibilities and be ready to adapt as the evidence builds.

By far the best strategy to cope with change is to have a strong economy that has the resources to respond to the challenges. It is not smart to have an economy weakened by a futile policy of making us look good on the international stage while at the same time doing nothing at all to change the global temperature. The consultation document admits our economy will be lower in GDP as a result of the zero carbon bill. If our climate is not improved by this bill by an amount that more than compensates for this loss of GDP then our overall position is less resilient than continuing to rely on fossil fuel and adapt to whatever the climate dishes up, be it warming or cooling.

It is true that the countries that bear the worst effects of climate change are the poor countries of the world. The reason is simple. They lack the infrastructure to prepare themselves for what the climate dishes up naturally. The best way for these countries to prepare is to strengthen their economies. One of the best methods to do this is to get cheap fossil fuel energy for them. After all, that is the single major difference between us and them. Without fossil fuel we would not be in the position we are today.

Question 15

No. Because of the brainwashing that has gone on for years the government has a very narrow view of what it considers to be likely outcomes. Because of this major areas, such as global cooling are being overlooked. If the government wishes to move in this area it must widen its outlook to consider all options including significant rapid cooling leading to a return to a Little Ice Age.

Question 16

No. Before this can be done we would need an objective evaluation of what the risk is of different outcomes. Because climate is a chaotic non linear function we cannot make this objective assessment. The assessments will merely be an opinion with no empirical evidence to back them. Those making the assessments will of necessity be picking winners. Will they themselves be prepared to be held liable if they get it wrong? Unless they are we should just forget such an idea.

Other

I appreciate the opportunity to have my say on the zero carbon bill and I appreciate your stated intention of welcoming the thoughts and feedback I have. The trouble is that many of my thoughts fall outside of the questions, but I believe these issues are just as important to the consultation as those contained within the questions. This bill has far reaching economic, social and environmental implications and the price of getting it

wrong are astronomical, so I would encourage you to carefully read and consider what I have written. I was the highest achieving science student at Gisborne Boys High School. I have spent many, many hours reading, researching and talking with scientists from both sides over the last decade or more and consider myself to be far better informed than the average person. As a farmer I have spent a considerable amount of time on the vexed question of livestock emissions and attended a high level meeting on this question in 2011. There is no doubt that those with vested interests have skewed the debate on this issue of global warming and I have met a considerable number of people who have been led astray by these vested interests. Indeed, I admit that I have at times been a victim of the misleading information.

I was a believer in global warming in the early stages. Two significant issues changed me to be a nonbeliever. The first was the realization that a completely natural process that is self balancing over time, the production of methane by livestock, was being targeted. The second was the discovery that the most important greenhouse gas by far is water vapour and no allowance was being made for its abating effects on other greenhouse gases. The mindless determination of consultations, such as this, that totally ignore the possibility that the IPCC is wrong and that other valid views exist about the state of our climate only reinforce my belief that this process is all about politics and has little to do with science. It is well known that the climate is a chaotic non linear function. Therefore anyone who claims to know what the future climate holds is practicing serious deception. The current global temperature is well below the models of the IPCC with the satellite temperature records showing no significant warming this century outside the spike of the 2016 El Nino warming. There is no empirical evidence to support the claim that human emissions of greenhouse gases are causing significant warming. The Royal Society of New Zealand was challenged to produce it and has not been able to do so. As a summary statement I conclude that this zero carbon bill is nothing more than an exercise in environmental futility at the cost of economic suicide.

But there are other points I wish to make that fall outside the scope of the questions. Why do we need to stop the planet warming anyway? Minister Shaw in his comments at the zero carbon consultation meeting I attended remarked how nice it was to have such a warm summer so that he could enjoy so many swims in Wellington. A contact of mine in Canada knows no one in his area that doesn't want to see some warming. Some countries in Eastern Europe have winter temperatures that stay below zero 24/7 during the depths of winter and their growing season is so short they struggle to produce enough food to survive the next winter. Why should we not allow them some extra warming? There will be some downsides to a warmer world, but considering more people die of cold than heat waves in spite of the population being crowded into the warmest parts of the planet, more warmth will be net beneficial. One of the ways of reducing energy use listed in the

consultation document is better insulation of homes which leads to better health outcomes. I do not disagree with that motive. But we should be doing that independent of the need to reduce fossil fuel use. The very notion that we need more heating in our homes is an admission that we would benefit from a warmer planet.

Further, the biggest limitation to production on my farm, and indeed the majority of New Zealand farms, is winter temperatures limiting grass growth. I could produce more food from the same area with less environmental pressure if more grass grew in the winter. This environmental pressure is even higher in parts of New Zealand where winter forage crops are grown to feed animals during the winter with the attendant water quality problems from the intensive grazing such crops entail, not to mention the extra artificial fertiliser, particularly nitrogen, that they require.

We frequently hear about the need for a greener economy. We would get one if there was more carbon dioxide in the atmosphere because it would boost plant growth and help marginal areas be more productive and thus further reduce environmental pressure. It also allows more food to be produced from the same amount of water, further reducing pressure on water quality. It has astounded me how everything to do with rising carbon dioxide levels has been seen as bad with no good credited to carbon dioxide. Indeed this essential compound of all life gets maliciously labelled as pollution!

The Consultation document talks about the British Climate Change Committee and suggests modelling our Commission on that. I have read the report of the former Parliamentary Commissioner for the Environment, Dr Jan Wright. With the greatest respect to her I nonetheless consider it an appalling report. She cites the Stern Review and acknowledges it was criticised But she makes no comment on that criticism which is astounding. If the criticism is valid she should not quote the report. If it is not correct then why bother mentioning the criticism? Neither does she make any attempt to counter the criticism. While she waxes eloquent and even lyrical about the Committee she fails to mention another report about the Committee written a full year earlier. This report was written by New Zealand born Professor Michael Kelly of Oxford University. He cites many shortfalls. I will give two here. Britain had a deliberate policy of reducing the number of people living in energy poverty. This is the number of people who have to spend more than ten percent of their disposable income on heating in the winter. The policy was succeeding until Britain decided to increase its level of renewable energy from the likes of wind farms. The number in energy poverty has since trebled to over twenty percent of the population. This will lead to a rising death toll when blizzards hit each winter.

This same rising cost of energy has seen industry move offshore. Britain's last aluminium smelter has now closed and it imports aluminium from China. Britain used gas fired

electricity to run its smelters, China uses coal which produces more carbon dioxide per kilowatt of electricity than gas so Britain's climate change policy is actually increasing global emissions! If this is taken into account, the real effect of Britain's policy is a twenty percent increase in total emissions, not a decrease as claimed by Dr Wright!

It is noteworthy that the consultation document admits that low income households will be more affected. When there is already growing concern about the widening wealth gap in New Zealand and the number already supposedly in poverty it seems rather unwise to implement a policy that will only make this problem worse.

Minister Shaw made the point at the consultation meeting that there was no internet 30 years ago and look where we are now because of it and uses this as justification for acting now. But we did not enact legislation 30 years ago that was dependent on the internet developing to make it possible to implement the act. We need to do the same now. Technology in all probability will find a replacement for fossil fuel energy. But we must not pre-empt its arrival with legislation that won't work without it. We simply need to be alert and ready to act when it arrives. New Zealand already has shown a readiness to be fast adopters of new technology. But it is pointless getting on the boat before it is built.

This is not to say that we should waste energy I agree with the drive towards more efficient energy use Fonterra boasts about the emissions it has avoided by better utilisation of its tanker fleet. Good for it. But it is not the emissions that should be the source of its pride. It is the fuel that has not been wasted and the dollars that have been saved to put in their shareholders pockets. This is the kind of thing all businesses should be doing whether global warming is real or not. We shouldn't be wasting finite resources through inefficient practices. The same logic applies to attempting to use global warming as a motive to improve traffic congestion. People in large cities should get used to using public transport as is the case overseas.

The consultation document mentions the increased costs of fixing roads over the last decade as an example of how climate events are getting more common and/or more extreme? Is this data cheery picked? Did we have a period ten years ago where the weather was kinder? But even if the weather is more severe now, is it a natural event or is it caused by humans? We simply cannot answer that question, in spite of what those whose salaries depend on maintaining the mantra that almost all major weather events are caused by humans may say. I can remember three major floods that caused significant and expensive road damage in our region back in the 1960's. Bulldozers worked for months each time to fix the roads. What is the cost of those repairs in today's dollars? Similarly, the two cyclones that hit the North West of the South Island this year had

significant cost of 40 or 50 million dollars each. But with the thirtieth anniversary of Cyclone Bola this year, that event would have cost over \$220 million in today's dollars.

Much is made of our recent summer being the hottest ever. But the previous hottest summer was way back around 1934. If the world was warming as much as it is claimed we should have seen a succession of warmer summers as the average temperature climbed over time.

I repeat; the zero carbon bill is an exercise in environmental futility at the cost of economic suicide. The bill should not proceed.