



CONSENSUS? WHAT CONSENSUS?

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The Global Warming Policy Foundation
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Summary

Recent reports that 97% of published scientific papers support the so-called consensus on man-made global warming are based on a paper by John Cook *et al.*

Precisely what consensus is allegedly being supported in these papers cannot be discerned from the text of the paper.

An analysis of the methodology used by Cook *et al.* shows that the consensus referred to is trivial:

- that carbon dioxide (CO₂) is a greenhouse gas
- that human activities have warmed the planet to some unspecified extent.

Almost everybody involved in the climate debate, including the majority of sceptics, accepts these propositions, so little can be learned from the Cook *et al.* paper.

The extent to which the warming in the last two decades of the twentieth century was man-made and the likely extent of any future warming remain highly contentious scientific issues.

The paper

In recent months it has been repeatedly stated that 97% of scientists agree that global warming is real and man-made. These claims are based on a paper published by John Cook *et al.* in the journal *Environmental Research Letters*.¹

The authors are all associated with the controversial global warming activist website *Skeptical Science*. Their conclusions were as follows:

Among abstracts expressing a position on AGW [Anthropogenic Global Warming], 97.1% endorsed the consensus position that humans are causing global warming.

The paper received an extraordinary reception, being downloaded more than 20,000 times in the first few days after it was published, and receiving hundreds of citations from around the internet. It was even referred to on President Obama's Twitter feed:²

@BarackObama: Ninety-seven percent of scientists agree: #climate change is real, man-made and dangerous.

It should be noted that the Obama statement misrepresented the Cook *et al.* paper, which said nothing about global warming being dangerous and was based on

¹ Cook J et al. 'Quantifying the consensus on anthropogenic global warming in the scientific literature.' *Environmental Research Letters*. 2013; 8 024024

² Although note that the Obama Twitter account is operated by an activist group called Organising for Action. Their work is endorsed by Obama, but the majority of the tweets on the BarackObama account, including the one in question, are not issued by the president in person.

analysis of published abstracts rather than the opinions of scientists. This confusion over exactly what the paper was about also seemed to affect Ed Davey, the Secretary of State for Energy and Climate Change, who cited it in an interview with the BBC's Andrew Neil:³

We've had a complete unchallenged view of the climate change deniers. I think we need to have rather more balance in the debate, particularly when we saw a recent analysis of 12,000 scientific papers...and of the scientists who expressed a view – these were climate change papers – of the scientists who expressed a view 97% said that climate change was happening and that it was human-made activity.

Planning

The amount of media attention the paper received is unsurprising given that the paper appears to have been written for this express purpose. In early 2012, a security lapse at the *Skeptical Science* website led to an internal forum for its staff being exposed to public view. Among the contents were several discussions about what became the Cook *et al.* paper.

In one exchange, Cook stated that the purpose of the paper was to establish the existence of a consensus:

It's essential that the public understands that there's a scientific consensus on AGW. So [*Skeptical Science* activists] Jim Powell, Dana [Nuccitelli] and I have been working on something over the last few months that we hope will have a game changing impact on the public perception of consensus. Basically, we hope to establish that not only is there a consensus, there is a strengthening consensus.⁴

Another participant expressed concerns about the fact that the marketing of the paper was being planned before the research itself:

I have to say that I find this planning of huge marketing strategies somewhat strange when we don't even have our results in and the research subject is not that revolutionary either (just summarizing existing research).

These comments suggest that the project was not a scientific investigation to determine the extent of agreement on global warming, but a public relations exercise.

Methodology

The methodology used by Cook *et al.* was to obtain a list of scientific papers on the

³ <http://www.bbc.co.uk/news/uk-politics-23405202>

⁴ <http://www.populartechnology.net/2013/06/cooks-97-consensus-study-game-plan.html>

subject of climate change and to assess the extent of endorsement of the global warming hypothesis of each one based on a reading of its abstract. Although the paper described those rating the papers as ‘the independent rating team’, in fact the task was taken on by a team of volunteer activists from amongst the *Skeptical Science* community.

The definition of the what exactly was being endorsed by the papers was problematic for the author team, since there is widespread agreement, including among most sceptics, that carbon dioxide is a greenhouse gas and that humankind is therefore capable of warming the planet. The main focus of debate is over how much warming might take place.

However, the vast majority of scientific papers on global warming do not take a position on this question, so the idea of determining the extent of any consensus by a comprehensive review of the literature in the field was something of a nonsense. Cook and his colleagues were well aware of this problem and therefore appear to have decided to adopt a definition of the consensus that was deliberately vague – ‘that humans are causing global warming’. In the discussion on the *Skeptical Science* forum, this was called the ‘porno’ approach:

Okay, so we’ve ruled out a definition of AGW being ‘any amount of human influence’ or ‘more than 50% human influence’. We’re basically going with Ari’s porno approach (I probably should stop calling it that) which is AGW = ‘humans are causing global warming’. e.g. – no specific quantification which is the only way we can do it considering the breadth of papers we’re surveying.⁵

The shallow consensus

The formulation ‘that humans are causing global warming’ could have two different meanings. A ‘deep’ consensus reading would take it as all or most of the warming is caused by humans. A ‘shallow’ consensus reading would imply only that some unspecified proportion of the warming observed is attributable to mankind.

Differences over extent of any human influence is the essence of the climate debate. The vast majority of those involved – scientists, economists, commentators, activists, environmentalists and sceptics – accept that carbon dioxide is a greenhouse gas that will, other things being equal, warm the planet. But whether the effect is large or small is unknown and the subject of furious debate. The leaked Second Order Draft of the IPCC’s Fifth Assessment Report shows a range of figures for effective climate sensitivity – the amount of warming that can be expected from a doubling of carbon dioxide levels. At one end is a study by the eminent atmospheric scientist Richard Lindzen, which estimates less than 1°C of warming per doubling.⁶ If true, this would mean that climate change was inconsequential. At the other end are estimates based

⁵ <http://rankexploits.com/musings/2013/the-saga-continues/>

⁶ Lindzen is a member of the GWPF Academic Advisory Council.

on computer simulations, which would, if realised, be disastrous.

It is possible to show that when Cook and his colleagues say that there is consensus of the proposition that ‘humans are causing global warming’, they are adopting the shallow definition. According to the protocols used by the volunteers who rated the abstracts, a paper was said to endorse the consensus if it accepted the concept of anthropogenic global warming, either implicitly or explicitly, and regardless of whether it quantified the extent of human influence on the planet’s temperature. Most papers on mitigation appear to have been taken to implicitly endorse the consensus,⁷ although some seem to have been rated as neutral. A paper was only said to reject the consensus if it minimised the human contribution, for example by proposing that natural mechanisms dominate or, more explicitly, suggested that the human contribution is minimal.

There was therefore an asymmetry in the classifications, with papers accepting the influence of a large or an *unspecified* level of human influence included in the consensus and only those actively minimising the human influence recorded as rejecting it. For example, the guidance given to the volunteer raters suggests that an abstract containing the words ‘Emissions of a broad range of greenhouse gases of varying lifetimes contribute to global climate change’ should be taken as explicit but unquantified endorsement of the consensus. Clearly the phrase quoted could imply *any* level of human contribution to warming. This leads to the unavoidable conclusion that the consensus as revealed by Cook *et al.* was indeed the shallow one.

This understanding of the Cook paper is confirmed by some surprising categorisations of individual papers, with publications by the most prominent critics of mainstream climate science said to endorse the consensus. For example, a paper by Nir Shaviv,⁸ in the past described by *Skeptical Science* as a ‘denier’,⁹ was classified as ‘Explicitly endorses but does not quantify or minimise’ global warming.

Shaviv has rejected this classification of his work entirely:

...it is not an accurate representation [of my work]. The paper shows that... climate sensitivity is low...I couldn’t write these things more explicitly in the paper because of the refereeing, however, you don’t have to be a genius to reach these conclusions from the paper.¹⁰

Similarly, Alan Carlin, formerly of the US Environmental Protection Agency, has criticised Cook *et al.*’s classification of his paper as explicitly endorsing, but not minimising global warming, noting that the abstract makes clear his belief that carbon dioxide will produce very little warming:

The economic benefits of reducing CO₂ emissions may be about two orders of

⁷ The guidance to raters suggests that the words ‘carbon sequestration in soil is important for mitigating global climate change’ should be taken as implicit endorsement.

⁸ Shaviv, who works at the Hebrew University of Jerusalem, is a member of the GWPF Academic Advisory Council.

⁹ <http://www.skepticalscience.com/examining-the-latest-climate-denialist-plea-for-inaction.html>

¹⁰ <http://www.populartechology.net/2013/05/97-study-falsely-classifies-scientists.html>

magnitude less than those estimated by most economists because the climate sensitivity factor...is much lower than assumed by the United Nations because feedback is negative rather than positive and the effects of CO₂ emissions reductions on atmospheric CO₂ appear to be short rather than long lasting.¹¹

The treatment of the Shaviv paper is particularly interesting: its author did not actively downplay global warming in the text because this would have made it difficult to get the paper through peer review. So because of this silence on the extent of manmade influence, its classification as endorsing the consensus was correct *according to the protocol set out for the raters*.

It can be seen from these comments that both these authors accept that carbon dioxide is a greenhouse gas, but believe that climate sensitivity – the amount of warming we should expect – is low. The example of endorsement given in the guidelines – ‘Emissions of a broad range of greenhouse gases of varying lifetimes contribute to global climate change’ – would not have been contradictory in either paper. Again, one is left with the impression that the classification was correct, confirming the shallow nature of the consensus.

Conclusions

Cook *et al.* set out to demonstrate the existence of an overwhelming consensus on global warming. While their approach appears to owe more to public relations than the scientific method, there is little doubt that there is a scientific consensus, albeit not the one that the authors of the paper have led people to believe exists.

The consensus as described by Cook *et al.* is virtually meaningless and tells us nothing about the current state of scientific opinion beyond the trivial observation that carbon dioxide is a greenhouse gas and that human activities have warmed the planet to some unspecified extent.

The last word on the paper goes to Professor Mike Hulme, founder of the Tyndall Centre, the UK’s national climate research institute:

The [Cook *et al.*] article is poorly conceived, poorly designed and poorly executed. It obscures the complexities of the climate issue and it is a sign of the desperately poor level of public and policy debate in this country that the energy minister should cite it. It offers a similar depiction of the world into categories of ‘right’ and ‘wrong’ to that adopted in [an earlier study]: dividing publishing climate scientists into ‘believers’ and ‘non-believers’. It seems to me that these people are still living (or wishing to live) in the pre-2009 world of climate change discourse. Haven’t they noticed that public understanding of the climate issue has moved on?¹²

¹¹ <http://www.populartechnology.net/2013/05/97-study-falsely-classifies-scientists.html>

¹² <http://blogs.nottingham.ac.uk/makingsciencepublic/2013/07/23/whats-behind-the-battle-of-received-wisdoms/>

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Our main focus is to analyse global warming policies and their economic and other implications. Our aim is to provide the most robust and reliable economic analysis and advice.

Above all we seek to inform the media, politicians and the public, in a newsworthy way, on the subject in general and on the misinformation to which they are all too frequently being subjected at the present time.

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