

NZ Emissions Trading Scheme Review 2015-2016

I am Kevin Hearle I have a BSc in Pure and Applied Mathematics with Geology, Economics, and Physics as minors. I had a career in government, education and stock broking.

Summary

- 1 IPCC Climate models have failed to match real world data, therefore they are wrong and not a basis for policy formation**
- 2 IPCC Climate sensitivity estimates (3.5C as used in Climate models) are high by at least a factor of 2. Therefore not suitable for policy formation.**
- 3 The IPCC is hiding from politicians that the data is showing that Climate Sensitivity is lower by at least half that predicted and used by the models.**
- 4 The IPCC arrogantly continues say that they have more confidence in their models as they depart further and further from reality.**
- 5 Publications from government agencies continue to use failed IPCC climate models to inform the New Zealand Public and Parliament.**
- 6 The UN climate agenda is no longer based on sound climate science, it is a political agenda designed to transform the economic model of the world.**
- 7 Climate legislation must pass a cost benefit analysis before passing into legislation.**
- 8 Government has a responsibility to educate the electorate on the ramifications of climate legislation.**
- 9 Given past failed policy responses Government should call a halt to the ETS and re-evaluate the scientific foundations on which it is based before legislating for the Paris agreement.**
- 10 It is my considered view that no legislation for CO2 is justified until the level of climate sensitivity to CO2 has been resolved and Models of the climate match real world data. This is a no risk scenario as the temperature of the earth has been flat for 18.8yrs while CO2 has been rising. We have time to get it right.**

This submission addresses 3 components of the Review and what is missing from it; and in answering those issues, evidence that demonstrates that the need for policy action is not justified by the science as we presently understand it.

What is missing from the Review?

Three fundamental areas are missing:

- 1 A review of the Science**
- 2 A review of the political process by which NZ has been drawn into action and further potential policy action on climate change.**
- 3 A policy framework to analyse the value of any action on Climate Change as compared to other policy alternatives such as Poverty Eradication, Infrastructure Development, Education and increased Healthcare.**

These fundamental issues are important because the Government has a purported \$30B (according to Tim Groser) problem looming that could consume New Zealand's ability to provide increased prosperity for all New Zealanders, or effectively force more people into poverty because of the diversion of resources into chasing phantoms of changing the climate (temperature of the earth 100 years from now). Therefore we need to be very sure that such an Expenditure or Cost (depending on who's position you look at it from) is based on sound science, and a political agenda that is understood and agreed to by the electorate, before any action is taken.

1 The science of Climate is complex, is still in its infancy, and our understanding of how all the interrelated variables that go to make up what we understand as weather and climate, is relatively limited. A Professor at Harvard summed it up like this (I paraphrase) *We think that there are about 5000 variables that you would need to describe mathematically to understand climate and we haven't, - then you have to build the simultaneous equation of the multivariate, non linear interrelated variables, and we haven't- and then you have to have the computing power to solve the equation and as yet we do not have that computing power to achieve a solution.* Is it any wonder that the IPCC unvalidated CMIPS 5 models have failed so miserably to mimic real world data in all the important climate variables. (see testimony below).

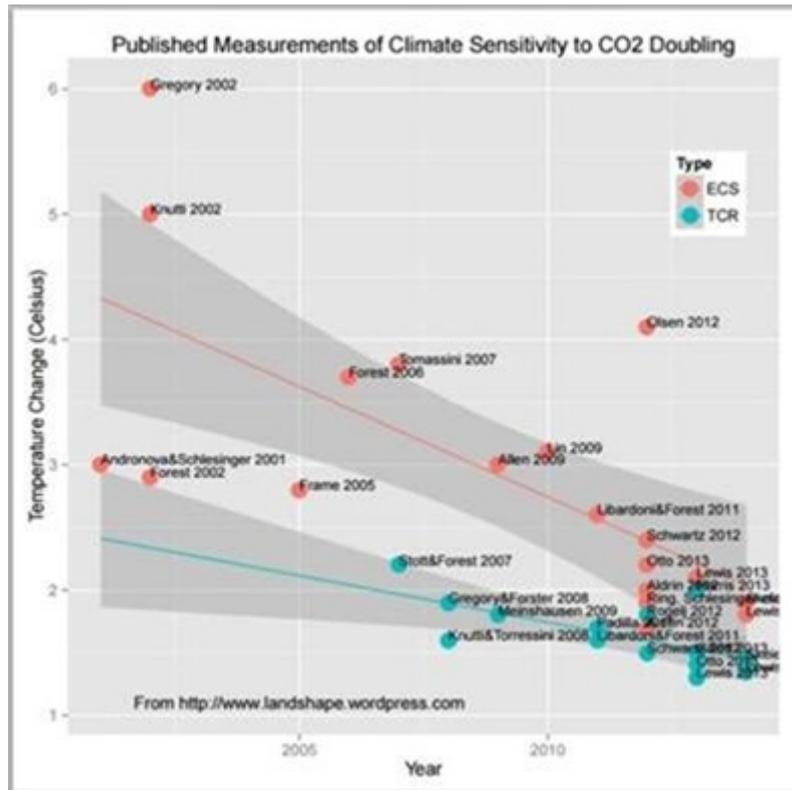
The breadth and depth of the science is vast. Catastrophic Anthropogenic Global Warming (CAGW) essentially revolves around increasing levels in the atmosphere of CO₂ (not in dispute) and its heating effect on the atmosphere (may be in dispute). I make no apology for inserting here two documents (joined) of testimony authored by Dr. John Christy of the University of Alabama Huntsville, that explain the reliability of climate models in relation to measured temperature data as it exists at present. The testimony also addresses the failure of models to adequately address issues other than temperature.

<https://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-114-SY-WState-JChristy-20160202.pdf>

Please download from the US Government website and read the document above as a component of this submission.

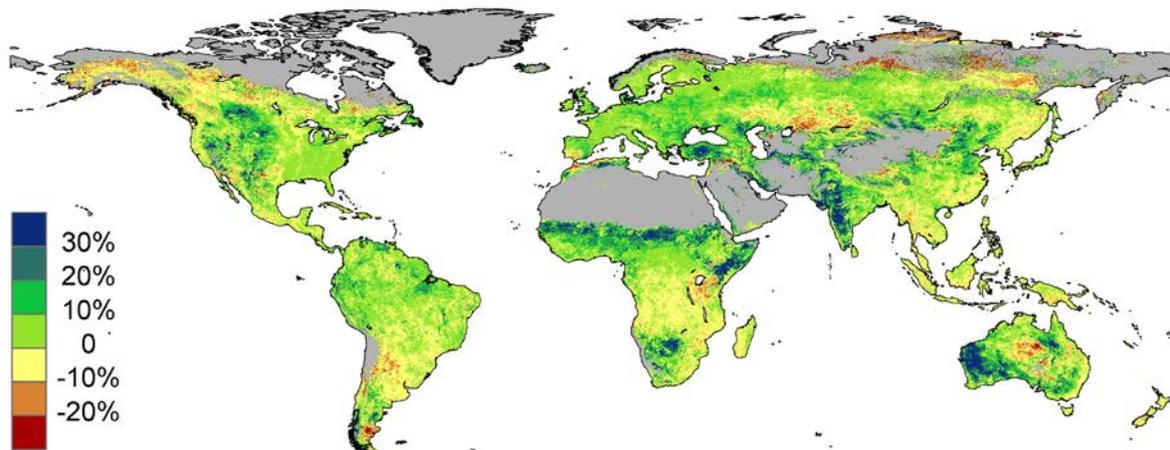
The foundation of the IPCC CAGW thesis is based on Climate Models, they don't work and they don't work to a level that is necessary for policy formation. Perhaps a couple of quotes from the late great physicist Professor Richard Feynman are apt *"The first principle is that you must not fool yourself and you are the easiest person to fool."* and *"It doesn't matter how beautiful your theory is, it doesn't matter how smart you are. If it doesn't agree with experiment, it's wrong."*

The IPCC hypothesis of CAGW is based on a Climate Sensitivity of 3.5 Degrees C (average used in Climate models) for a doubling of CO₂ in the atmosphere. This number is critical to the hypothesis and this is where the dispute lies. As we learn more about how the change from 3 to 4 molecules of CO₂ in 10,000 in the atmosphere affects temperature we see a gradual decrease in both Equilibrium Climate Sensitivity and Transient Climate Response see graphic below.



This shows that we can be certain that the level postulated by the IPCC (3C 1.5 to 4.5) is too large by at least a fact of 2. This alone takes the C out of CAGW.

This however does not tell the full story because there is still debate about the validity of physics and mathematics of the fundamental science used in the papers listed above. There are credible levels of ECS down to 0.5C and levels down to zero can be found in the literature. At 0.5C ECS (1/6 of the IPCC level) increasing levels of CO₂ in the Atmosphere are not a problem that requires policy intervention but provide natural benefits to all flora on earth with no downside. The benefits are already detectable as the graphic below indicates



Satellite-based analyses of net terrestrial primary productivity (NPP) reveal an increase of around 6-13% since the 1980s.

A reference for the beneficial effects of CO₂ so down played in climate debate is here

https://www.commerce.senate.gov/public/_cache/files/fc7c4946-11a3-4967-bf28-8d0386608d3e/64C8F4CA68FB5E1280D42E45A3311BE1.dr.-william-happer-additional-testimony.pdf

Climate Sensitivity (CS).

The testimony of Dr William Happer of Princeton to the US Senate regarding climate sensitivity indicates a low real level of CS.

http://www.commerce.senate.gov/public/_cache/files/c8c53b68-253b-4234-a7cb-e4355a6edfa2/FA9830F15064FED0A5B28BA737D9985D.dr.-william-happer-testimony.pdf

Please read this testimony as a part of my submission.

“The key issue here is the equilibrium climate sensitivity: how much will the earth’s surface eventually warm if the atmospheric concentration of CO₂ is doubled? This number has been drifting steadily downward from a youthful Arrhenius’s first estimate of about 6 C to the estimate of the International Panel on Climate change (IPCC) of 1.5 C to 4.5 C. Observations of very small warming over the past 20 years suggest that the sensitivity is unlikely to be larger than 2 C. There are credible estimates that the sensitivity could be as small as 0.5 C.”

The IPCC decided that Total Solar Irradiance (TSI) had no effect on the changing temperature of the earth. It will be instructive for several reasons for the purposes of the review if you read the following. <http://wattsupwiththat.com/2016/02/08/a-tsi-driven-solar-climate-model/>

- 1 The hypothesis discussed is contrary to the IPCC claim of negligible TSI component and it’s level of Transient climate sensitivity is about 1/3 of that used by the IPCC in CMIPs 5 models
- 2 The Discussion near the end of the article is worth repeating here because it is a classic example of how science is done.

Discussion

These results are in line with the general GHG theory which postulates CO₂ as a significant contributor to the post-industrial warming but are in direct contradiction to the notion that human emissions have thus far contributed significantly to the observed concentration. In addition, the derived TCR implies a mechanism that reduces the climate sensitivity to CO₂ to a value below the theoretical non-feedback forcing, i.e. the feedback appears to be negative. Other inferences are that the observed cyclostationarity is inherent in the TSI variation and not a climate system dynamic (because a single-pole response cannot produce an oscillatory component) and that at least over the

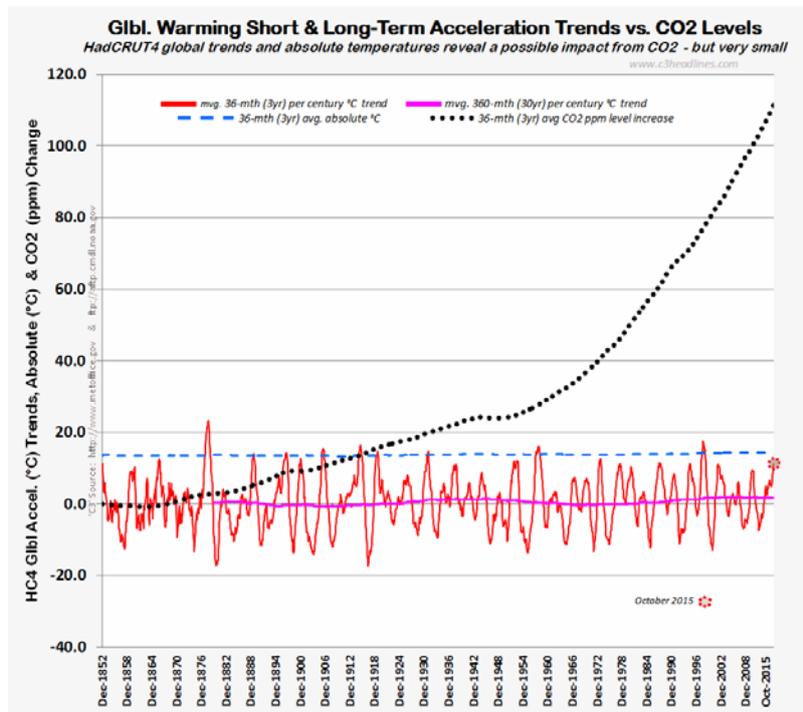
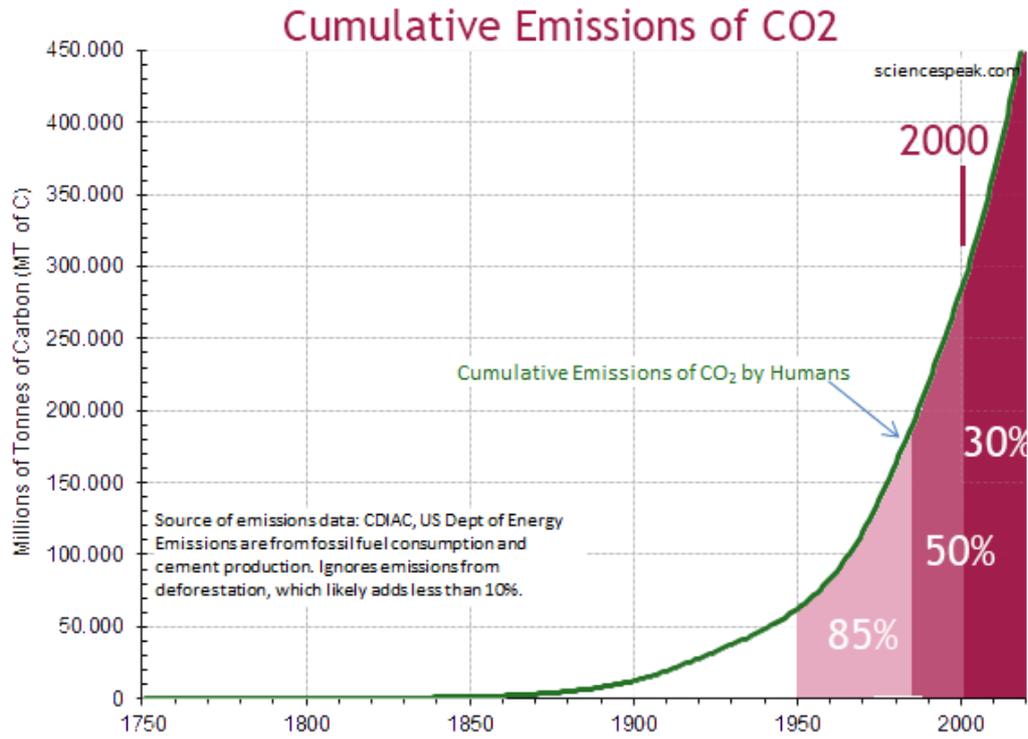
short instrumental time period, the climate system as a whole can be modeled as a linear, time-invariant system, albeit with significant time lag.

In a broader context, these results may contain clues to the underlying climate dynamics that those with expertise in these systems should find valuable if they are willing to set aside preconceived notions as to the underlying cause. This model, like all models, is nothing more than an executable hypothesis and as Professor Feynman points out, all scientific hypotheses start with a guess. The execution of a hypothesis, either by solving the equations in closed form or by running a computer simulation is never to be confused with an experiment. Rather a simulation provides the predicted ramifications of the hypothesis which falsify the hypothesis if the predictions do not match empirical observations.

An estimate of the future TSI is required in order for this model to predict how global temperature will evolve. There are some models of this in development by others and I hope to provide a detailed projection in a future article. In the meantime, due to the inherent system lag, we can get a rough idea over the short term. TSI peaked in the early 80s so we should expect the CO₂ concentrations to peak some 37 years later, i.e. in a few years from now. Near the start of the next decade, CO₂ forcing will dominate and thus we would expect temperatures to flatten and begin to fall as this forcing decrease. Between now and then we should expect a modest increase. This no doubt will be heralded as proof that AGW is back and that drastic measures are required to stave off the looming catastrophe.

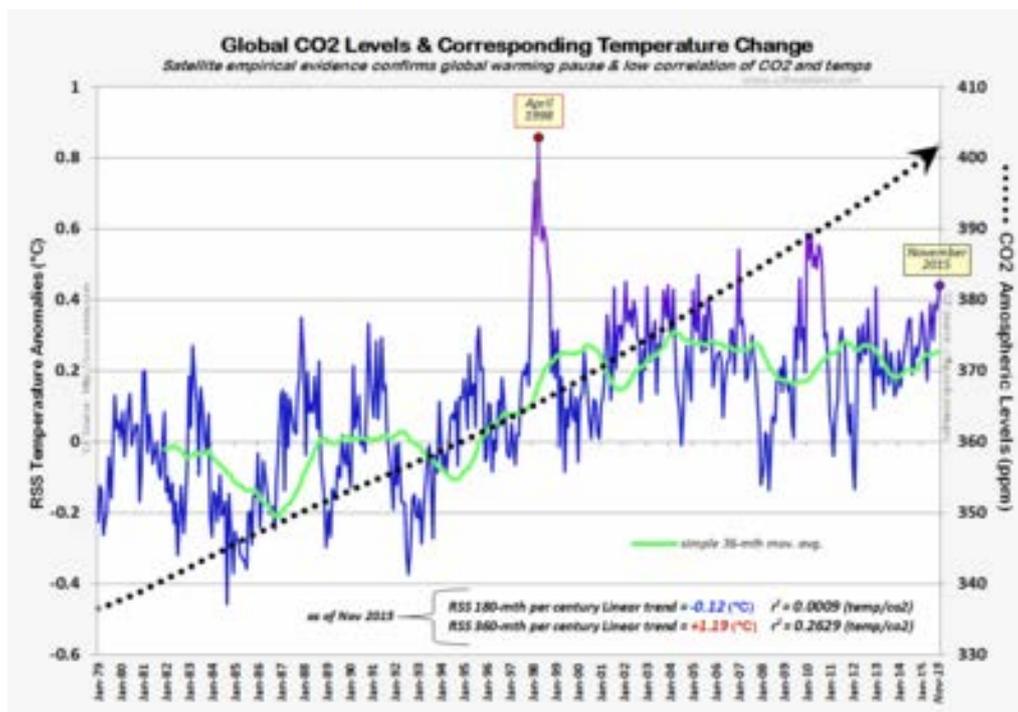
Note highlighted in blue above is relevant to the IPCC CMIP's 5 models that do not match real world data therefore the IPCC hypothesis is wrong. This should be the end of the story.

If we look at cumulative CO₂ as shown below we see a simpler and perhaps more intuitive look at some of the data, it is however quite compelling



Looking at the temperature response in the 2 graphics above to increased CO₂ it appears to be small at best.

Now have a look at what has occurred in the satellite era.



Thirty percent of all CO2 emitted has occurred since 2000 (see fig above) but there has been no temperature response over that period. This means that CO2 is not driving temperature to anything like the level indicated by the IPCC climate models, it means that climate sensitivity in both the short and long term is small. This has to flow through to how we see a policy response to increased CO2 and that has to be at the lower end of the scale if any is needed at all.

A topical analysis (updated monthly) of earth's temperature and CO2 and how it relates to the predictions of the IPCC over time is to be found here

<http://wattsupwiththat.com/2016/02/06/the-pause-hangs-on-by-its-fingernails/>

Please read it as a component of this submission.

The Political Process has been fraught from the outset by international agendas of the UN, Green NGO's and the Socialist (or communist) left. To hark back to the science these entities ensured that the science was skewed from the outset by defining the agenda as human caused warming as opposed to any causes of warming (inclusive of natural warming). This definition of the problem (if in fact there is a problem) focused Government funding on providing evidence for the IPCC hypothesis that increasing anthropogenic CO2 in the atmosphere will cause CAGW. As Governments are almost the exclusive funders of science it was natural for Government funded agencies with interests in the field (being under ever increasing financial pressure) to follow the stream of funding unleashed and being true to the cause and their own interests in survival tapped this stream with alacrity. Like all good servants of their employers staff produced what the boss wanted (their jobs depended on

it) evidence for the IPCC agenda to the exclusion of countervailing evidence i.e the issue of not what is said, but what is not said, affects the evidence heard by politicians.

There has been another insidious component to the climate debate and that has been the capture of the scientific societies and the scientific journals by proponents of the CAGW. This was evidenced in the 2009 release of the UEA emails that documented the appalling behaviour of scientists rigging the peer review process and stopping opposing views from being published among other behaviour that was blatantly fraudulent.

The IPCC itself, came in for damning, if diplomatically couched, scientific reviews by the IAC. <http://reviewipcc.interacademycouncil.net/ReportNewsRelease.html>

Investigative journalism e.g. Donna Laframboise's "The delinquent teenager who was mistaken for the world's top climate expert" (available on Amazon) among others, exposed the policy and procedures of the organisation and its failings. Despite these damning reviews the IPCC marches on with only minimal changes of no real significance to the criticism that rained down on it. Any reader with half a brain can identify the corrupt practice of the organisation merely by considering the process by which the SPM's are developed from the substantive 5 yearly reports. The draft SPM is sent out to Governments who then meet and negotiate the wording if they don't like the content and demand changes that then requires the IPCC to modify the substantive scientific report to match the final SPM. How pray tell me is this process policy neutral!!!

<https://judithcurry.com/2013/10/01/negotiating-the-ipcc-spm/>

The public are not stupid believe it or not, they have voted with their feet and put Climate Change at the bottom of every survey of policy concerns, even in the UN's own global survey, Climate has a back door ranking.

A damning illustration of the IPCC political approach to reality and science is how it handled the important metric of climate sensitivity between AR4 and AR5

Excerpt from comments from Marcel Crok regarding climate sensitivity in AR4 and AR5 are instructive in seeing how the politics, or if you will, the message, is massaged to fit the UN policy rhetoric demanded by the IPCC and constituent green organisations.

What happened in the field of climate sensitivity between the Synthesis Report (SYR) of AR4 (2007) and that of AR5 (2014) tells a damning story. Let's focus on the SPM because this is what is supposed to be the most policy relevant information.

The [SYR SPM of AR4](#) mentions "climate sensitivity" seven times:

Now to [AR5 Synthesis Report SPM](#). It mentions this highly relevant parameter (according to AR4) ... zero times! Not a word about it. The full [Synthesis report](#) does mention it four times. For example on page SYR-23 we read:

*Climate system properties that determine the response to external forcing have been estimated both from climate models and from analysis of past and recent climate change. The **equilibrium climate sensitivity** (ECS) is likely in the range 1.5 °C–4.5 °C, extremely unlikely less than 1 °C, and very unlikely greater than 6 °C.*

What has happened in the past seven years that climate sensitivity disappeared from the SPM of the Synthesis Report? Has it become irrelevant? Of course not. Climate sensitivity is all over the Synthesis Report because the models used to project the future climate have a climate sensitivity of about 3.5°C on average. So in all its projections IPCC assumes climate sensitivity is still >3°C. It's there as some sort of hidden assumption.

Why not say so then? Well, exactly this assumption, that the model climate sensitivity is about 3.5°C, has been seriously challenged in the past few years in the scientific literature. The Lewis/Crok report [A Sensitive Matter](#) (published in March of this year 2014) gave all the details about new observationally based studies that indicate the climate sensitivity is relatively low with best estimate values of between 1.5 and 2°C. Considerably lower than the 3.5°C climate sensitivity of the models.

Dilemma

Recently [Lewis and Curry](#) used all the relevant AR5 numbers and a very detailed uncertainty analysis to estimate the range and best estimate for climate sensitivity in a paper published in Climate Dynamics. Their preferred likely range is 1.25-2.45°C and the best estimate is 1.64°C. Again, these are not numbers invented by sceptics, those are the numbers of the IPCC itself. It assumes close to 100% of the warming since 1850 is due to humans, an assumption that goes much further than the iconic "it's now extremely likely that most of the warmings since 1950 is due to humans" statement in AR5.

Now this specific paper of course came out after the IPCC deadline for the Synthesis Report. However, as we document in the Lewis/Crok report, the IPCC was well aware of these recently published lower estimates of climate sensitivity. It lowered its lower boundary from 2°C back to 1.5°C (where it has been in most earlier IPCC reports).

The IPCC was saddled with a dilemma. A lot of conclusions in the report are based on the output of models and admitting that the models' climate sensitivity is about 40% too high was apparently too...inconvenient. So IPCC decided not to mention climate sensitivity anymore in the SPM of the Synthesis Report. It decided to give the world a prognosis which it knows is overly pessimistic. One may wonder why. Did it want to hide the good news?

So the politicians have been left with an SPM lacking any reference to the most important variable on which the CAGW thesis is based. It is what has not been said that is important to the policy debate, and this is a classic example of how the politics of climate is misrepresenting the science as it has developed in the interval between AR4 and AR5 and continues to develop to this day. This is propaganda, not science, and is to be abhorred when it has the potential to misinform policy and hence the possibility of misdirecting billions of dollars into a problem that is increasingly being shown to be of a much lesser magnitude than it was earlier projected to be. The good news has been hidden to the detriment of economic growth of our nation, if we continue to write policy on the IPCC's

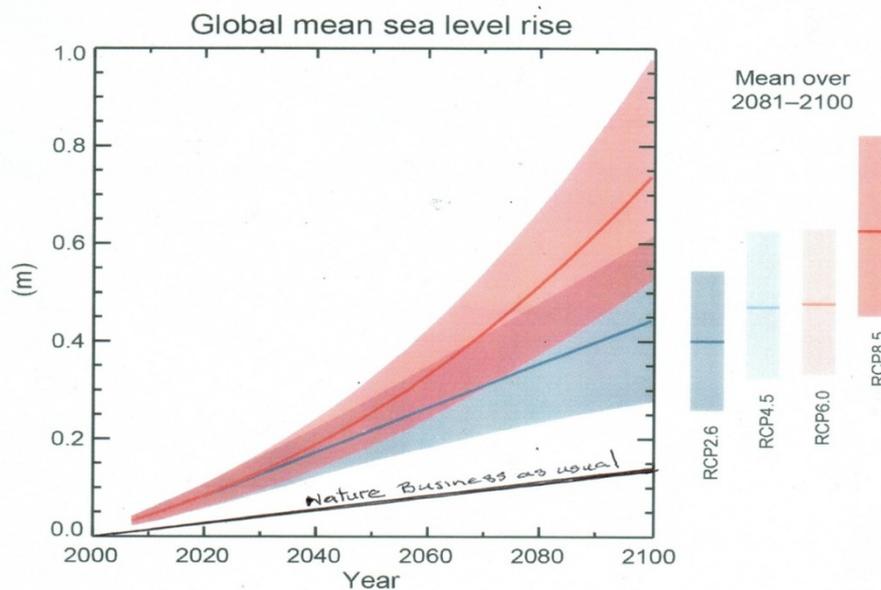
fraudulent representation of the situation of climate sensitivity and hence predictions of future global warming.

Below we see a classic illustration of the unbelievable arrogance of the IPCC. No scientist or scientific organisation could possibly agree with the IPCC statements of their increasing confidence in the predictive ability of their models as demonstrated in this graphic. However it is suggested that NZ should base policy on such nonsense. These are the unvalidated models that NIWA used to write the 4 Degrees of Warming report for Primary Industry's in this country. These are the models that the Parliamentary Commissioner for the Environment used to write 2 reports on the effect of sea level rise for New Zealand. All three reports are totally worthless and should be withdrawn as evidence of what might happen in the future just in case some unsuspecting industry, local body, company or individual takes action based on such reports. The reports are unvalidated and not peer reviewed.

I urge the reviewers to question how agencies of Government writing reports that are not validated by peer reviewed can have any scientific standing especially when \$30B is at stake.

I think you may see that the shoddy lack of scientific process that besets the IPCC has filtered down to our own bureaucracy.

As an example of the filtering down of the IPCC failed model, let's look at page 19 of the 2nd PCE report on sea level Nov 2015. The graphic below is sourced from the IPCC and is identical to that in the PCE report, except that I have added one line to the graphic that is a straight line representing 1.4mm/year, which is the average global sea level rise as a comparison to the IPCC modelled projections.



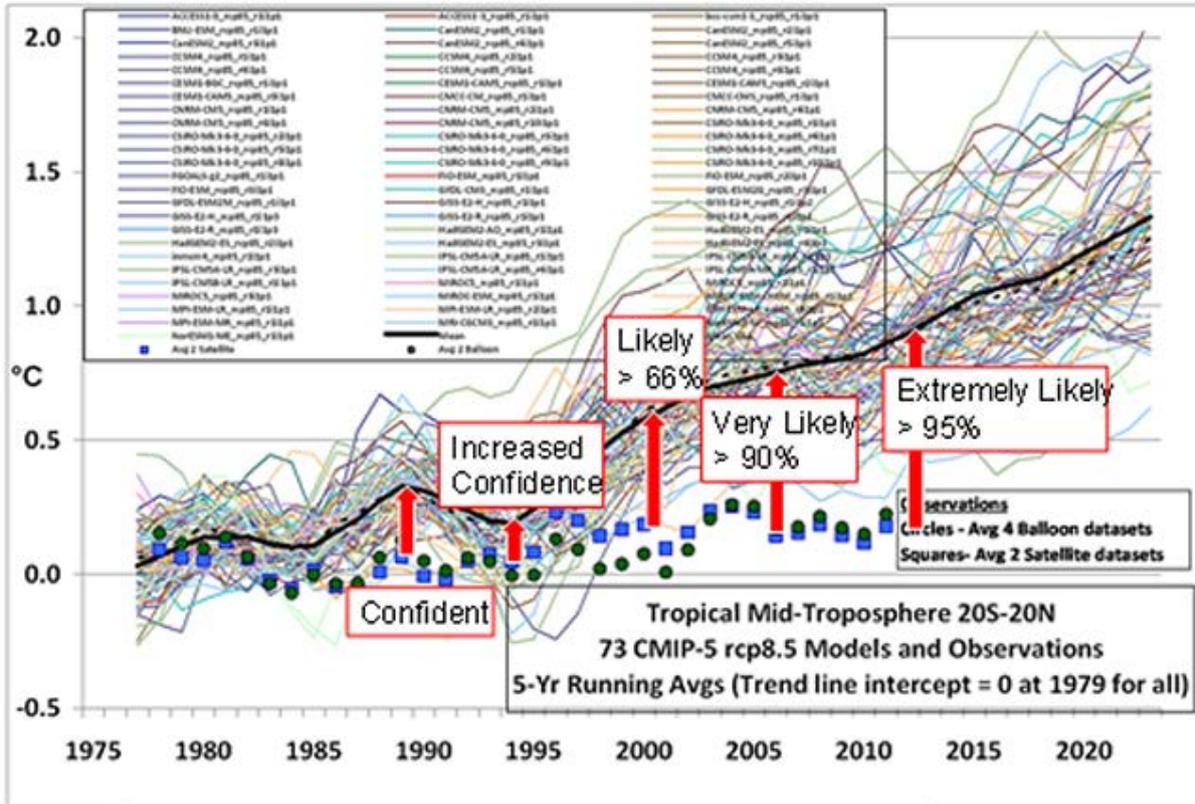
The PCE thinks that we should reduce CO2, presumably because it increases sea level. Using the above graphic indicates an adherence to the IPCC dogma. However, there is no CO2 signal in the Global, Regional or local sea level metric—none. Sea level has been rising at a linear rate approx 1.4mm/an on average (no acceleration) for way longer than we have been able to blame man for injecting CO2 into the atmosphere. So as any scientist will tell you the best

guide to the future is likely to be a continuation of the past. In any case, if you want to test your hypothesis it gives you a guide as to how well your theory is doing, to compare it to a straight line projection of the past. In this case the IPCC theory (or PCE's assertion) fails from day one. Let's look at what it is asserting in practical terms; the graphic is saying that after missing IPCC modelled increases for the first 15 years of this Century, which means that sea level has to rise on average by 9mm/yr for the next 85yrs, i.e a staggering 6 times the rate it has achieved in the past. An inconvenient question to ask is- as there is no CO2 signal in the sea level data to date, what is the magic variable that is going to drive the rate of sea level rise by 6 times it's current rate?

This is a very practical illustration of the mistake in using IPCC politicised science as a foundation for informing New Zealanders on sea level. Where is the independence and scientific analysis of the topic that should be expected by readers of the report and is inherent in the PCE Act, it is totally absent. It is not as if you need to be a rocket scientist to analyse what is happening it is all available on the web. To make it worse we have several world class scientists in NZ that can inform the PCE if she chose to consult or validate her report before release.

What I hope I have shown in the last few paragraphs is how the IPCC modelled, politicised junk science, filters down and becomes imbedded in documentation as if it were real data and fact. Used without checking, to inform or more precisely misinforms the public and policy formation, the example given is not isolated by any means.

The graphic below is even more instructive on the blatant arrogance of the IPCC



What this shows is that as the IPCC climate models depart further from reality, the IPCC get more confident that the models are correct. How perverse is this. Professor Feynman must be turning in his grave. If this doesn't raise some concern amongst scientists, policy analysts and politicians then it should. Note also that this data for the Tropical Mid Troposphere is the area that the IPCC say should show a hot spot (it doesn't) as a signature of anthropogenic CO2 induced Global Warming.

The IPCC is a political organisation not a scientific one. The question now is, how, as an independent nation, should we deal with the UN, UNFCCC and IPCC that is running an agenda based on politicised science that may not be in the best interests of all New Zealanders? We need to retain our sovereignty and ability to make our own decisions based on the real Science of Climate.

The UNFCCC COP21 in Paris did not discuss the science, it must be clear that the science is not going in the direction that supports the Catastrophic message being used, as Christiana Figueres, Executive Secretary of the UN FCCC. said *"This is the first time in the history of mankind*

that we are setting ourselves the task of intentionally, within a defined period of time, to change the economic development model that has been reigning for at least 150 years, since the Industrial Revolution."

Climate at the inception of this political agenda was seen as a convenient tiger with variables going in the right direction, at the time, to create the CO2 scare. Unfortunately for the IPCC, or fortunately for us, nature intervened; the real science started to emerge based on data, not models. The IPCC hypothesis of CAGW is falling apart to the extent that the IPCC has to hide the reality from politicians and the public, that anthropogenic CO2 is not driving climate.

New Zealand was an early adopter of the Climate agenda and introduced the ETS legislation. This was a mistake. The ETS proved to be a toothless tiger gutted by documented incompetence, fraud and corruption in the European markets to which it was tied. Its greatest failure has been the cost to industry in time and money and the creation of a vast bureaucracy to burden the development of industry for what outcome? What estimate do we have for the reduction of the temperature of the earth due to 10 years of policy action by New Zealand and by how much will our policy efforts reduce the temperature by 2030 or 2100? The answer to this question is that there is no evidence that any policy action has reduced the temperature of the earth by any measureable amount. Nor is there any evidence that any future policy action will reduce the temperature by any measureable amount. We face a potential policy regime in the future that is tied to false IPCC science of the past. We are going to be working with a false, artificial construct of a political agenda from Paris that bears no relation to any perceived or real climate problem in the future. Current analysis of the science indicates that we don't have a problem Catastrophic or otherwise.

The smart thing to do, is to unravel the ETS completely, take another look at the science, assess if there is a scientific case for taking action based on today's understanding of the data, not failed models. There are times when calling a halt is the appropriate course of action and this is one of them. With \$30B at stake and the climate not responding to increased anthropogenic CO2 we have time to reconsider our policy stance.

Because of the politicisation of the Climate debate the appropriate course of action is to form a RED team GREEN team approach to evaluate current evidence. As we are relatively small as a nation and the field is somewhat imbued with incestuous behaviour and Group think we need to bring in team members from overseas to add perspective to the discourse.

There is a fundamental problem in our political decision making on complex scientific issues in that politicians who ultimately have to make a choice (or not) on what policy option (or not) to take are in the major part scientifically illiterate. This problem has intensified as the science has become politicised and the Government itself has become the major funder and advice giver to itself via its Government funded entities e.g. NIWA, Universities and PCE. President Eisenhower warned the US of this decade's ago and now it is a reality in New Zealand. It must be addressed before we make \$30B decisions on future Climate Policy.

The Government has a huge educative responsibility to the public when foreign and non-elected organisations are involved in creating the policy environment in which government is making decisions. When we see our sovereignty possibly being impinged as it has with the TPP and the

Climate Agenda a much more robust system is required to ensure the electorate is informed and can knowledgeably make decisions.

Climate legislation must pass a Cost Benefit Analysis (it hasn't thus far) but further it must be put to the public in terms that everyone understands. To put it bluntly you can have Climate legislation costing \$30B that might reduce the temperature of the earth by 0.0005C 100 years from now, or you can have \$30B more of some combination of better health, education, welfare, or infrastructure development.

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Kevin Hearle