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From: The Viscount Monckton of Brenchley

Climate Change Committee
Enquiry into the impacts of climate change

29 April 2019

Gentlemen,

On an error in defining temperature feedback

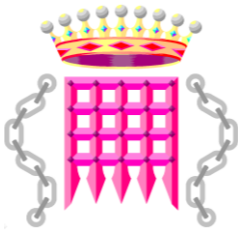
My co-authors and I have recently submitted the above-named paper (attached, together with a one-page summary) to a top-ten learned journal of climatology for peer review and, if thought fit, publication. The paper has been in preparation for some years. It has been reviewed before submission by some of the world's leading physicists, and our result has been discussed with approval at several international scientific conferences.

The paper demonstrates that official midrange estimates of Charney sensitivity – global warming in response to doubled CO_2 concentration - and consequently of all equilibrium sensitivities are very greatly exaggerated; that Charney sensitivity will be only 1.15 [1.10, 1.25] K; and that, therefore, even in the absence of any mitigation the slow and small global warming that is to be expected will be net-beneficial through increasing the net primary productivity of plants and raising crop yields via CO_2 fertilization, and through reducing the net number of temperature-related deaths worldwide, since cold is a bigger killer than heat.

In short, if we are correct – and we have verified the underlying theory with the assistance of a national laboratory, as well as by conducting an empirical campaign based on ten published estimates of anthropogenic net radiative forcings and of observed warming – global warming is not, after all, a problem: it is net-beneficial.

We commenced our research when we realized that the observed warming in the three decades since 1990 had occurred at about one-third of the rate originally predicted in that year; that, although IPCC had been constrained by that observation to reduce its medium-term projections it had not correspondingly reduced its Charney-sensitivity estimates but had left them unaltered; and that, though only a small uncertainty is currently thought to exist in estimates of the magnitude of reference sensitivity to doubled CO_2 before accounting for temperature feedback, the broad and still-unconstrained uncertainty of $\pm$ 1.5 K in Charney sensitivities (i.e. sensitivities after accounting for feedback) indicates continuing uncertainty as to the temperature response to the operation of the sensitivity-altering feedbacks – notably the water-vapour feedback.

Accordingly, we focused our enquiries on the question of feedback, and consulted the ranking experts in that field. One of us is a tenured Professor of Climatology; another is an award-winning solar astrophysicist; another is a tenured Professor of Control Theory (the branch of engineering physics from which climatology borrowed the mathematics of feedback); and another is an Emeritus Professor of Statistics. We also have as co-authors an expert on the electricity industry worldwide; a doctor of physics from MIT; two process engineers (who specialize in the use of feedback mathematics); and a young environmental consultant.



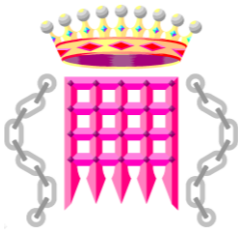
Our conclusion is that official climatology has not merely misunderstood the mathematics of feedback: it has misdefined temperature feedback and has consequently misapplied it. In effect, climatology has failed to appreciate that such feedbacks as may subsist in a dynamical system such as the climate at any given moment must perforce act not only upon some arbitrarily-defined perturbation of the input signal (in the climate the input signal is emission temperature and the perturbations are those driven by the presence of both natural and anthropogenic greenhouse gases) but also upon the entire reference signal (in the climate, the reference signal is the sum of emission temperature and all natural as well as anthropogenic perturbations thereof, before feedback is taken into account).

Since the emission temperature is 255 K, the natural perturbation from greenhouse gases is 10 K and the anthropogenic perturbation is about 1 K to date, the feedback response to the 1 K anthropogenic warming is only a very small fraction of the total feedback response to the reference temperature, which is the sum of these three quantities. Yet climatology has, in effect, allocated all of the feedback response solely to the tiny anthropogenic perturbation. In consequence, it has imagined that the operation of the sensitivity-altering feedbacks will approximately triple the reference sensitivity of 1.05 K to doubled CO_2, while in fact feedback response to that reference sensitivity is only about 0.1 K, giving a midrange Charney-sensitivity estimate of just 1.15 K after allowing for the sensitivity-altering feedbacks.

Another important consequence of our research is that the interval of Charney sensitivities, currently 1.5 K either side of the greatly overblown 3.35 K midrange estimate, becomes 0.05-0.1 K either side of the corrected 1.15 K midrange estimate. Since nearly all of the feedback response in today's climate is the response to emission temperature and to the warming driven by the naturally-occurring greenhouse gases, the feedback response to the tiny anthropogenic perturbation is so small as to leave very little room for uncertainty in the overall estimate of Charney sensitivity, or, therefore, of equilibrium sensitivities generally.

In terms of mitigation economics, there is in any event remarkably little justification for action – however piously intended – to mitigate global warming. The Stern Review of 2006 conceived as its worst-case scenario an imagined warming of 11 K during the 21st century. On the basis of that regrettably exaggerated estimate, unwarranted even by the absurdly extreme RCP 8.5 scenario in the latest IPCC report, Stern imagined (but did not explicitly disclose in his report that he had imagined) a 10% probability that global warming would end the world by 2100 (see Dietz et al. 2006 for an admission that this was Stern's fundamental assumption). It was on that unsound foundation that Stern adopted his artificially low discount rate of 1.4% p.a. (a rate that was likewise not explicitly stated in his report). The usual market discount rate is 5-10% p.a., with 7% p.a. as a good midrange discount rate. If Stern had used the market discount rate of 7% p.a. over the 21st century, then the net GDP cost of doing absolutely nothing about global warming, which he had estimated at 3% of GDP throughout the 21st century on the basis of a 3 K midrange estimate of 21st-century warming, would have fallen by nine-tenths to just 0.3% of GDP.

However, our own research shows that the warming to be expected by the end of this century will not be 3 K but more like 1 K. And that betokens a warming rate of about 0.1 K/decade, very much in line with observation. that rate of warming is far too slow to do any net harm at all. Indeed, even on the basis of assuming 5.4 K warming by as soon as 2080, research



conducted for the EU Commission has established that the lives saved by reducing cold-weather events will comfortably outstrip the lives lost by increasing heatwaves. In short, the economic as well as the social benefits of returning to the atmosphere some modest fraction of the concentration that was present during the Cambrian era very greatly outweigh the imagined (and largely imaginary) disbenefits.

We submit, therefore, that our result, if found correct, demonstrates that there is absolutely no need to do anything at all to make global warming go away. There will be too little of it to do net harm, and, on balance, it will do good.

We should be grateful if those advising the Climate Change Committee would consider our paper with the greatest of care. The paper is quite detailed, meticulously demonstrating each stage of the argument and providing formal proofs step by step. Since our method is entirely explicit and fully disclosed and documented, it should be possible for anyone with the requisite scientific knowledge to follow our argument, and we shall be delighted to assist anyone wishing to understand our result. We are hoping that, to the extent that our analysis is disagreed with, those disagreeing with it will be kind enough to let us have an outline of the reasons for their disagreement, so that we can respond appropriately.

We conclude that there subsists no legitimate scientific basis for any concern whatsoever about global warming, and that the immensely complex and costly apparatus intended to prevent that warming from occurring at an imagined catastrophic rate is supererogatory and may be entirely dispensed with.

The United Kingdom, through not having taken sufficient care to get the science right until now, has set herself needlessly at an enormous commercial disadvantage against other countries less willing to be panicked by powerful and well-funded pressure-groups into adopting emergency measures that are entirely unnecessary. Entire industries – coal-fired generation, aluminium smelting, steelworks and many others yet to come – have been or are to be destroyed or driven to higher-unit-emission jurisdictions overseas at the instance of those pressure-groups, without any legitimate scientific or economic justification, and in such a manner as to increase rather than decrease Man's global "carbon footprint" – not that such "footprints" matter once climatology's error of physics is corrected.

The very costly and harmful impact of global-warming mitigation policies has already far outweighed any net-adverse effect of global warming itself, and the costly impact of totalitarian meddling in the free market in the specious name of Saving The Planet will only do more harm still in the future unless a more rational scientific, social and economic approach is henceforth adopted.

Yours sincerely,

Monckton of Brenchley

Viscount Monckton of Brenchley

Attached: Paper *On an error in defining temperature feedback* (full text)
Summary of the paper