Submission to UK Parliamentary Inquiry into IPCC 5th Assessment Review

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0. Executive Summary

- The IPCC was created on the assumption that manmade warming was a problem and was given the narrow focus of investigating it rather than all causes of climate change.
- The key finding of AR5 has no supporting basis because temperatures have not risen as models predicted
- The IPCC's expressions of uncertainty are misleading
- AR5 does not seriously discuss other hypotheses about temperature
- The IPCC is ineffective because of its narrow focus and this distorts its outlook into a form of political justification

1. Preliminary notes

[1] My credentials for making these comments can be found in the Supplementary Notes appended to this submission.

[2] The order of the questions posed by this inquiry make it difficult to present a cohesive discussion of the credibility of key findings of AR5 without repeating myself. I have opted instead for a unified discussion of these findings followed by my responses to inquiry questions that are more stand-alone in nature.

2. A short recap about the creation of the IPCC

[3] During the late 1970's and early 19780's the United Nations Environment Program (UNEP) tripped to whip up publicity for the claim that carbon dioxide emissions were causing global warming. It enlisted the help of the International Union of Scientific Councils (ICSU), a shadowy body that proposed scientific studies and provided everything but the money. The ICSU presented reports in book form to the UNEP and those books were not independently reviewed.

[4] The UNEP and ICSU arranged a conference of government representatives in Villach in 1980 but it was inconclusive. It tried again in 1985, also in Villach, this time inviting scientists as individuals. When the conference proceedings were documented some months later the chairman Bert Bolin declared that there had been unanimous agreement that human activity was causing warming, which is certainly not the view of attendee Dr. John Maunder of New Zealand (personal communication).
[5] After working the media even more, and with the support of a few key presentations, including one in the USA where James Hansen undermined the air-conditioning in the room where the presentation was to take place, the IPCC was formed in 1987, with the UNEP successfully proposing Bert Bolin as chairman.

[6] The IPCC's initial charter directed it to examine the risks associated with the human influence on climate, which of course pre-supposed that such an influence existed. A UN conference in Rio de Janeiro in 1992 saw the establishment of the United Nations Framework Convention on Climate Change and it promptly declared that the human influence was significant and that carbon dioxide was the cause, notwithstanding the fact that the IPCC was yet (and still hasn't) conclusively proved that claim. Following the establishment of the UNFCCC the IPCC was directed to support it.

[7] The IPCC is charged with producing assessment reports, which are basically a summary of the available literature, usually but not always in the form of peer-reviewed papers, combined with some commissioned climate modelling. Each of the three IPCC Working Groups then summarises its contribution to the assessment report into the respective "Summary for Policymakers" whose final wording is negotiated between government representatives.

[8] The writing of an IPCC assessment report is made much easier if there is general agreement between the Lead Authors and Coordinating Lead Authors of a given chapter. One way to achieve this is to avoid involving any potential authors who might be sceptical of the claim of a significant human influence on temperature.

[9] From all this one can conclude that the IPCC
(a) was created on the presumption of the existence of a widespread human influence on climate
(b) benefited enormously from publicity from the UNEP, and later the UNFCCC, both of which led the public to believe that the human influence was significant despite the absence of evidence to support such a claim
(c) is focussed on the narrow issue of any human influences on climate and has no mandate to examine all possible causes (which means it cites only material relevant to its charter)
(d) benefits through the massive government funding to research aligned with the IPCC view because such research produces a large number of peer-reviewed papers
(e) attracts researchers who benefitted from the research funding above) as Lead Authors and Coordinating Lead Authors
(f) does not include sceptical authors (and yet scepticism is an essential part of science)
(g) is not independent of government and politics because government representatives effectively dictate what will be said in the Summary for Policymakers.

3. Comments on the findings of IPCC AR5 WG I
[10] Taken in the context of other comments in the WG I SPM the main finding of AR5, 'It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century' (pg. SPM-12) is merely an assertion, not a claim based on convincing evidence.

[11] On page three of the SPM we are told that temperature data in the previous 15 years (1998-2012) show negligible warming. The statement about recent temperatures is couched in technical language that in essence says that it is unclear whether there was slight cooling or slight warming from 1998 to 2012 but whatever the exact trend it was lower than the temperature trend from 1951 to 2012.

[12] The IPCC blames the flat trend on "several small volcanic eruptions" during the period 2008-2011" [pg SPM-9] but fails to name any of these, which prevents any validation of the claims. This claim is very suspicious.

[13] Firstly, fifty percent of the Earth's surface lies between latitudes 30N and 30S but little volcanic activity has been reported in that region since the eruption of Mount Pinatubo in 1991.

[14] Secondly the first of the three references cited in WGI section 8.4.2 (Nagai et al (2004)) claims (and graphs) volcanic emissions as persistent and almost constant since about 1994 when the effects of Pinatubo had weakened, albeit these sustained atmospheric particles at less than 1/30th the amount immediately after the Pinatubo eruption. The period described in Nagai et al (2004) is not the "2008 to 2011" period described in the WG I SPM but why should there be a discrepancy? Not for the first time is there a difference between what the IPCC claims a reference says and what it actually says¹. Maybe the problem is that Foster and Rahmstorf (2011)² showed, by a different technique (optical depth v. Lidar), that after the sulphide emissions from the Pinatubo eruption faded (approx. 1994) to 2008 the atmosphere contained negligible particles that might obstruction solar radiation. Together it seems that, regrettably, the basis for the IPCC's claims about the cooling caused by volcanic emissions is somewhat "flexible".

[15] On page 10 of the SPM we are told that various improvements have been made to climate models, but deep within that text is the comment "There may also be... in some models, an overestimate of the response to increasing greenhouse gases."

¹ In the 2007 report the discussion about the European heat wave of 2003 said "The 2003 heat wave was associated with a very robust and persistent blocking high-pressure system that may be a manifestation of an exceptional northward extension of the Hadley Cell (Black et al., 2004; Fink et al., 2004)". But in fact Fink et al make no comments about a blocking high-pressure system or Hadley Cell Circulation!
[16] This is a critical admission because the IPCC relies on the output of climate models to attribute a certain portion of any warming to human activity and projections of future temperatures are determined by models.

[17] I also draw your attention to recent work by von Storch et al (2013)\(^3\), which found that only about 3% of 251 climate models predicted temperature trends as low, or lower than, the trend in observed temperatures over the last 15 years. It seems that the IPCC’s use of the word "some" would be more accurately expressed as "the vast majority".

[18] I submit that the climate models used by the IPCC are constructed in such a way that the impacts of carbon dioxide are exaggerated and that the influences of natural climate forces are downplayed. One should not interpret this as the models per se exaggerating the influence of carbon dioxide; the error lies in the algorithms in the computer software.

[19] The IPCC’s AR3 and AR4 (published 2001 and 2007 respectively) listed climate forces associated with heat transfer by radiation and indicated that the level of scientific understanding (LSU) of many of these forces was low or very low. Table 2-11, starting on page 201 of the 2007 report, listed 16 forces and indicated that the LSU of 13 of them were rated as 'Low' or 'very low'. The latest IPCC assessment report modifies the format of reporting (see table 8.14), lists 14 forces associated with heat transfer by radiation and now claims that one force is very well understood, five others are of 'medium' understanding and eight are of less than 'medium'. And note that these are only the subset of climate forces associated with heat transfer by radiation, not a list of all climate forces. It simply begs the belief that accurate climate models can be constructed when even the IPCC admits that many forces are poorly understood.

[20] The 2007 IPCC assessment report (i.e. 4AR) indicated that the output of climate models was a relatively close match to historical temperatures. To the best of my knowledge, since that report there have been no fundamental changes to algorithms for the influence of carbon dioxide on temperature, so because 5AR says that climate models exaggerate that influence then it logically follows that the models also exaggerated the influence discussed in IPCC 4AR and IPCC 3AR. Further, if the influence of carbon dioxide was exaggerated in 4AR but the output of models was a reasonable replication of historical temperatures, it means that the influence of other forces was under-estimated.

[21] The IPCC's finding 'It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century' is firstly vague because 'dominant' can mean anything from 50.1% to 99.9% when two factors are considered, 33.4% to 99.9% when three are considered, 25.1% to 99.9% when four are. I'm sure you the picture. The second reason for the claim lacking credibility is because it is based on the output of climate models.

\(^3\) http://www.academia.edu/4210419/Can_climate_models_explain_the_recent_stagnation_in_global_warming
models, which as I have shown above, very likely over-estimate the influence of carbon dioxide.

[22] In short the IPCC's primary finding is one without any credible basis.

[23] Incidentally, please note that I do not accept the wording of your question "Has AR5 sufficiently explained the reasons behind the widely reported hiatus in the global surface temperature record?" The word "hiatus" implies that warming will resume at some point in time but in fact no-one can say with any certainty if this will be in the near future or distant future. In this instance the word "stopped" would also be unacceptable because no-one can be certain that it has stopped. I prefer the neutral expression "absence of warming" (or if you prefer "absence of statistically significant warming").

4. Response to your question - "How effective is AR5 and the summary for policymakers in conveying what is meant by uncertainty in scientific terms?"

[24] I appreciate the IPCC's difficulty in uniformly conveying uncertainty but the present approach, of expressing uncertainty in terms of percentage likelihood (i.e. probability), gives a very false impression that these expressions have a mathematical basis.

[25] As I am sure you are aware, the IPCC guidance document for expressing uncertainty says "Likelihood may be based on statistical or modeling analyses, elicitation of expert views, or other quantitative analyses." (point 10 of IPCC document 'Guidance Note for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties')

[26] The IPCC's documented procedures fail to mandate that the basis for any statement of likelihood should be clearly stated, especially which of the above methods was used. As a result we have no idea of the foundation of certain claims.

[27] If expert opinion was sought then surely we are entitled to know whose opinion that was so that we might judge their credibility for ourselves. (Could perhaps, any expert opinion of likelihood expressed in 5AR have come from 'experts' who previously predicted continued warming over the period 1998-2012? If that is correct then the credibility of their opinions is low.)

[28] Even worse, IPCC procedures describe how any passage of text in an IPCC assessment report is likely the work of one or two Lead Authors, perhaps using material supplied by one or more Contributing Authors, and the passage subject to the general approval of the one or two Coordinating Lead Authors. That's a total of about five people, but if only one LA and one CLA were involved it would be as few as two. Without clear documentation of the basis of expressions of likelihood there is nothing to prevent this small number of authors basically fabricating or at least enhancing a claim. This might sound like an outlandish suggestion but
almost every IPCC assessment report has claimed an increase in likelihood but failed to show credible evidence to support those statements.

5. Response to your question – "To what extent does AR5 reflect the range of views among climate scientists?"

[29] As noted above in the discussion of the creation of the IPCC (section XX), sceptics of the notion that human activity has a significant impact on climate are not invited to take part. Two examples stand out as to why this is not the case. For the 2007 report hurricane expert Dr Chris Landsea was invited to be an author of one but found the Coordinating Lead Author of that chapter, who was not an expert in the matter, making public statements that Landsea did not agree with. Also for the 2007 report Dr Paul Reiter, an expert in mosquito-borne diseases had to threaten legal action before the IPCC would remove his name from the list of authors for a chapter, Reiter objecting very strongly to the draft text that was in contradiction to his expert views.

[30] Further, IPCC reports rarely cite the papers written by sceptics of significant manmade warming. There are multiple reasons for this:
- the IPCC's charter does not instruct it to consider alternative opinions
- relatively few such papers exist, due mainly to the research funding emphasis on supporting the IPCC view
- the IPCC appears to cite alternative papers only to try to show them to be flawed which, by extension, reinforces the IPCC view
- researchers who are sceptical of the IPCC view do not share an alternative common view but in fact hold many opinions and hypotheses and to talk of a specific alternative hypothesis would mean ignoring a large number of other hypotheses.

[31] If the IPCC had been instructed to investigate all possible causes of climate variability then it follows that these alternative views would likely have received due consideration and discussion, especially if research in these areas was better funded.

6. Response to your questions - Is the IPCC process an effective mechanism for assessing scientific knowledge? Or has it focussed on providing a justification for political commitment?

[32] If your question relates to the process of summarising the latest findings (i.e. papers) and then presenting a summary of that summary for government approval then my response is that this method is unsuitable for climate science because (a) the subject is poorly understood and (b) the source information is skewed because large areas of climate science research, especially those investigating natural forces, are poorly funded and produce nowhere near the volume of papers produced by the heavily-funded research that is aligned to the IPCC view.
If your question relates to the IPCC itself, then my response is that the IPCC's charter is far too specific and makes the presumption that the force it is to investigate (a) exists and (b) is significant enough to warrant action. Making presumptions is not how science should be done.

A far better approach would be to direct a body to investigate all possible causes of climate variation, and if this was too much for one body then construct separate bodies to consider separate forces. Associated with this is the need to ensure the absence of publicity bias and any similar attempts to manipulate public opinion towards a certain view.

Your question about whether the IPCC process is focused on justifying a political commitment is difficult to answer. I don't understand the context that you refer to and my only option is to comment briefly on two political contexts that may be relevant.

At the top level we have United Nations bodies, firstly the UNEP which as explained above, agitated for the creation of the IPCC on the assumption that the human influence was significant. Secondly there is the UNFCCC, which has stated that the post-1950 warming is caused by human activity. To show that these organizations were wrong would be potentially damaging to the standing of the UN.

(I rhetorically ask, what does one do when the UN is wrong? The UNEP was wrong on "acid rain" being a major threat to trees, was wrong about DDT and was wrong about CFC's causing the hole in the ozone layer - because it wrongly believed that a reaction occurred ten times faster than it really does and the slower speed is too slow to sustain critical chemical reactions. This were all major issues that governments were pressured into reacted to and yet the UNEP appears to have escaped any censure.)

If the question relates to governments and political parties then yes, I believe there is some bias in that direction. If the IPCC view is shown to be wrong either by alternative theories or by temperatures that do not match IPCC predictions then governments and all political parties that appear to concur with the IPCC view will suffer backlash on two front – (a) from some voters, for being slow to see through the IPCC's claims and (b) from other voters who still believe, for not supporting the IPCC view.

Further it was reported from Stockholm that some governments did not want the WG I SPM to mention the absence of warming across 1998 to 2012. This to me sounds like those governments were worried about the consequences of mention of failure of temperatures to rise as predicted.

Finally I note that the last few UNFCCC conferences have proposed that developed countries should fund climate mitigation in developing and under-developed countries. Surely the promise of money is a powerful incentive for those beneficiary countries to support the IPCC view.
SUPPLEMENTARY NOTES

My credentials for making this submission are as follows:

- author of three peer-reviewed papers on climate matters

- PhD student at James Cook University (Townsville, Australia) whose thesis is on climate issues

- Expert Reviewer of IPCC AR5 WGI contribution (more than 500 comments across all chapters)

- Critic and analyst of IPCC data whose comments have been cited in the US senate, in particular:

  "We have been Conned - an Independent review of the IPCC"
  http://mclean.ch/climate/docs/We_have_been_conned_rev2.pdf

  "Climate Science Corrupted"

  "Prejudiced Authors, Prejudiced Findings"