

CLIMATE CHANGE SUBMISSION

COVER SHEET

Submitted by:
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NB. If the committee considering this submission requires any data source information related to statements contained in the pages following, I will be happy to provide this on request.

SUMMARY.

Climate science is by no means settled and the actual human contribution to any global warming is uncertain. To judge by the reduced rate of warming for the last twenty years and most recent mainstream climate science research, warming will almost certainly be less than the IPCC forecasts. Climate change mitigation is hugely more expensive than adaptation.

Our Minister for Climate Change says we want to lead the world. I don't understand why we would want to do this! And at what cost? Even as China, Russia and India ramp up their greenhouse gas emissions, Europe falls further and further behind its emissions reduction targets and the US plans to withdraw altogether from the Paris Climate Accord. Why would we as a country jeopardise our economy and seriously damage our primary income-earning industries at great expense to all New Zealanders? Even with the most aggressive emissions reduction policies possible, we will have no measurable effect on global temperatures!

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FROM: DAVID A SIMPSON

30th June 2018

There is no doubt that our globe has been warming since the end of the Little Ice Age, around the mid-1800s. Sea levels have been rising and some glaciers have been melting. There is also little doubt that increasing levels of the trace gases carbon dioxide (CO₂), nitrous oxide (N₂O) and Methane (CH₄) have made a contribution to this global warming. However, the over-arching debate raging amongst climate scientists is simply this – “What is *the degree* to which anthropogenic activities have contributed and will continue to contribute to global warming?” There isn’t even agreement on what the global temperature actually is. Independent land-based tables vary from one to another. The one certain thing is they all can only be approximations when you consider the reliability of the process of collecting data from multiple global locations and comparing them to older records compiled with different equipment, frequently from slightly different locations. There are still vast areas of land that have no official temperature weather stations or records, and ocean temperatures have only been accurately measured since 2003.

Many climate scientists agree that the most reliable global temperature measurements are those retrieved from the NASA satellite measurements of the lower troposphere and processed by both UAH and RSS. It is no coincidence that these two quite independently calculated measurements largely agree. Both show that the IPCC predictions of global warming made back to 1990 and derived from climate models, significantly overstate the warming that has subsequently occurred.

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In addition and perhaps even more significantly, the pattern of water vapour changes in the upper troposphere, which is intrinsic to the warming predicted by the models, was not observed by the weather balloons and satellites. If anything the opposite occurred from what the models predicted. This suggests that there is something deeply amiss with the climate models and may well explain the miss on temperature predictions.

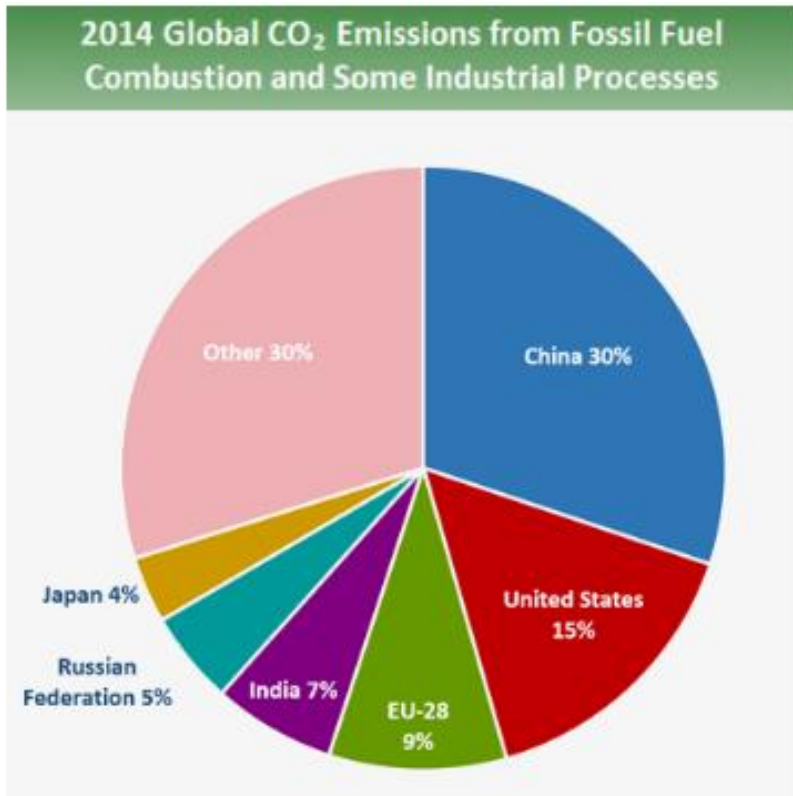
To verify this, I have attached at the foot of this submission, (i) actual recorded satellite and balloon temperature data compared with model projections and (ii) data showing that global temperature increases from 1970 to end of May 2018 are currently running well below the Paris Climate Change Agreement targets.

I suppose because catastrophic scenarios make better copy, it has not been considered newsworthy that every year over 400 peer-reviewed scientific papers are published that hypothesize that the predominant cause of global warming (and cooling) is through natural processes (ocean currents, sun activity, natural cycle fluctuations not well understood etc.) and that anthropogenic-generated greenhouse gases play only a small part. Additionally, many papers have been published that claim current global temperatures are no warmer (and perhaps not even as warm) as temperatures during the medieval warm period – 950 AD to 1250 AD – and the Roman warm period – 250 BC to 400 AD.

Climate science is far from settled. In fact there is not a climate scientist (nor anyone at all come to that) who can state with any degree of certainty, the extent of global warming that can be attributed to human activities and all future projections are purely “guesstimates”. A little known or acknowledged fact is that almost all of the greenhouse atmospheric effect comes from water vapour and clouds with the trace gases CO₂ and other greenhouse gases such as N₂O and CH₄ contributing only a small portion of the total greenhouse effect. When you further consider New Zealand’s infinitesimal anthropogenic CO₂, N₂O and CH₄ contribution to global anthropogenic production (<0.2%) – let alone as a percentage of any natural production - any effect on global temperatures by NZ is so miniscule that it is simply not measurable.

CO₂ is 76% of total anthropogenic greenhouse gas emissions, Methane is 16% and Nitrous Oxide is 6%, so CO₂ is the trace gas that dominates emissions discussions. Measurements of the effects of the other two greenhouse gases are expressed in CO₂ equivalents for purposes of fair comparison.

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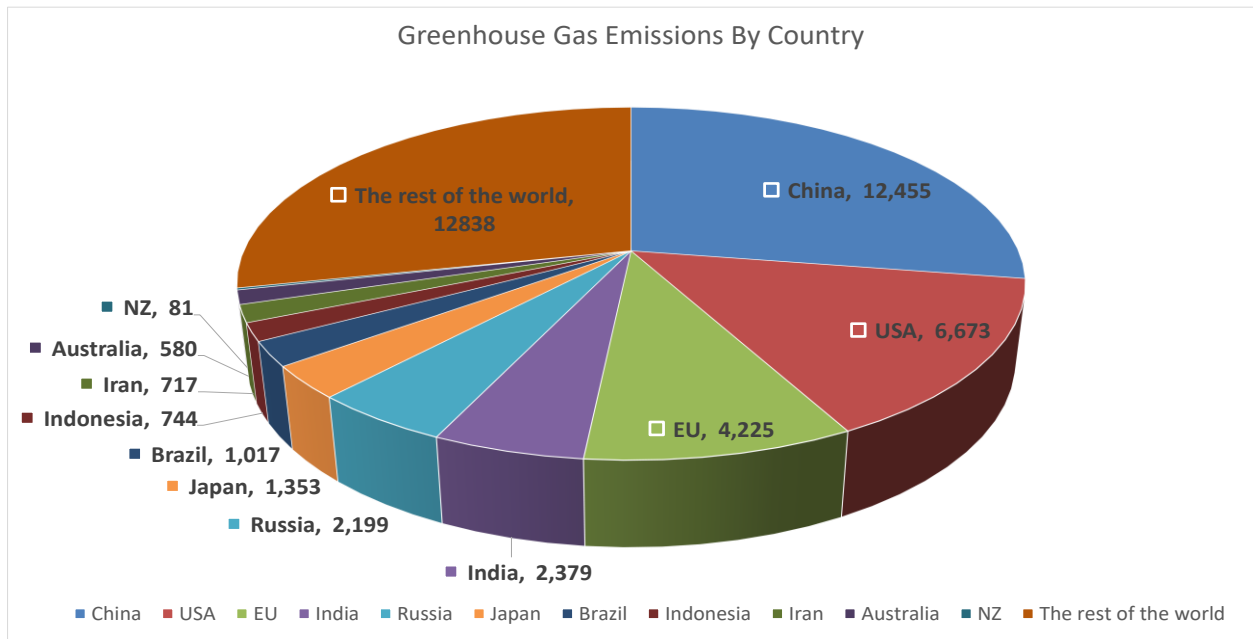
China, India and Russia to name only three of the largest global contributors to greenhouse gas emissions, are all continuing to rapidly expand their emission of these gases, unconstrained by the Paris Climate Accord. The second largest global contributor (the USA) has given notice of its complete withdrawal from the agreement. (Ironically, thanks to greatly increased efficiencies of extracting oil and natural gas through fracking and the subsequent use of gas rather than coal as an energy source, the US is currently leading the western world in its reduction of greenhouse gas emissions.)

Europe, and in particular Germany, is well behind and falling even further behind its emissions reduction targets, despite its vastly increased wind and solar energy production. In other words, global emissions from all major emitters are continuing to increase significantly and will continue to do so for at least the next 10 to 15 years.

Below is a table showing emissions by country.

GREENHOUSE GAS EMISSIONS BY COUNTRY													
Million metric tonnes CO ₂ equivalent													
		China	USA	EU	India	Russia	Japan	Brazil	Indonesia	Iran	Australia	NZ	WORLD
CO ₂	2015*	10,642	5,172	3,470	2,455	1,761	1,253	486	503	634	446	40	36,062
N ₂ O	2012**	587	289	266	240	65	25	215	93	25	54	12	3,154
CH ₄	2012**	1,752	500	512	636	546	39	477	223	121	126	29	3,154
TOTAL	2013*	12,455	6,673	4,225	2,379	2,199	1,353	1,017	744	717	580	81	45,261
Country total as a %		27.5%	14.7%	9.3%	5.3%	4.9%	3.0%	2.2%	1.6%	1.6%	1.3%	0.18%	100.0%
Cumulative			42.3%	51.6%	56.9%	61.7%	64.7%	66.9%	68.6%	70.2%	71.5%	71.6%	
* Wikipedia													
** World Bank Data													
N.B. The totals do not add to each individual amount of CO ₂ , N ₂ O & CH ₄ as the data sources relate to slightly different periods - Close enough for purpose!													

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You can barely see the sliver (0.18% of global total) that represents NZ's total emissions! Any costly reduction of our emissions will be immediately overwhelmed by the global increases of the major emitters.

To illustrate the futility of spending vast sums from our limited resources on mitigation of greenhouse gases, using the above table it can be calculated that by 3.30 pm on 1st January, (only 15.5 hours into a New Year) the rest of the world will have already emitted more greenhouse gas than we do in a full year. China on its own takes less than 2.5 days to emit what New Zealand emits in a full year.

New Zealand's emissions profile is somewhat unique. Thanks to our hydro and geothermal power production, our per capita CO₂ emissions are already low. We are already emission-heroes! However, because New Zealand's economy depends heavily on our primary-produce exports, we are of course forced to carry livestock. Although these animals emit greenhouse gases in NZ, the produce is consumed by other countries - so NZ appears to emit the gases but it is in fact on behalf of others. The N₂O and CH₄ produced by our livestock, expressed in CO₂ equivalence, double NZ's CO₂ emissions, unlike almost any other country in the world. However, even these unusual per capita emissions still barely reflect on the world stage.

Non CO₂ Greenhouse Gas Emissions

Other than farming livestock, there are many other emissions sources that produce N₂O and CH₄. These sources are as diverse as natural wetlands, coal mining, landfills, photovoltaic cells (solar power), refrigeration and air conditioning, rice and crop cultivation and aluminium and magnesium production. If the NZ Government follows through with its

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approach of taxing farmers for emissions of livestock, when extrapolated to other Countries, then “in reality, such a carbon price would substantially affect food availability”.

(Environmental Research Letters – Stefan Frank et al – 2017). If other Countries do not, why would we? It would only ensure our primary exports become uncompetitive by unilaterally taxing our most import export.

Putting ideology aside, and applying pure logic, it should be obvious to all that we must not damage our major export earning industry purely for the sake of signalling our virtue and environmental leadership to the rest of the world. As a country, we should not be forced at great cost to farmers and therefore to all of us, to reduce our livestock emissions and damage our current standard of living, when other countries are doing little or nothing to mitigate their livestock emissions.

What are Argentina, Europe, India, Russia and the USA doing to curb their livestock emissions? We should follow the path of these far larger emitters, rather than damage our economy with a futile attempt to lead the world at great cost and zero impact on global warming.

So against this backdrop, logic demands that we must ask:

“Why would New Zealand for no measurable result, want to curtail our farming and oil and gas industries at the cost of a significant reduction in GDP and well-being of our economy and therefore of all New Zealanders?

Why lead the world? Why not simply do our reasonable share, sufficient to meet our international obligations and appease our major trading partners? What possible benefit is it for NZ to spend vast sums to make a purely symbolic gesture that will have no measurable effect on global temperatures, just so we may look virtuous in the eyes of the rest of the World – if they even notice! Many other much larger Countries have either no intention or no hope of meeting their undertakings and/or commitments under the purely voluntary Paris climate agreement.

No doubt, supporters of this bill would argue that we have to set an example and do our share and that if everyone adopted my suggested approach, nothing would be done. But this would misunderstand my position. I am suggesting that we do what is necessary to maintain our sensible and reasonable contribution to the global effort and abandon our foolish attempts to lead the world in virtue-signalling! As can be seen by the above pie graph, whatever we do will have no effect on the global outcome.

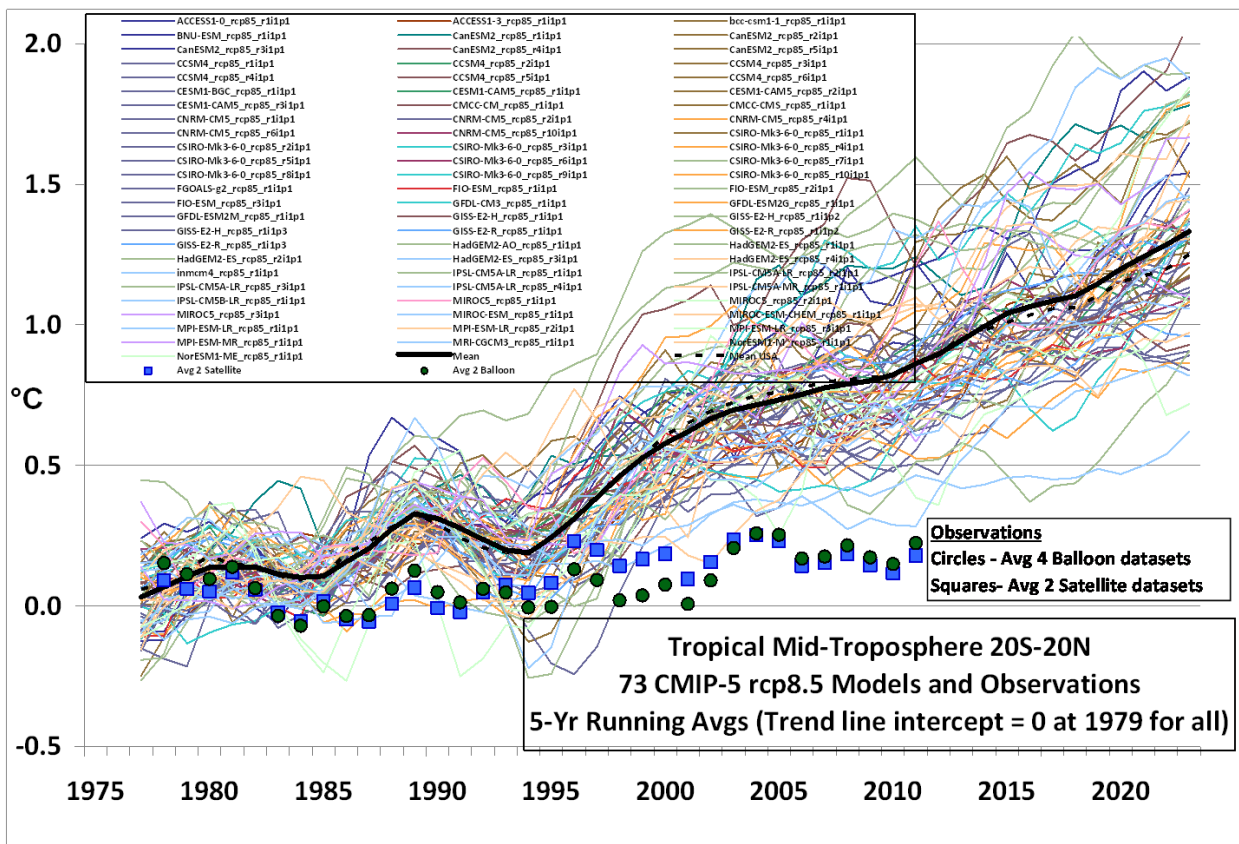
See Appendix below for Global Temperature data compared with Projections

APPENDIX

The image below (Image One), although only to 2013, shows the huge discrepancy between (a) satellite and balloon actual recorded temperatures compared with (b) all the projections of the multiple climate models. The solid black line shows the mean of all the models whilst the blue squares show the average of the two satellite temperature data sets and the green circles show the average of 4 balloon datasets.

Whilst it is true that since 2013 global temperatures have ticked up with the recent El Nino, they have now fallen back to pre El Nino levels and the disparity between the measurements and modelled projections continues. (See Image Two below.)

IMAGE ONE



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The image below (Image Two) shows the latest available satellite temperature data through to end of May 2018. This shows that since 2013, although the temperature rose consistently through to a peak of 0.85C in February 2016 due to the El Nino effect, since then it has dropped back to where it was around 2014. To smooth the inevitable monthly global temperature fluctuations, the red line shows the running centred 13 month average.

This running average shows a linear temperature trend of the global average lower tropospheric temperature anomalies from January 1979 through May 2018 remains steady at +0.13 C/decade or only 1.3C per hundred years.

IMAGE TWO

