



The Climategate Inquiries

Andrew Montford

Foreword by Lord Turnbull

The Global Warming Policy Foundation
GWPF Report 1

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We have to take a self-critical view of what happened. Nothing ought to be swept under the carpet. Some of the inquiries – like in the UK – did exactly the latter. They blew an opportunity to restore trust.¹

--Hans von Storch, Professor of Climatology, 2 August 2010

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¹ Von Storch, H. Wir müssen die Herausforderung durch die Skeptiker annehmen. Interview with Daniel Lingenhöhl, Handelsblatt, 2 August 2010.

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Foreword

When in November 2009 a large archive of emails and files from the Climatic Research Unit at the University of East Anglia appeared on the internet a number of serious allegations were made including:

- that scientists at the CRU had failed to give a full and fair view to policy makers and the IPCC of all the evidence available to them.
- that they deliberately obstructed access to data and methods to those taking different viewpoints from themselves;
- that they failed to comply with FOI requirements;
- that they sought to influence the review panels of journals in order to prevent rival scientific evidence from being published.

Even if only some of these accusations were substantiated the consequences for the credibility of climate change science would be immense. This was at a time when the international negotiations on climate change were foundering (though not to the extent that they have done subsequently), and when, in the recession, the public and businesses were beginning to question the costs they were being asked to bear in order to achieve fundamental changes in our society.

One would therefore have expected the relevant “authorities”, Government/Parliament, the University of East Anglia (UAE) and the Royal Society, to have moved fast and decisively to get to the bottom of the matter. There was indeed a flurry of activity and three inquiries were set in train, including a hearing by the House of Commons Science and Technology Committee; the Climate Change E-mails Review (CCE) set up by UAE and chaired by Sir Muir Russell; and the Scientific Assessment Panel (SAP) set up by UAE in consultation with the Royal Society and chaired by Lord Oxburgh.

Sadly, as the report by Andrew Montford clearly demonstrates, all three reports have serious flaws. His report shows that:

- these enquiries were hurried
- the terms of reference were unclear
- insufficient care was taken with the choice of panel members to ensure balance and independence
- insufficient care was taken to ensure the process was independent of those being investigated, eg the Royal Society allowed CRU to suggest the papers it should read
- Sir Muir Russell failed to attend the session with the CRU’s Director Professor Jones and only four of fourteen members of the Science and Technology Select Committee attended the crucial final meeting to sign off their report.
- record keeping was poor.

But above all, Andrew Montford’s report brings out the disparity between the treatment of the “incumbents” and the “critics”. The former appear to have

been treated with kid gloves and their explanations readily accepted without serious challenge. The latter have been disparaged and denied adequate opportunity to put their case. The CCE report stated that holding public hearings “would be unlikely to add significant value”, thereby assuming that critics would not be able to provide any additional information that would help assess the validity of CRU submissions.

This failure to accord critics rights of audience was despite the fact that Lord Lawson wrote to Sir Muir Russell when the review was first announced specifically urging that his panel should take evidence from those outside CRU who may have been wronged.

The result has been that the three investigations have failed to achieve their objective, ie early and conclusive closure and restoration of confidence. The reports have been more Widgery than Saville. Writing in an article *The Atlantic*, Clive Crook of the *Financial Times* referred to “an ethos of suffocating groupthink”. That is exactly what Andrew Montford has uncovered, with the reviewers as much part of the group as the scientists.

What should happen next? First the new Select Committee on Science and Technology needs to engage quickly. To some extent the shortcomings of their predecessors’ report can be excused given the lack of time they had before the election was called and their confidence (misplaced in the event) that the issues it had not been able to tackle fully would be investigated by others. The Committee has already started the process by taking evidence from the chairs of the reports. It also needs to study Andrew Montford’s report and then reach a conclusion on whether the criticisms made are valid and whether the exoneration claimed is justified.

The Government then needs to look at the serious criticisms of the IPCC made in the recent InterAcademy Report. While the IPCC presents itself as a synthesis of the work of over 2,000 scientists it appears that in practice it is a process in which a much smaller number of scientists, whose work and careers are intertwined, dominate the assessment and seek to repel those who are situated elsewhere in the spectrum of scientific opinion. There is no transparent process for selection of participants in the assessments. Its handling of uncertainty is flawed and outcomes that are highly speculative are presented with unwarranted certainty. Use is made of non-peer-reviewed material without identifying it as such. The Government should then demand that the changes recommended by the IAC in practice, governance and leadership should be implemented immediately for the Fifth Assessment.

Parliament then needs to start moving forward. Parliament, whether Commons, Lords or a joint venture between the two, should undertake or sponsor two pieces of work. The first would be a study into the ethos and governance of scientific work in the field of climate change. From this I hope would emerge an acceptance that, contrary to the words of eminent scientists who should know better, science is never “settled” or “unchallengeable”. That is what the Church said to Galileo. Scientific progress always proceeds by proposition and challenge. Dissent must be accepted and not suppressed, and

evidence and methods must be transparent and readily shared. There should be full and willing compliance with FOI. Scientists should remain scientists and not become politicians or NGO activists.

The second piece of work should be a fundamental review of the science itself, which was the task which the Select Committee thought had been assigned to the Scientific Assessment Panel but which the latter defined more narrowly.

Climate science is immensely complex. There is a wide spectrum of methodologies and data and substantial differences in the conclusions which scientists reach. But instead of the full gamut of scientific thought being displayed with all its uncertainties, the public has been fed a particular variant of the climate change story with many of the caveats stripped out. There is, however, a much richer but more complex story to be told which recognizes the complexities and uncertainties and also recognizes that there are strong natural variations upon which manmade emissions are superimposed.

Only if the integrity of the science is reestablished and the strengths and weaknesses of the main propositions are acknowledged will there be the basis of trust with the public that policymakers need.

There is a final lesson to be drawn from the inquiries and Andrew Montford's report. Gone are the times when the "authorities" could largely assert their message without challenge using their superior resources, and thereby ensure that difficult issues remain hidden. We increasingly live in the world of Erin Brockovich versus Pacific Gas and Electric or David versus Goliath, where committed individuals with few resources can dig away at an issue. Armed with strengthened rights to information and the forensic power of the internet they will eventually get to the truth and quick but superficial inquiries will not stand in their way. Andrew Montford's report is such an example and the authorities would do well to accord it the respect it deserves.

Lord Turnbull
September 2010

Summary and Conclusions

The release of emails from the Climatic Research Unit at the University of East Anglia at the end of last year provoked a global controversy that is still raging today. Allegations that senior climatologists had manipulated results, flouted Freedom of Information laws and prevented critics from being published in the academic literature have swept the media and divided opinion among scientists, policy makers and the lay public around the world. Lawsuits about the legality of some of the events surrounding the e-mail affair are pending in the USA. It is possible that more will follow.

The principal allegations concerned

- whether the scientists had attempted to prevent sceptical views from appearing in the scientific literature or had misrepresented or ignored critical work in the IPCC reports
- whether scientists had deleted email and other data in order to avoid compliance with the Freedom of Information legislation
- whether scientists had failed to make their data and computer code available to critics in order to prevent it being examined and challenged
- whether the picture of the state of climate science presented by scientists in the IPCC reports was consistent with their own papers as they appeared in the scientific literature and also with their privately expressed views.

There have been four inquiries into the Climategate affair. In the UK, the House of Commons Science and Technology Committee undertook a short inquiry shortly before the last election. There were also two inquiries set up by the University of East Anglia itself: the Science Appraisal Panel headed by Lord Oxburgh and the Climate Change Emails Review under Sir Muir Russell. In addition Penn State University in the USA looked at aspects of the affair that directly affected them.

All inquiries have now reported and, as I show in the pages below, there can be little doubt that none of them have performed their work in a way that is likely to restore confidence in the work of CRU. None has managed to be objective and comprehensive. None has shown a serious concern for the truth. The best of them – the House of Commons inquiry – was cursory and appeared to exonerate the scientists with little evidence to justify such a conclusion. The Oxburgh and Russell inquiries were worse.

With the government embarking upon a radical decarbonisation programme, global warming is one of the most important questions facing the people of the UK today. As a result, climatology is watched more closely than any field of academic endeavour has ever been. While attempts to hide the truth from the public might have worked in the past, they simply wilt under this kind of scrutiny. Details of the investigations that civil servants would have preferred to remain hidden have been forced into the open using Freedom of Information legislation and the persistent work of a handful of people around the world. The picture revealed is not a pretty one.

Despite the seriousness of the matters revealed in the Climategate e-mails, the inquiries into the conduct and integrity of scientists at the Climatic Research Unit were rushed, cursory and largely unpersuasive.

None of the panels mounted an inquiry that was comprehensive within their area of remit. The evidence presented in this report suggests that the two panels set up by the University of East Anglia avoided key questions and failed to probe some of the most serious allegations. Terms of reference were either vague or non-existent. Insufficient consideration in the choice of panel members led to a failure to ensure balance and independence.

This lack of impartiality manifested itself in the different ways the panels treated CRU scientists and their critics. While CRU justifications and explanations were willingly accepted without any serious probing, critics were denied adequate opportunity to respond and to counter demonstrably inaccurate claims.

The half-day hearing by the Science and Technology Select Committee was curtailed by the impending election. Key allegations were not examined and CRU staff were cleared of some allegations without evidence. The main CRU critics were not invited to give oral evidence and much of their written evidence was not taken into consideration.

The Scientific Assessment Panel headed by Lord Oxburgh was chosen so that only a minority of members could be expected to look at the evidence with 'questioning objectivity'. Despite their claim to the contrary, the research papers the panel examined were not selected "on the advice of the Royal Society." They were, in reality, selected by UEA itself and were apparently approved by its director, Professor Phil Jones. The papers examined avoided most of the key criticisms of CRU scientists' published work and all of the criticisms relating to their involvement in IPCC report. No records were kept of interviews and important papers have been destroyed.

The University of East Anglia assured parliament that the Scientific Assessment Panel would re-assess the accuracy and reliability of CRU science. In reality, Lord Oxburgh was instructed to look only at the conduct of the CRU scientists. Concerns over the quality of the science and how it was represented in IPCC reports were withheld from the report.

The Climate Change Emails Review headed by Sir Muir Russell included several vocal supporters of the manmade global warming hypothesis. One member had worked at UEA for 18 years. Only CRU scientists were interviewed and no oral evidence was taken from critics. The panel failed even to ask witnesses whether emails had been deleted. The panel simply said they had not seen any evidence that information subject to FOI had been deleted, despite strong evidence to the contrary.

Advice from an external advisor to the Russell Review to consider breaches of peer-review confidentiality was ignored. CRU staff were exonerated of attempts to undermine the peer review process without any credible evidence on which to base such a finding.

This report is about the Climategate inquiries themselves. Nothing in it should be taken as implying the guilt or innocence of any person on any of the allegations. Nevertheless, there is now considerable evidence that both Parliament and the public have been misled about the nature of the investigations by some of those involved. All in all, the evidence of the failings of the Climategate inquiries is overwhelming. Public confidence in the reliability of climate science will not be restored until a thor-

ough, independent and impartial investigation takes place. If Parliament does not instigate a credible investigation into the many unanswered issues arising from the CRU emails, it will be the reputations of British science and British government that suffer while the public's confidence in climate science is unlikely to be restored.

Abbreviations

The following abbreviations are used

- SCR: House of Commons Science and Technology Science and Technology Committee. The Disclosure of Climate Data from the Climate Research Unit at the University of East Anglia. Vol I Report
- SCE: House of Commons Science and Technology Science and Technology Committee. The Disclosure of Climate Data from the Climate Research Unit at the University of East Anglia. Vol II Evidence.
- OR: Oxburgh Report
- CCE: Climate Change Emails Report
- HA: Archive of Professor David Hand's email correspondence relating to the Oxburgh Report. Available at http://www.whatdotheyknow.com/request/lord_oxburghs_inquiry#outgoing-75670
- CCEH David Holland's submission to the CCE panel. Available on request from crusub@tesco.net

Part I Introduction

1. Some time in mid-November 2009, an unidentified person extracted an archive of data, computer code and emails from the servers of the Climatic Research Unit (CRU) at the University of East Anglia. The archive was eventually posted to a web server in Russia and over the next few days a series of cryptic messages and links to the archive were posted on the blogs of prominent climate sceptics.
2. The archive contained over 1000 emails which had passed between the scientists at the CRU and their colleagues around the world. Word rapidly spread that these messages appeared to contain damning evidence of malpractice by a variety of climatologists on both sides of the Atlantic.
3. The principal allegations concerned
 - whether the scientists had attempted to prevent sceptical views from appearing in the scientific literature or had misrepresented or ignored critical work in the IPCC reports
 - whether scientists had deleted email and other data in order to avoid compliance with the Freedom of Information legislation
 - whether scientists had failed to make their data and computer code available to critics in order to prevent it being examined and challenged
 - whether the picture of the state of climate science presented by scientists in the IPCC reports was consistent with their own papers as they appeared in the scientific literature and also with their privately expressed views.

The IPCC

4. The Intergovernmental Panel on Climate Change (IPCC) is the body charged by the UN and its member governments with assessing the state of the world's climate and of the best available climate science. To that end it produces periodic reports, assessing the science of global warming, likely impacts of the projected warming and possible mitigation and adaptation strategies. The most recent of these, the Fourth Assessment Report was published in 2007.

UEA and the Climatic Research Unit

5. Since its foundation in 1971, the Climatic Research Unit of the University of East Anglia has become one of the leading world centres for the study of global climate. Its scientists are involved in several key areas of study, including the maintenance of what is widely seen as the most important instrumental surface temperature record, known as CRUTEM. Its staff are also closely involved in paleoclimate studies, which attempt to reconstruct temperatures over previous centuries.

6. The unit operates under the direction of Professor Phil Jones, the man who is at the centre of many of the most serious allegations. A graduate of the University of Lancaster, Jones earned his PhD at the University of Newcastle. He became head of CRU in 1998, at first jointly with a colleague and latterly as sole director. He was a contributing author for the IPCC's Third Assessment Report of 2001 and a coordinating lead author for a key chapter of the Fourth Assessment Report in 2007.

7. Two other CRU scientists are also prominent in the Climategate emails. Professor Keith Briffa is a paleoclimatologist who specialises in the reconstruction of temperatures - in the distant past, before instrumental temperature records existed - from tree rings. Dr Tim Osborn is a younger colleague working in the same area. Briffa and Osborn were respectively a lead author and contributing author of the IPCC's Fourth Assessment Report

The aftermath and reactions

8. Many media outlets appeared to be extremely reluctant to mention the Climategate affair. *The Guardian* deleted all mention of the emails from its online comments threads and failed to publish a story on the affair until a week after the leak became public.² *The Times'* first coverage was on 23 November 2010: an opinion piece by Lord Lawson in which he called for a high-level independent inquiry.³ *The Times'* first news story mentioning the affair did not appear until 3 December 2010, two weeks after it had become common knowledge on the Internet.⁴

Extent of the problems

9. Although in the wake of Climategate the media focus has been very much on CRU, it is not just scientists from the unit who are implicated. The emails include messages from a veritable *Who's Who* of climatology, including several scientists who are at the very centre of the IPCC process. As the Institute of Physics noted in its submission to the subsequent Parliamentary inquiry:

"... most of the e-mails were exchanged with researchers in a number of other leading institutions involved in the formulation of the IPCC's conclusions on climate change. In so far as those scientists were complicit in the alleged scientific malpractices, there is need for a wider inquiry into the integrity of the scientific process in this field."⁵

10. Among the scientists whose conduct has been questioned as a result of the emails are:

- Professor Michael Mann of Penn State University, the author of the famous 'Hockey Stick' paper
- Professor Jonathan Overpeck, a lead author on the IPCC report
- Professor Mike Hulme of the University of East Anglia, a regular media commentator
- Dr Eugene Wahl of NOAA
- Professor Ben Santer, of the Lawrence Livermore National Laboratory
- Professor Stephen Schneider of Stanford, recently deceased
- Professor Kevin Trenberth, Head of the Climate Analysis Section at the US National Center for Atmospheric Research.

2 Press Association. Call for action on climate change. *Guardian* 24 November 2009. <http://www.guardian.co.uk/uk/feedarticle/8824124>.

3 Lawson, N. Copenhagen will fail – and quite right too. *The Times*, 23 November 2009. http://www.timesonline.co.uk/tol/comment/columnists/guest_contributors/article6927598.ece.

4 Webster, B. Climate e-mail hackers 'aimed to maximise harm to Copenhagen summit'. *The Times*, 3 December 2009.

5 Institute of Physics. SCE, Ev 168

Announcement of the panels

11. On 23 November, and just hours after Lawson's call for an independent inquiry into the *substance* of the e-mail, UEA published their first reaction to the release of the archive, issuing a press release acknowledging the leak and announcing an internal investigation into the *circumstances* surrounding the theft and publication of the e-mails:

"It is a matter of concern that data, including personal information about individuals, appears to have been illegally taken from the university and elements published selectively on a number of websites. The volume of material published and its piecemeal nature makes it impossible to confirm what proportion is genuine. We took immediate action to remove the server in question from operation and have involved the police in what we consider to be a criminal investigation...In addition to supporting the police in their enquiries, we will ourselves be conducting a review, with external support, into the circumstances surrounding the theft and publication of this information and any issues emerging from it."⁶

12. Although UEA, along with several other commentators,⁷ appeared to question whether the emails in the archive were genuine, these concerns were soon set aside as people who had sent or received some of the messages stepped forward. Indeed UEA's questioning of the authenticity of the emails actually appeared three days after Phil Jones had confirmed that they were real.⁸

13. The UEA statement was somewhat vague on the exact nature of its internal review, and particularly the degree to which it would be independent of the university. Shortly afterwards, this lack of clarity and the growing furore over the Climategate affair appears to have attracted the attention of Parliament. On 1 December 2009, Phil Willis, the chairman of the House of Commons Science and Technology Select Committee wrote to the vice-chancellor of UEA, Professor Edward Acton, asking for UEA's explanation of what had happened and seeking assurances that no data had been deleted. He also asked what steps Acton was taking to investigate the affair and to restore the reputation of the university.⁹ The findings of the select committee are considered in Part II.

14. The response from UEA was swift and, just two days later, Acton announced the appointment of an expert panel to look into the affair.¹⁰ The panel, known as the Climate Change Emails (CCE) panel was to be headed by Sir Muir Russell, a former civil servant and the former vice-chancellor of Glasgow University. The findings of the CCE panel will be considered in Part IV of this report.

15. Towards the end of January it was revealed that another investigation into CRU was now under way: the Information Commissioner's Office announced that it too was looking into some of the matters emerging from the CRU emails. The ICO had

6 University of East Anglia Press Office. CRU Update 1. 23 November 2009. <http://www.uea.ac.uk/mac/comm/media/press/2009/nov/CRU-update>

7 RealClimate blog (group posting). The CRU hack. 20 November 2009.

8 Wishart I. Climategate: What the media didn't tell you. *Investigate Magazine* 2010: 108; 28.

9 Willis P. Letter to Professor Edward Acton. 1 December 2009. <http://www.parliament.uk/business/committees/committees-archive/science-technology/s-t-pn04-091207/>

10 UEA Press Office. Sir Muir Russell to head the Independent Review into the allegations against the Climatic Research Unit (CRU). 3 December 2009. <http://www.uea.ac.uk/mac/comm/media/press/2009/dec/CRUreview>.

received a complaint from a prominent critic, David Holland, who alleged that the emails revealed that CRU scientists had conspired to block his requests for information. A statement issued by the ICO to the Sunday Times journalist, Jonathan Leake, suggested that Holland's case was a good one:

"The Information Commissioner's Office is assisting the police investigation with advice on data protection and freedom of information.

The emails which are now public reveal that Mr Holland's requests under the Freedom of Information Act were not dealt with as they should have been under the legislation. Section 77 of the Freedom of Information Act makes it an offence for public authorities to act so as to prevent intentionally the disclosure of requested information."¹¹

16. However, it appeared that in spite of this, there would be few consequences as a result of the transgressions concerned. In their statement, the Information Commissioner's Office revealed the legal barriers that were preventing them from taking action.

"Mr Holland's FOI requests were submitted in 2007/8, but it has only recently come to light that they were not dealt with in accordance with the Act.

The legislation requires action within six months of the offence taking place, so by the time the action taken came to light the opportunity to consider a prosecution was long gone. The ICO is gathering evidence from this and other time-barred cases to support the case for a change in the law."¹²

17. On 11 February 2009, a further UEA press release announced an extension of their inquiry. Investigation of the Climategate affair was now to be split between Muir Russell's CCE review, which would examine the emails and consider questions of misconduct, and a new panel, tasked with reassessing the science of CRU's research output:

"An independent external reappraisal of the science in the Climatic Research Unit's (CRU) key publications has been announced by the University of East Anglia. The Royal Society will assist the University in identifying assessors with the requisite expertise, standing and independence."¹³

18. It was only at the end of March 2010 that the identity of the panellists for the scientific inquiry was revealed. Shortly before the publication of the findings of the Science and Technology Committee, UEA announced that the scientific assessment panel would be headed by Lord Oxburgh. Lord Oxburgh's panel and its findings are discussed in Part III.

19. In addition a number of related inquiries have been launched as a result of the concerns over the integrity of climatology that have resulted from the Climategate

¹¹ Webster, B and Leake J. Scientists in stolen e-mail scandal hid climate data. The Times, 28 January 2010. <http://www.timesonline.co.uk/tol/news/environment/article7004936.ece>

¹² Information Commissioner's Office. Statement issued to Jonathan Leake 22 January 2010.

¹³ University of East Anglia Press Office. New scientific assessment of climatic research publications announced. 11 February 2010. <http://www.uea.ac.uk/mac/comm/media/press/CRUstatements/New+scientific+assessment+of+climatic+research+publications+announced>

affair:

- Penn State University announced an investigation into Michael Mann, the American climatologist who appears prominently in the most controversial of the emails and who is a close associate of Phil Jones and other CRU scientists
- The Attorney General of the Commonwealth of Virginia announced an investigation into the use of public funds by Mann.

20. A further investigation was launched by the UN, who asked the InterAcademy Council (IAC), an umbrella group for national science academies, to look into procedural and management issues at the IPCC. Its report was published on 30 August 2010.

Part II The Parliamentary Inquiry

The committee

Committee membership

21. The Science and Technology Select Committee at the time of the inquiry consisted of eight Labour, three Conservative and two Liberal Democrats MPs, plus one independent. The committee was under the chairmanship of the Liberal Democrat, Phil Willis (now Lord Willis).

22. Several of the select committee members had backgrounds in science, and their qualifications to assess the Climategate issues received favourable comment from a number of quarters. Brian Iddon, for example, had been a Professor of Chemistry before entering Parliament, while Doug Naysmith and Des Turner had PhDs in immunology and biochemistry respectively.

23. It was clear from the moment the parliamentary inquiry was announced that time was going to be a severe constraint. With the general election due no later than the first days of June, but widely expected at the start of May, it was obvious that an in-depth inquiry was out of the question if a report was going to be issued before Parliament was dissolved. Many of the MPs on the select committee had already announced that they were to relinquish their seats at the election, among them the chairman, Phil Willis.

Phil Willis's 'denier' comments

24. Almost as soon as the inquiry was announced, the objectivity of the select committee was brought into question. Discussing the background to the inquiry with journalists, Phil Willis made some remarkably provocative statements:

“There are a significant number of climate deniers, who are basically using the UEA emails to support the case this is poor science. We do not believe this is healthy and therefore we want to call in the UEA so that the public can see what they are saying.”¹⁴

25. The use of the term “denier” is widely seen as a scurrilous attempt to compare those who question the alleged IPCC consensus with those who deny the historical fact of the Holocaust. While Willis later expressed his regret at his use of such offensive

¹⁴ Willis P, quoted in Daily Telegraph, 23 January 2010.

language, his behaviour would colour many outsiders' perceptions of the objectivity and neutrality of the inquiry even before the hearings began. The subsequent conduct of the inquiry and the report that followed did little to assuage these concerns.

26. Willis's neutrality was also brought into question by his suggestion that it was somehow improper for critics to question the quality of the science at UEA. It is a fundamental principle of the scientific method that all findings should be challenged and questioned in order to ensure their robustness. Willis's comments therefore seem to pay no regard to that principle.

Finding: Comments made by Phil Willis suggest that he was not a neutral chairman.

Terms of reference

27. The committee's terms of reference explained that they were to investigate three questions:¹⁵

- What are the implications of the disclosures for the integrity of scientific research?
- Are the terms of reference and scope of the Independent [Russell] Review announced on 3 December 2009 by UEA adequate...?
- How independent are the other two international data sets? [i.e. comparing the surface temperature dataset maintained by CRU to the equivalent records managed by scientists in the USA].

28. However, the committee's assessment of what constituted the key issues and the conceptions of the CRU's critics were significantly different. In particular, their focus on the CRUTEM temperature record meant that the committee avoided the vast majority of the emails, which concerned the unit's paleoclimate work.

29. Due to the impending general election, the committee's inquiry was necessarily limited and questioning of witnesses was restricted to a single day. In the introduction to their report, the committee noted that they would not "be able to cover all the issues raised by the events at UEA". They claimed, however, that they had covered what they believed to be the key areas. These were

- freedom of information issues
- the accuracy and availability of CRU datasets and programs
- the independent reviews.

Finding: With the general election looming, the scope of the select committee's work was extremely limited.

The written evidence

30. Written evidence was sent by 57 different groups and individuals including the main critics of CRU. UEA made several submissions, which presumably included the responses of Phil Jones on behalf of the CRU, since Jones made no submission of his own.

¹⁵ http://www.parliament.uk/parliamentary_committees/science_technology/s_t_cru_inquiry.cfm

31. A limit of 3000 words for each submission was set by the committee, which severely restricted the ability of people wanting to submit evidence to make their cases in detail or in full.

The oral evidence

32. Stephen McIntyre and Professor Ross McKittrick are central to the story of Climategate, having been among the principal critics of Jones and his colleagues for several years and having been involved in the Freedom of Information requests that preceded the release of the emails and data from the CRU. Both McIntyre and McKittrick made detailed written submissions, which included many of the most serious allegations about the conduct of CRU scientists. It is therefore unfortunate that the committee did not invite either man to give oral evidence, and their written evidence also appears to have been largely overlooked.

33. The committee did take evidence from Dr Benny Peiser and Lord Lawson of the Global Warming Policy Foundation (GWPF). During the oral evidence session for Peiser and Lawson, the committee spent a significant proportion of the available time pressing the two men for details of GWPF's funding, a matter which was not relevant to the purposes of the inquiry.

34. When it came to the questioning of Phil Jones, on the other hand, there was little or no effort by most committee members to question him or Edward Acton in detail, and few of the responses were subject to challenge or follow-up questions. The sole exception was Graham Stringer MP.

35. Newspaper reports later revealed that the committee had been asked not to press Jones too closely "because he was close to a nervous breakdown."¹⁶ As will be seen below, the committee failed to broach some of the most important questions with Jones at all.

The issues

The trick...to hide the decline

36. The email referring to the "trick...to hide the decline" is one of the most notorious in the CRU archive and was alluded to by several critics.¹⁷ The story concerns a report that Jones was involved in preparing for the annual report of the World Meteorological Office (WMO) in 1999. In the emails, Jones is seen discussing an alteration he had made that changed the appearance of this graph.

"I've just completed Mike's Nature trick of adding in the real temps to each series for the last 20 years (ie from 1981 onwards) and from 1961 for Keith's to hide the decline."

37. The issue revolved around a tree ring series that had been used to reconstruct temperatures of the past, the so-called Briffa MXD reconstruction. This series diverged dramatically from instrumental temperatures in the last half of the twentieth century, experiencing a sharp decline during a period when instrumental temperatures

¹⁶ Webster, B. Prof Phil Jones, climate scientist, admits sending 'awful' e-mails. The Times, 2 March 2010. <http://www.timesonline.co.uk/tol/news/environment/article7046036.ece>

¹⁷ Lord Lawson, SCE Ev4; Stephen McIntyre SCE Ev 147, Peter Taylor SCE Ev 189.

were rising. Showing this divergence would have raised a major question mark over the reliability of tree ring temperature reconstructions since, if there is a divergence between tree rings and instrumental records in modern times, it cannot be said with any certainty that such divergences did not also occur in the past, rendering the temperature reconstruction of questionable utility.

38. The steps that Jones took to deal with this so-called “divergence problem” are well documented and are undisputed. In the last half of the twentieth century, the declining tree ring data was deleted and replaced with increasing instrumental temperatures. A smoothing algorithm was then applied to this new, spliced record, obscuring the join between the two. In this way, the unreliability of these reconstructions was obscured from the readers of the WMO report.

39. In UEA’s written submission, Jones stated that he “never sought to disguise this specific type of tree-ring ‘decline or divergence’” and went on to explain that he discussed the issue in several of his scientific papers.¹⁸ During his oral evidence he was asked by one of the committee members, Evan Harris, about the allegation that he had dishonestly tried to ‘hide the decline’ and the fact that the way the divergence problem was dealt with had been hidden from the reader. Jones explained

“We do not accept that it was hidden because it was discussed in a paper the year before and we have discussed it in every paper we have written on tree rings and climate.”¹⁹

40. The statement that the divergence problem is discussed in ‘every paper’ CRU has written on tree-rings and climate may, on a strict interpretation, be true. However, these tree ring series are reused in multiproxy temperature reconstructions (i.e. alongside non-tree-ring proxies, such as corals and ice cores). There is no mention of the divergence problem in, for example, Jones et al 1998²⁰ or Mann and Jones 2003,²¹ two influential multiproxy temperature reconstructions that are relied upon by the IPCC.

41. Jones’ statement also appears to suggest that he believes that it is acceptable to hide important factual information from the readers of public policy reports so long as the fact that the information that has been hidden is disclosed in the specialist literature.

42. In their conclusions, the committee fail to repudiate Jones’ use of a “trick...to hide the decline”, apparently condoning his actions. This appears to be an open invitation to experts to misrepresent the scientific literature when communicating with policymakers and the public.

Finding: The select committee appears to have accepted that scientists can leave out important information about the reliability of their results when presenting findings to policymakers.

43. The committee continued by stating that the words “hide the decline” are “short-

¹⁸ Phil Jones, SCE Ev 19.

¹⁹ Phil Jones, SCE Ev 31.

²⁰ Jones, PD et al. High-resolution palaeoclimatic records for the last millennium: interpretation, integration and comparison with General Circulation Model control-run temperatures. *The Holocene* 1998; 8: 455.

²¹ Mann, M and Jones, PD. Global surface temperatures over the past two millennia. *Geophysical Research Letters* 2003; 30: 1820.

hand for the practice of discarding data known to be erroneous". This demonstrates clearly that the committee failed to grasp the nature of the issue. The divergent data are in no way 'erroneous' and no such evidence was provided to the committee. The data in question have been correctly gathered from appropriate trees and have been processed in standard ways. It is simply that the reason for their divergence is not understood. The committee's failure to consider the evidence submitted by expert critics who pointed out these concerns was regrettable.

44. The committee closed their remarks on this issue by noting that they expected the Scientific Assessment Panel to address the subject of the divergence problem and "hiding the decline" as well. In the event, no such investigation took place.

Finding: The select committee's appear to have been confused about the nature of the divergence problem and the Science Assessment Panel failed to investigate the issue.

Bodging

45. Stephen McIntyre, in his written submission, also raised the issue known as 'bodging'.²² Bodging is another approach to dealing with the divergence problem that was discussed in the previous section. Instead of deleting the divergent data and splicing in a different series, bodging involves applying an ad-hoc adjustment. The "Briffa bodge" concerned the application of such an ad-hoc alteration to the influential Tornetrask chronology, arbitrarily increasing modern data relative to past data.²³

46. This procedure had no scientific basis and it seemed to be simply a way of adjusting the relative positions of the medieval and modern warmings, making global warming appear a more pressing issue than it otherwise would do. Other ad-hoc adjustments, referred to as "fudge factors" and "artificial adjustments", were mentioned in computer code included with the Climategate emails.

47. In his written evidence, the CRU's Timothy Osborn explained that he had mentioned fudge factors and artificial adjustments as an aide-memoire to ensure that he did not forget to remove them before publication.²⁴ He stated that the fudges had not actually been used in published papers. No attempt was made by the committee to determine which papers the code referred to.

48. Osborn also noted that, where such adjustments were used in the scientific literature, their use was disclosed. This point is partially accepted by McIntyre, who notes that the use of a bodge was disclosed in Briffa 1992.²⁵ However, as McIntyre goes on to explain, the Briffa series affected went on to be used in many of the multiproxy temperature reconstructions, including Jones et al 1998, and thence to the IPCC reports. In none of these cases was the use of an ad-hoc bodge disclosed and the users of these studies were therefore misled.

49. When a temperature reconstruction is affected by the divergence problem, any

²² McIntyre, S. SCE, Ev 144; The term 'bodging' was first seen in one of the Climategate emails.

²³ Briffa, KR et al. Fennoscandian summers from ad 500: temperature changes on short and long timescales. *Climate Dynamics* 2003; 7: 111–119.

²⁴ Osborn T. SCE, Ev 131.

²⁵ McIntyre, S. SCE, Ev 145.

conclusions drawn from it must be considerably less certain. Where the divergence has been adjusted by a bodge, it is important that the uncertainty is not shown as reduced, so that users of the study, including policymakers, are not misled into thinking that the findings are more certain than they actually are. As McIntyre notes, this was not done. No evidence appears to have been provided to dispute this assertion.

Finding: The select committee did not consider the important issue of ad-hoc bodging of data by CRU scientists.

Cherrypicking

50. The panel noted in their introduction to the report that cherrypicking – the deliberate selection of input data in order to give a required result – was one of the principal accusations levelled at the CRU.

“Contributors to climate change debate websites and written submissions to us claimed that these e-mails showed a deliberate and systematic attempt by leading climate scientists to manipulate climate data, arbitrarily adjusting and ‘cherrypicking’ data that supported their global warming claims and deleting adverse data that questioned their theories.”²⁶

51. Stephen McIntyre listed two examples that the committee could have considered.²⁷ One of these was a tree ring data series called Polar Urals. This series had a so-called hockey stick shape, implying relatively stable temperatures in the past but a dramatic recent warming. However, an update to the series in 1999 showed that this shape was now incorrect, the new data implying that recent temperature changes had been well within the range of normal natural variability. However, in almost all subsequent studies, rather than use the updated series, climatologists, including some from CRU, replaced it with a new hockey stick shaped series known as Yamal. McIntyre identified similar issues in another series known as Tornetrask, where a version by a Swedish scientist with a high medieval period (Grudd 2007) has been ignored in favour of a different version with higher modern values.

52. In the absence of any explanation from CRU for its failure to reconcile the dramatic differences between versions from the same or nearby sites, the question of cherrypicking remains unanswered. However, despite having recognised the significance of the accusations in setting out its terms of reference, and having received evidence on the subject, the committee did not consider the question or address it in their report

Finding: The committee did not consider the issue of cherrypicking of data despite having several examples put to them.

Perversion of the peer review process Gatekeeping the IPCC report

53. In his written submission, Professor Ross McKittrick raised the issue of an email sent by Phil Jones to the American climatologist Michael Mann in which he said,

“I can’t see either of these papers being in the next IPCC report. Kevin and I will

²⁶ SCR, p6.

²⁷ McIntyre, S. SCE, Ev 147.

keep them out somehow—even if we have to redefine what the peer-review literature is!”²⁸

54. One of the papers referred to above is known to be McKittrick's 2004 paper in *Climate Research*, while the other may well be by de Laat and Maurellis. The allegation is that Jones was conspiring to keep peer-reviewed results that threatened the global warming 'consensus' out of the IPCC reports.

55. McIntyre cited an article in the *Guardian* by Fred Pearce.²⁹ Pearce states that this email 'means what it seems to mean' and cites statements by both Jones and another IPCC author, Kevin Trenberth to support this position:

“Today, neither man attempts to deny that Jones's promise to keep the papers out was a serious error of judgment. Trenberth told the *Guardian*: 'I had no role in this whatsoever. I did not make and was not complicit in that statement of Phil's. I am a veteran of three other IPCC assessments. I am well aware that we do not keep any papers out, and none were kept out. We assessed everything [though] we cannot possibly refer to all literature...Both of the papers referred to were in fact cited and discussed in the IPCC.'

In an additional statement agreed with Jones, he said: '[The Fourth Assessment Report] was the first time Jones was on the writing team of an IPCC assessment. The comment was naive and sent before he understood the process.'"

56. Remarkably though, when questioned about this allegation by the committee, Professor Jones explained that he was merely commenting that the papers in question were 'not very good' and noted that they were already in print. So despite Trenberth apparently believing that Jones' words meant what they said, Jones himself seemed determined to persuade the committee otherwise.

57. The argument that the papers were already published is a curious one, since it does not directly address the allegation made, namely that Jones conspired to keep critical papers from being cited in the IPCC reports. It is quite obvious that the papers were already published, since the IPCC rules only permit citing of published work.³⁰

58. It is not clear how Jones' stated intentions for the papers – to 'keep them out somehow' – could be reasonably construed as meaning only that he thought they were 'not very good'. However, this simple observation appears to have eluded the committee, who appear to have accepted that the words 'keep them out somehow' carried the meaning 'are not very good'.

59. McKittrick continued his evidence by showing how his paper was in fact kept out of the drafts of the IPCC report. Later, when the de Laat and Maurellis paper was published, Jones decided to add new text to the report mentioning it and the McKittrick paper, but dismissing the findings as being statistically insignificant. The new

28 McKittrick, R. SCE, Ev 142.

29 Pearce, F. Climate change emails between scientists reveal flaws in peer review. *The Guardian*, 2 February 2010. <http://www.guardian.co.uk/environment/2010/feb/02/hacked-climate-emails-flaws-peer-review>

30 This rule has been breached on many occasions in order to allow the inclusion of work supportive of the IPCC 'consensus'. For a survey of the issue, see Laframboise, D. Cutoff dates, what cutoff dates? No Frakking Consensus blog 10 May 2010. <http://nofrackingconsensus.blogspot.com/2010/05/cutoff-dates-what-cutoff-dates.html>.

text was not sent to external reviewers and, according to McKittrick's evidence, was incorrect without any support in the peer-reviewed literature:

"The claim that our results were statistically insignificant is inaccurate and was made without any supporting citation. To my knowledge no study showing such a thing exists, and in fact I have a new paper forthcoming in a peer-reviewed statistics journal...countering the specific claim...[Jones' claim] is unsupported, and in the context appears to reflect a fabricated conclusion..."³¹

60. McKittrick's statement, amounting to an allegation of scientific fabrication, is one of the most serious issues to emerge from the Climategate affair. Regrettably, despite examining the earlier part of McKittrick's evidence, the committee apparently failed to explore this more serious allegation, despite McKittrick having pointed out to them the simple way in which they could determine the truth of the allegation, namely by asking Jones to present evidence from the scientific literature to support his claim.

Finding: The committee appears to have exonerated Jones of the charge of fabrication without any evidence to justify such a conclusion.

Gatekeeping in journals

61. Several submissions noted the series of emails that concerned what appeared to be attempts to remove editors who had published papers critical of the work of the CRU or its associates from their positions at their respective journals. Montford³² and Simons³³ noted the series of emails in which climatologists discuss removing Professor James Saiers from his position at the journal, *Geophysical Research Letters* (GRL). Saiers had been the editor responsible for a paper by McIntyre and McKittrick, that was an important critique of the temperature reconstruction known as the "Hockey Stick". Although Professor Saiers remained at the journal for some time afterwards, he was relieved of his responsibility for the paper in question. Another submission quoted a subsequent email in which the Climategate correspondents commented that 'the GRL leak' had been 'plugged'.³⁴

62. McIntyre notes several other attempts to delay publication of papers critical of the 'consensus' position and made a series of quotations from the CRU emails to demonstrate his point:³⁵

"If published as is, this paper could really do some damage. It is also an ugly paper to review because it is rather mathematical, with a lot of Box-Jenkins stuff in it. It won't be easy to dismiss out of hand as the math appears to be correct theoretically."

"Recently rejected two papers (one for JGR [*Journal of Geophysical Research*] and for GRL) from people saying CRU has it wrong over Siberia. Went to town in both reviews, hopefully successfully. If either appears I will be very surprised."

"I am really sorry but I have to nag about that review—Confidentially I now need a hard and if required extensive case for rejecting."

31 McKittrick, R. SCE, Ev 143.

32 Montford, A. SCE, Ev 160.

33 Simons, M. SCE, Ev98.

34 Peabody Energy Company. SCE, Ev 159.

35 McIntyre, S. SCE, Ev 149.

63. Montford³⁶ and Bratby³⁷ both refer to attempts to influence the *International Journal of Climatology* (IJoC) and *Weather*, two publications of the Royal Meteorological Society (RMS).³⁸ On these occasions it appears that CRU scientists may have considered an attempt to influence the journals by threatening to withhold further papers. As Jones explained in one of the emails:

"I'm having a dispute with the new editor of *Weather*. I've complained about him to the RMS Chief Executive. If I don't get him to back down, I won't be sending any more papers to any RMS journals and I'll be resigning from the RMS."³⁹

64. Jones' explanation for all these allegations was that he was making 'informal comments' on the papers concerned. It is hard to see how a request for a reviewer to provide grounds to support a paper's rejection or attempts to remove uncooperative editors from their posts could be accepted as informal comments, but the committee appear to have been persuaded and they concluded that,

"... the evidence that we have seen does not suggest that Professor Jones was trying subvert the peer review process. Academics should not be criticised for making informal comments on academic papers."⁴⁰

Finding: The committee dismissed allegations of threats to journals on the basis of explanations provided by Jones. No attempt was made to obtain evidence from the journal editors themselves.

Fraud allegation

65. Douglas Keenan's written evidence contained an account of his fraud allegation against Wei-Chyung Wang, a co-author of Phil Jones.⁴¹ Keenan alleged that Wang had committed scientific fraud in a 1990 paper. Jones, meanwhile, had used some of Wang's data in his own paper on urban heat islands – the part of the observed global warming that is non-climatic, being a result of waste heat generated by urban development and human energy usage near to the thermometers used to measure global temperature. Keenan alleged that even once Jones became aware of the problems with Wang's data, he failed to issue a correction to his paper and even continued to cite it, including in the IPCC's Fourth Assessment Report. Keenan claims that this amounts to scientific fraud.

66. In addition to presenting formal evidence to the panel, Keenan also wrote to Phil Willis after the committee had heard oral evidence, again highlighting his fraud accusation and pointing out Jones' continued citation of the paper in the IPCC report. But despite several other late submissions being incorporated in the published evidence, Keenan's letter appears to have been excluded.

36 Montford, A. SCE, Ev 159.

37 Bratby, P. SCE, Ev 91.

38 In the case of IJoC, the dispute related to a request for the data and code for a hotly disputed paper by Ben Santer, a close associate of the scientists at CRU and indeed an alumnus of UEA. The journal was attempting to put in place a materials policy that would require research materials, including intermediate results, to be released on request, something that Santer strongly objected to. The nature of the dispute with *Weather* is not known. Although it is not clear whether threats were actually issued to either journal, IJoC has yet to institute the controversial materials policy.

39 Jones, P. Email to Ben Santer, 19 March 2009. <http://eastangliaemails.com/emails.php?eid=967>.

40 SCR, p3.

41 Keenan, D. SCE, Ev 181.

Finding: The committee failed to consider or publish a submission of evidence containing allegations of fraud.

67. Benny Peiser was a guest editor of *Energy and Environment*, the journal where Keenan chose to publish his allegations. Peiser describes how Jones continued to argue for the integrity of Wang's findings during the review and also how the emails reveal that Jones even discussed the possibility of raising a libel action against Energy and Environment with Wang and Mann.⁴²

68. The allegations arising out of the evidence of Peiser and Keenan are among the most serious among the submissions. The committee's response, however, was remarkable. Keenan's evidence, which contains the most damaging allegations, was ignored entirely. Peiser's claim that Jones had tried to defend his 1990 paper in the full knowledge that it was flawed was then characterised by the committee as an allegation that 'that climate scientists tried to suppress a paper on research fraud'. This erroneous summary of Peiser's case seems to have emerged from a question put to Phil Jones by one of the committee members, Evan Harris.

"I was talking about people who complain that these emails suggest that you tried to stop some papers, for example on alleged research fraud, from being published..."⁴³

69. Somehow, Evan Harris appears to have misunderstood the thrust of Peiser's allegation, and his mistake seems to have been missed by all of his colleagues on the committee. The error then seems to have found its way all the way to the final report without being corrected. There, the committee noted Jones' response to Harris's question, namely that Peiser had asked him to comment on a particular paper and that he had responded by saying he didn't think the paper was very good. This was true, but entirely missed the point.

70. Despite being aware that a fraud allegation had been made against Jones, the committee do not appear to have investigated the issue. So when, in their press release, they declare "Insofar as the Committee was able to consider accusations of dishonesty against CRU, the Committee considers that there is no case to answer", the operative word is 'insofar'. The committee either failed to look at the evidence available to them, or worse still, they ignored it.

Finding: The committee misunderstood Peiser's evidence and failed to investigate Keenan's fraud allegation made against Jones.

Freedom of Information Issues
Temperature data

71. Many submissions covered Freedom of Information (FoI) issues and several of these concerned the CRUTEM surface temperature record maintained by CRU.

72. Stephen McIntyre noted the story of Jones' reaction to a request for CRUTEM-related data from Warwick Hughes. Jones had said to Hughes:

"We have 25 years or so invested in the work. Why should I make the data avail-

⁴² Peiser, B. SCE, Ev 164.

⁴³ Harris, E. SCE, Ev 34.

able to you, when your aim is to try and find something wrong with it?"

73. McIntyre also pointed to a separate incident, when another CRU scientist, Tim Osborn, informed the journal, *Science*, that CRU did not hold certain tree-ring core measurement data that McIntyre had requested under the journal's materials policy. McIntyre explains that the CRU emails show that this was not true and that the material was in fact held.⁴⁴ There is no sign that the select committee investigated this allegation.

Finding: The select committee does not appear to have investigated a serious allegation of a breach of scientific standards.

74. In his oral evidence, Phil Jones explained to the committee that it was not normal practice in climate science to make available the raw data and code used in scientific papers, a statement that the committee described as 'problematic' in view of the global importance and public interest in the findings. However, by the time the committee had distilled this observation for the purposes of its press release, the emphasis had changed from criticism of climatology to exoneration of Phil Jones.

"On the accusations relating to Professor Jones's refusal to share raw data and computer codes, the Committee considers that his actions were in line with common practice in the climate science community but that those practices need to change."⁴⁵

75. Since this observation appears to have been based solely on Jones' responses during questioning by the panel, the exoneration of Jones seems to rest on an argument that 'everyone else does it'.

76. The committee have also made no attempt to distinguish between a scientist's moral obligation to share data and code and the legal obligation to obey the Freedom of Information Act. It appears unlikely in the extreme that it is normal practice among climatologists to flout Fol law.

Deleting emails

77. The committee noted a number of emails that suggested that information had been deleted in order to avoid complying with Freedom of Information requests. That this was prima facie evidence of breach of the Act was not disputed, but it was also agreed that guilt or innocence on this charge had not been determined.

78. The committee concluded that there was prima facie evidence that the Fol Act had been breached by CRU and that there was also prima facie evidence that UEA had supported the culture of non-disclosure to sceptics. They report that any prosecution under the Act was time-barred and note that 'no investigation has been carried out'.⁴⁶

79. The committee's findings in this area are clear. It is surprising then that no individuals seem to have been considered blameworthy – the committee preferred to

⁴⁴ McIntyre, S. SCE Ev 145.

⁴⁵ House of Commons Science and Technology Committee press release. Report Published. 31 March 2010. <http://www.parliament.uk/business/committees/committees-archive/science-technology/s-t-cru-inquiry/>

⁴⁶ SCR, p3.

criticise the University of East Anglia as a whole rather than holding anyone accountable.

Finding: Although the committee are clear that the law of freedom of information was flouted, no attempt seems to have been made to identify the individuals responsible.

The independent inquiries The Climate Change Emails Review

80. The select committee originally set out to consider only the terms of reference of the Climate Change Emails Review, but was overtaken by events. Shortly after the panel was announced, several members of Muir Russell's team were criticised as being unsuited to a truly objective assessment of the conduct of CRU scientists. Philip Campbell, the editor of *Nature*, had published several of the papers involved in the Climategate emails and had published strongly worded editorials in his magazine that used the offensive word 'denier' against those who questioned the IPCC 'consensus' on global warming. Campbell was soon forced to resign because he appeared also to have prejudged the inquiry. Geoffrey Boulton, meanwhile, had been a vocal promoter of the idea of catastrophic global warming and had spent much of his career alongside Phil Jones at UEA. The two men are discussed in more detail in Part IV. Because of these issues, in addition to its published remit, the select committee also considered the integrity of the CCE panel.

81. During the oral evidence sessions, Evan Harris questioned Russell about his appointments but failed to discover why it had been considered acceptable to appoint panel members whose independence was open to question. One of Harris's questions even seemed to steer Russell towards towards a hoped-for answer:

"The composition of your team has been criticised by [sceptics]. Is it your ambition to satisfy them or do you recognise you may never satisfy some critics from that quarter?"

82. Tim Boswell, another committee member, also addressed these issues, although in a somewhat oblique fashion, asking Sir Muir Russell if perhaps his panel's work was not just 'window-dressing'. Russell replied that he 'hoped' it wasn't, going on to explain that he had been given a free hand by UEA, who were not interfering in his work. He did, however, make a commitment to publish the submitted evidence, although he made no indication that transcripts of interviews or the deliberations of the panel would also be made public.⁴⁷

83. Despite Russell's evidence being the only commitments given, the panel chose to overlook the criticism of Boulton's appointment and accepted what they called the 'assurances' that Russell gave about the panel's independence, although it is not entirely clear what assurances were in fact given, beyond a vague statement of hope.

Finding: Despite concerns that some of the appointed CCE panel members were unsuitable, the committee accepted Russell's vague expressions of hope that they would act in an objective fashion.

⁴⁷ The exchange between Boswell and Russell is SCE, Ev 42.

The Scientific Assessment Panel

84. The Scientific Assessment Panel, headed by Lord Oxburgh, was announced just days before the select committee report went to print, coming too late for public submissions on its integrity. The panel and its findings are considered in detail below.

85. The select committee included a short section about Lord Oxburgh's panel, noting its appointment and membership, but inexplicably failing to mention either the furore over the suitability of Lord Oxburgh or the very limited nature of the panel's inquiry.

The aftermath

Phil Willis refuses to comment

86. In the aftermath of the report, and with the failure of the committee to address the principal allegations made against CRU staff, I approached Phil Willis for his comments. Unfortunately he refused to go into any detail.

“Your questions raised detailed points about the Committee's deliberations and how it weighted the evidence that was presented to it in this inquiry. I am sorry, but these are matters on which I am unable to enter into detailed correspondence. I can, however, make two general points. First, as the Report makes clear, the Committee received in addition to the oral evidence taken on 1 March a substantial number of written submissions which were carefully considered. Second, the report sets out the reasons that led the Committee to reach conclusions and recommendations that it did.”⁴⁸

87. Willis's claim that the written submissions were 'carefully considered' is hard to square with the apparent failure of the committee even to mention some of the most serious allegations against CRU scientists, such as the allegations of fabrication and cherry-picking.

88. In addition, many of the conclusions reached by the committee remain obscure, directly contradicting his claim that the panel's reasoning was set out in the report. Willis went on to suggest that concerns be addressed by the other two panels, a suggestion that was impossible in the case of the Oxburgh panel, who performed their work without reference to the public.

Finding: The committee chairman refused to reveal how decisions had been reached.

Stringer's comments

89. Because of Phil Willis's refusal to explain what had happened, an approach was made to another committee member, Graham Stringer. Stringer was at pains to note the very limited nature of the committee's investigation and that they felt that they needed to have very strong evidence to criticise Jones.⁴⁹ Since on issues such as McKittrick's allegation of fabrication, strong evidence of malpractice had in fact been presented to the committee without any evidence being presented in Jones

⁴⁸ Willis, P. Letter to A.W. Montford, 7 April 2010.

⁴⁹ Montford, A. A chat with Graham Stringer. Bishop Hill blog, 10 April 2010. <http://www.bishop-hill.net/blog/2010/4/10/a-chat-with-graham-stringer.html>.

defence, it remains unclear how the committee decided to vindicate Jones.

Summary

90. Many observers regard the failure to hear evidence from McIntyre and McKittrick as a wilful refusal to hear contrary evidence, and one which brought the committee into disrepute.

91. The parliamentary inquiry has been widely reported as representing an almost total vindication of the CRU, and even what appears to have been a wilful flouting of Freedom of Information law has been presented as 'normal practice' among climatologists. It is clear from the analysis above, however, that the committee avoided consideration of the most serious allegations and avoided questioning the principal critics of the unit's staff and practices. It is not surprising therefore that the committee's report is widely viewed by informed outsiders as an attempt to brush serious problems under the carpet.

Part III The Oxburgh Panel

The panel

92. The Science Assessment Panel headed by Lord Oxburgh was announced on 22 March 2010, shortly before the publication of the parliamentary report. According to the UEA press release, the appointment of the panel members was made on the recommendation of the Royal Society.⁵⁰

93. The panel members were as follows:

- Prof Huw Davies, Professor of Physics at the Institute for Atmospheric & Climate Science at ETH Zürich
- Prof Kerry Emanuel, Professor of Meteorology at Massachusetts Institute of Technology
- Prof Lisa Graumlich, Director of the School of Natural Resources and the Environment at The University of Arizona
- Prof David Hand, Professor of Statistics in the Department of Mathematics at Imperial College
- Prof Herbert Huppert, Professor of Theoretical Geophysics at the University of Cambridge
- Prof Michael Kelly, Prince Philip Professor of Technology at the University of Cambridge.

94. It was clear from UEA's press release that the university expected to be criticised over its choice of panel members. As they put it:

"The choice of scientists is sure to be the subject of discussion, and experience would suggest that it is impossible to find a group of eminent scientists to look at this issue who are acceptable to every interest group which has expressed a view in the last few months. Similarly it is unlikely that a group of people who have the necessary experience to assess the science, but have formed no view

⁵⁰ University of East Anglia Press Release: CRU Scientific Assessment Panel announced. 22 March 2010. <http://www.uea.ac.uk/mac/comm/media/press/CRUstatements/SAPannounce>

of their own on global warming, could be found.”⁵¹

95. The idea that it is impossible to find a small group of scientists that would be acceptable to both sides of the debate seems unwarranted. The problems with the panel will be discussed in the next sections.

96. Since the publication of the report some of UEA's thinking on the way the panel should be put together has been revealed by the disclosure of email correspondence under the Freedom of Information Act. In one message, from UEA's Professor Trevor Davies to the Royal Society's Lord Rees, it is clear that Davies' intention was to ensure that the panel included a majority who were convinced by the case for man-made global warming and excluded those who were not:

“Out of these 13 [candidates for the panel], we would hope to get 6 with a suitable range of expertises, and a range of 'attitudes' towards recent warming/ greenhouse gases – from those who already see it as a problem, but without being right in the middle of the climate science community, to those which [sic] will come to it with a questioning objectivity.”⁵²

97. In the same email, Prof Davies identifies four of the candidates as falling into this 'neutral' category, and three of these – Hand, Kelly and Huppert were subsequently selected. Thus less than half of the panel can be seen as likely to approach their task with “questioning objectivity”.

Finding: The panel appears to have been deliberately selected to have a majority who would not address the review objectively and to exclude sceptical views entirely.

Oxburgh's conflict of interest

98. Within minutes of the announcement of the panel, the backgrounds of the members were being closely examined and the reasons for UEA's statements of concern about possible criticisms became clear. Lord Oxburgh was identified in the UEA press release as being 'President of the Carbon Capture and Storage Association and Chairman of Falck Renewables', a company involved in construction and operation of windfarms. Shortly afterwards, it was discovered that Lord Oxburgh is also a member of an organisation called GLOBE (Global Legislators Organisation for a Balanced Environment) and a member of the Green Fiscal Commission, a body which works to promote environmental taxes. Neither of these two positions was disclosed when the panel was announced. In fact Lord Oxburgh turned out to have several interests in green businesses that were not disclosed in the UEA press release, as explained by the online journal, *The Register*:

“In the House of Lords Register of Lords' Interests, Oxburgh lists under remunerated directorships his chairmanship of Falck Renewables, and chairmanship of Blue NG, a renewable power company. (Oxburgh holds no shares in Falck Renewables, and serves as a non-exec chairman.) He also declares that he is an advisor to Climate Change Capital, to the Low Carbon Initiative, Evo-Electric,

51 University of East Anglia Press Release: CRU Scientific Assessment Panel announced. 22 March 2010. <http://www.uea.ac.uk/mac/comm/media/press/CRUstatements/SAPannounce>

52 Davies, T. Email to Lord Rees, 27 February 2010.

Fujitsu, and an environmental advisor to Deutsche Bank."⁵³

99. Surprisingly, it appears that Lord Oxburgh fully recognised that he had a conflict of interest, and had made UEA aware of this situation too. *The Times* carried a report shortly after the panel's announcement:

"Professor Trevor Davies, [UEA's] pro-vice-chancellor for research, said that the university had been aware of Lord Oxburgh's business interests but believed that he would lead the panel of six scientists 'in an utterly objective way'".⁵⁴

100. In a later article, *The Times* confirmed this fact.

"Lord Oxburgh says he told the university, when it approached him, that people might question his independence.

'I said undoubtedly people will point at this and their answer was, after they consulted, that I was the best person to do it'".⁵⁵

101. So despite the problems with Lord Oxburgh's appointment being recognised on all sides, UEA decided to press ahead, first persuading Oxburgh to stand regardless and then declaring that they did not recognise his business interests as representing a conflict of interest.⁵⁶

Finding: UEA appointed Oxburgh as chairman of the panel in the full knowledge that he had conflicts of interest.

Kerry Emanuel

102. The appointment of the American meteorologist, Kerry Emanuel, was also strongly criticised: Professor Emanuel had been a persistent and vocal promoter of the case for catastrophic manmade global warming. He had also published papers with some of those accused of wrongdoing in the light of the disclosure of the Climategate emails.

103. Emanuel had also made some trenchant comments about the scientific conduct revealed in the Climategate emails. Speaking at a debate at the Massachusetts Institute of Technology, he said

"What we have here are thousands of emails collectively showing scientists hard at work, trying to figure out the meaning of evidence that confronts them. Among a few messages, there are a few lines showing the human failings of a few scientists...scientifically, it means nothing'".⁵⁷

104. UEA made no defence of Emanuel's appointment and no comment was made

53 Orlowski, A. Oops: Chief Climategate investigator failed to declare eco directorship. *The Register*, 24 March 2010. http://www.theregister.co.uk/2010/03/24/climategate_oxburgh_globe/

54 Webster, B. Lord Oxburgh, the climate science peer, 'has a conflict of interest'. *The Times* 23 March 2010. <http://www.timesonline.co.uk/tol/news/environment/article7071751.ece>

55 Webster, B. Analysis: sceptics will not be appeased. *The Times*, 14 April 2010. <http://www.timesonline.co.uk/tol/news/environment/article7097334.ece>

56 Orlowski, A. Anglia defends Oxburgh's eco network ties. *The Register*, 26 March 2010. http://www.theregister.co.uk/2010/03/26/uea_oxburgh_statement/

57 Emanuel's comments can be heard at The Great Climategate Debate, 10 December 2009. <http://mitworld.mit.edu/video/730>

by Lord Oxburgh.

Finding: Kerry Emanuel appeared to have prejudged the inquiry findings.

Scope

105. Remarkably, no details of the work of the Scientific Assessment Panel appeared between the announcement of the appointments and the publication of the report a few weeks later. No scope or terms of reference have ever appeared beyond a few brief details in the introduction to the report, and Lord Oxburgh has since confirmed that the arrangements for his inquiry were made informally.⁵⁸

106. However, when the panel was announced, it was made clear that Lord Oxburgh's team were tasked with looking at certain key papers of the CRU oeuvre. The UEA press release quoted Trevor Davies as saying:

“CRU's scientific papers have been examined by scientists from other institutions through the peer review process before being accepted for publication by international journals. We have no reason to question the effectiveness of this process. Nevertheless, given the concerns about climate research expressed by some in the media, we decided to augment the Muir Russell review with an independent assessment of CRU's key publications in the areas which have been most subject to comment.”⁵⁹

107. Limiting the scope of the review to published papers alone avoided many of the most serious questions, involving the contributions of CRU scientists to the IPCC reports.

108. There was another restriction of the scope of the inquiry: while the House of Commons Science and Technology Select Committee had believed that the Oxburgh panel was going “reappraise” CRU's science, it appears that Oxburgh had been told only to look for evidence of deliberate dishonesty in the original publications, a position he made clear in a subsequent email to Stephen McIntyre. It had emerged during the interviews conducted by Lord Oxburgh's team that Phil Jones had stated that it was impossible to do 1000-year temperature reconstructions with any accuracy. When McIntyre asked why this statement, a sharp contrast to the IPCC's statements on paleoclimate, had not appeared in the report, Oxburgh replied:

“What you report may or may not be the case. But as I have pointed out to you previously the science was not the subject of our study”.

109. In fact, in the preamble to his report, Oxburgh notes that

“The panel was not concerned with whether the conclusions of the published research were correct. Rather it was asked to come to a view on the integrity of the Unit's research and whether as far as could be determined the conclusions represented an honest and scientifically justified interpretation of the data”.

⁵⁸ Oxburgh, R. Email to Stephen McIntyre, 3 June 2010.

⁵⁹ University of East Anglia Press Release: CRU Scientific Assessment Panel announced. 22 March 2010. <http://www.uea.ac.uk/mac/comm/media/press/CRUstatements/SAPannounce>

110. Phil Willis, however, had clearly believed that Oxburgh was going to examine the quality of CRU's science, a belief that was quite understandable in view of the representations made by UEA: in their written evidence to the select committee, UEA had said that the panel would be 'an external reappraisal of the science itself'.⁶⁰ As Ross McKittrick has noted:

"A reappraisal of the science that is 'not concerned with the question of whether the conclusions of the published research were correct' ...is no reappraisal at all".

111. Phil Willis described what UEA had done as a 'sleight of hand'.⁶¹

Finding: UEA restricted the scope of the Oxburgh inquiry to published papers only, avoiding the serious allegations related to the IPCC activities of CRU staff.

Finding: The scope was further restricted to the conduct of the scientists. UEA had led the Science and Technology Committee members to believe that the quality of CRU's scientific work would be re-assessed. The committee's chairman, Phil Willis, felt that UEA had misled them.

The papers

112. At the time of the announcement of the Oxburgh panel, the BBC reported that UEA had suggested a list of suitable papers to Lord Oxburgh:

"UEA in consultation with the Royal Society, has suggested that the panel looks in particular at key publications from the body of CRU's research which were referred to in the university's recent submission to the Parliamentary Science and Technology Committee."⁶²

113. The involvement of the Royal Society was confirmed when Lord Oxburgh's report was subsequently published, the text noting that "The papers...were selected on the advice of the Royal Society."⁶³ The report also stated that the list was "representative" and "a fair sample" of CRU's work. However, the list of papers that Lord Oxburgh's panel ultimately examined⁶⁴ was almost identical to the 11 referred to in UEA's submission to Parliament, with only one difference between the two – the UEA submission looked at Jones et al 1997 (*Journal of Climate*) while the Oxburgh panel looked at Briffa et al 2001 (*Journal of Geophysical Research*).

114. If it were true that the papers were selected by the Royal Society then the coincidence is extraordinary, and particularly so when both lists make no mention of many of the papers most criticised by critics such as Jones et al. 1998, Mann and Jones 2003, or Osborn and Briffa 2006, papers that would raise issues of cherrypicking of data, bodging (see above) and suppression of adverse series.

60 SCE, Ev 18.

61 Harrabin, R. Third 'Climategate' inquiry to report. BBC News 7 July 2010. Audio at: http://news.bbc.co.uk/today/hi/today/newsid_8795000/8795643.stm.

62 Chair announced for 'Climategate' science probe. BBC News Online 22 March 2010. <http://news.bbc.co.uk/1/hi/sci/tech/8579929.stm>

63 OR, p1.

64 OR, p7.

115. In the wake of the discovery of the remarkable similarity between the UEA list and the papers considered by Lord Oxburgh's panel, attempts were made to identify who, within the Royal Society, had prepared the list of papers. A spokeswoman for the society, who asked to remain anonymous, issued a statement that remarkably failed even to confirm that the society had been involved in the selection of the papers.

"The Royal Society recommended that the panel had access to any and all papers that it requested and suggested that the review begin by looking at key publications, which were chosen to cover a broad range of subjects over a wide timescale."⁶⁵

116. An invitation to clarify the issue was declined by the spokeswoman and although Lord Rees, the society's president, later gave some more details, he likewise failed to make the matter clear.

"As has been previously publicly stated, the University suggested that the panel looked in particular at key publications from the body of CRU's research referred to in the UEA submission to the Parliamentary Science and Technology Committee. This was done in consultation with the Royal Society...Not having the relevant scientific expertise myself, I consulted experts who agreed that the suggested papers covered a broad range of subjects over a wide timescale."⁶⁶

117. A Freedom of Information request has now revealed the truth. UEA sent the list of papers to Oxburgh who distributed it to the panel members. Professor Trevor Davies, UEA's pro-vice chancellor for research and a former director of CRU, subsequently approached Lord Rees and Sir Brian Hoskins FRS, with the list of eleven papers and asked whether it would be possible for Oxburgh to claim that the Royal Society had advised on the selection of the papers:

"Ron [Oxburgh] is keen that we can say that [the list] was constructed in consultation with the Royal Society. [The papers] represent the core body of CRU work around which most of the assertions have been flying. They are also the publications which featured heavily in our submission to the Parliamentary Inquiry, and in our answers to the Muir Russell Review's questions. I would be very grateful if you would be prepared to allow us to use a form of words along the lines: 'the publications were chosen in consultation with The Royal Society'."⁶⁷

118. It should be noted that it is not correct that the papers chosen were the ones at the centre of the allegations of wrongdoing. The list included several papers that had not been criticised at all and were rarely cited in the scientific literature. As noted above, the multiproxy studies that were both much-cited and heavily criticised were overlooked.

119. After approximately twenty minutes' consideration, Rees replied that he had no expertise in the relevant literature, but was happy to lend the Royal Society's name to the report provided that Hoskins, a climatologist, was happy with the choice of papers:

65 Royal Society Press Office. Email statement issued to A.W. Montford 16 April 2010.

66 Rees, M. Pers comm, 6 May 2010.

67 Davies, T. Email to Martin Rees and Brian Hoskins, 12 March 2010.

"...if Brian is also happy with this choice of papers (as you know, I have no relevant expertise myself!) I see no problem with saying that the list was drawn up in consultation."⁶⁸

120. Hoskins' position is interesting, as he gives a somewhat equivocal backing to UEA's proposed list:

"I am not aware of all the papers that could be included in the list, but I do think that these papers do cover the issues of major concern."⁶⁹

121. In a later interview with the BBC's Roger Harrabin, however, Hoskins stated clearly that he was not conversant with CRU science.⁷⁰

122. So while it does appear that the Royal Society had some involvement with the selection of papers, it seems that the only steps Lord Rees took to ensure the representativeness of the list of papers supplied by UEA was to accept the word of Sir Brian Hoskins, who freely admits that he is not familiar with the relevant scientific literature.

123. Meanwhile, Lord Oxburgh has confirmed that he made no steps to ensure that the Royal Society had in fact been involved or that the list was representative. In an email to Stephen McIntyre, he said:

"I saw no reason to seek any documentary evidence to establish that the Royal Society had been involved in the selection of suggested papers that gave us somewhere to start."⁷¹

124. The only opinion as to how representative the papers chosen were therefore appears to have come from CRU itself, the report noting that "CRU agreed that [the papers] were a fair sample of the work of the unit."⁷² Remarkably, CRU's opinion seems to have been offered by Jones himself,⁷³ leaving Oxburgh in the position of having consulted only the man at the centre of the misconduct allegations and a single outsider who proclaimed himself unqualified.

Finding: The papers examined by the panel were selected by UEA and appear to have been cleared with Jones himself.

Finding: Lord Oxburgh's report misled the public by stating that the papers were chosen 'on the advice of the Royal Society'.

Finding: Lord Rees said that he had consulted with experts about the papers. In fact he had only discussed them with Sir Brian Hoskins, who had said he did not know CRU's work.

Finding: Many of the papers examined were obscure and had not been ques-

68 Ibid.

69 Ibid.

70 Harrabin, R. Harrabin's notes: Getting the message. BBC News Online. 29 May 2010. http://news.bbc.co.uk/1/hi/science_and_environment/10178454.stm

71 Oxburgh, R. Email to Stephen McIntyre, 3 June 2010. <http://climateaudit.org/2010/06/04/oxburgh-refuses-to-answer/>

72 OR, p1.

73 Oxburgh, R. Email to Oliver Morton 16 April 2010. HA, p117. Note that Jones' name has been redacted, but is revealed in the subsequent correspondence on the WhatDoTheyKnow thread.

tioned by critics. Many of the papers that had been criticised were not examined.

The report

A cursory review

125. The Oxburgh panel's report consisted of a total of twenty-five paragraphs of text, which barely filled five small pages when printed. Even with the addition of a page listing the panel members and another page and a half of references, its output was widely seen as something of an embarrassment. One American climatologist said in an interview,

“When I first read the report, I thought I was reading the executive summary and proceeded to look for the details; well, there weren't any. And I was concerned that the report explicitly did not address the key issues that had been raised by the skeptics.”⁷⁴

126. According to the report, the panel made just two visits to CRU, 'interviewing and questioning' members of its staff. The report adds that not all members of the panel were present on both occasions, but 'two members were present on both occasions to maintain continuity'. The report notes that a total of only fifteen person-days were spent at the university.

127. The whole inquiry appears to have been conducted almost entirely informally, with no written records of meetings and no transcripts or recordings of the interviews of CRU staff. Kerry Emanuel has stated that he no longer has his contemporaneous notes of the meetings.⁷⁵

Finding: Contrary to the strong recommendation from the Science and Technology Committee, the inquiry did not carry out its interviews in public, nor did it make notes, recordings or transcripts of interviews.

128. The panel noted that CRU's work was directed at two main areas: construction and interpretation of tree ring chronologies (paleoclimate) and studies of temperatures over the last few hundred years (instrumental series).

Paleoclimate

129. While it is correct that much of CRU's paleoclimate work is involved in the preparation and interpretation of tree ring chronologies, some of the most important paleoclimate work to come out of the unit involves multiproxy temperature reconstructions, which use a variety of proxies including many non-tree-ring series, to estimate temperatures over previous centuries. These papers have been highly controversial but, as noted above, Lord Oxburgh's panel did not examine any of them.

130. The panel congratulated CRU on the way they were “continuously updating and reinterpreting their earlier chronologies”, a conclusion that contradicts one of the key issues raised in the McIntyre submission to the Science and Technology Com-

⁷⁴ Kloor, K. An inconvenient provocateur. Collide-a-scape blog. 23 April 2010. (The words quoted are by Judith Curry, a climatologist at Georgia Institute of Technology). <http://www.collide-a-scape.com/2010/04/23/an-inconvenient-provocateur/>

⁷⁵ Emanuel, K. Email to Stephen McIntyre 5 June 2010.

mittee regarding the important Polar Urals chronology. In a paper in *Nature* in 1995, CRU had published a chronology from Polar Urals, that purported to show a cool 11th century. The series was in regular use in early temperature reconstructions still used by IPCC (e.g. Jones et al 1998). By 1999, additional measurement data was available, which, if included in the chronology, would have yielded a revised series showing a prominent medieval warm period. Nevertheless, Briffa (2000) – an article on the Oxburgh list – continued to show the old Polar Urals version without the update, together with a new series with a large hockey stick from a nearby site (Yamal). Given CRU's practice of "continuously updating" chronologies, the failure to update the Polar Urals chronology is inexplicable. This was one of the issues that most troubled CRU critics and should have been addressed by Oxburgh, but wasn't.

Finding: The Oxburgh panel commended CRU for continuously updating their chronologies, but failed to report on CRU's failure to update the Polar Urals chronology, an issue that had long concerned critics.

131. The panel noted the need for the use of professional judgement in selection of data and pointed out the risk of selection bias in this area. They expressed their disappointment that few professional statisticians were involved in the CRU's work and said that there was an obligation on researchers to document the judgemental decisions they make. These conclusions might have been read as suggesting that the panel had found that judgemental decisions were not being documented and that therefore the question of 'cherry-picking' of data in order to reach predetermined conclusions still hung over CRU. However in the next paragraph the panel concludes that they are satisfied

"that the CRU tree ring work has been carried out with integrity and that allegations of deliberate misrepresentation and unjustified selection of data are not valid."⁷⁶

132. The panel closes the paleoclimate section by noting that they "have not exhaustively reviewed the external criticism of the dendroclimatological work" of CRU, but describe these criticisms as being 'selective' and 'uncharitable'.⁷⁷ It is not clear how the panel can have reached such a conclusion when they appear to have ignored the vast majority of these criticisms.

Finding: The panel's conclusions that criticisms of CRU were 'selective' and 'uncharitable' appear to be baseless since there is no record of these criticisms having been examined.

Surface temperatures

133. While the panel devoted fully seven paragraphs to the CRU's work on the instrumental temperature records – the thermometer records for the last 150 years – they had little of substance to say on the matter. The panel notes that, while there might have been different statistical methods of dealing with the data, the approaches used in practice were, they said, "fair and satisfactory".

134. Among the papers considered by the panel was Jones et al 1990, the study on urban heat islands discussed above. The accusation by Douglas Keenan that Jones

⁷⁶ OR, p3.

⁷⁷ OR, p3.

had cited this paper in the IPCC reports whilst knowing its findings to be based on input that was at best wrong and possibly fraudulent, does not appear to have been considered by the panel – there is no mention of the controversy in the report.

Finding: The panel do not appear to have examined Keenan's serious allegation.

IPCC

135. The panel does, however, make some mention of the IPCC. In their concluding remarks on the area of the surface temperature records, they discuss the treatment of CRU's work by the IPCC and others, noting that many such bodies have failed to incorporate the caveats and expressions of uncertainty of the CRU authors, highlighting the particular example of the divergence problem. Their statement is remarkable, recognising as it does some of the chief complaints of critics:

“Summaries and popularizations of the work of CRU and others often contain oversimplifications that omit serious discussion of uncertainties emphasized by the original authors. CRU publications repeatedly emphasize the discrepancy between instrumental and tree-based proxy reconstructions of temperature during the late 20th century, but presentations of this work by the IPCC and others have sometimes neglected to highlight this issue. While we find this regrettable, we could find no such fault with the peer-reviewed papers we examined.”⁷⁸

136. The handling of the discrepancy between some proxy reconstructions and instrumental temperature records in the IPCC and other reports has been the source of major criticism for many years. The “trick...to hide the decline” in the 1999 WMO report has been discussed above. In the IPCC's Third Assessment Report of 2001, the divergent sections of the Briffa reconstruction was simply deleted from the report without notice to the reader.

137. The treatment of the divergence problem in the IPCC's Fourth Assessment Report was the responsibility of CRU's Keith Briffa, the scientist who had done most to document the effect. Briffa and his IPCC colleagues decided that the divergence should be deleted from the graph of temperature reconstructions once again, arguing that it was ‘inappropriate’ for it to appear. Under pressure from reviewers, some discussion of the problem was added to the text and the final draft noted that there was a possibility of a breakdown in the relationship between tree rings and temperature. In other words, the temperature reconstructions might be unreliable. Despite this, no mention of these concerns appeared in the IPCC's Summary for Policymakers, the distillation of the key findings of the IPCC's reports.

138. In this context, the Oxburgh panel's criticisms of presentations of the issue ‘by the IPCC and others’ appears culpable. It is hard to accept that nobody on the panel was aware that Keith Briffa, as an IPCC lead author, had a direct responsibility for the presentation of uncertainties in CRU's work.

139. It is clear that the panel's criticism of IPCC authors extends beyond the paleo-climate chapter – it is obvious from the text quoted above that they are making a general criticism, at least as far as the areas covered by their inquiry go. So when the treatment of the surface temperature records in the IPCC reports is considered, they

seem to have suffered from another case of oversight, failing to notice that Jones was among the authors with responsibility for ensuring that the IPCC correctly reported scientific uncertainties.

Finding: The panel upheld one of the chief complaints of the IPCC's critics, noting that the IPCC report overlooked caveats and statements of uncertainty in the scientific literature. It is important to note however, that the panel failed to note the role CRU scientists had in downplaying uncertainty in the IPCC reports.

Aftermath

140. In the aftermath of the report, a number of Freedom of Information requests revealed further important details about the conduct of the panel. In particular a paper written by Professor Kelly ahead of his visit to UEA revealed concerns over CRU science.

"Up to and throughout this exercise, I have remained puzzled how the real humility of the scientists in this area, as evident in their papers, including all these here, and the talks I have heard them give, is morphed into statements of confidence at the 95% level for public consumption through the IPCC process. This does not happen in other subjects of equal importance to humanity, e.g. energy futures or environmental degradation or resource depletion. I can only think it is the 'authority' appropriated by the IPCC itself that is the root cause."

141. The IPCC's failure to explain uncertainties in the science has been a perennial complaint of critics and Kelly's recognition of the issue is therefore noteworthy. It is unclear, however, whether Kelly was aware that as regards the surface temperature records and the paleoclimate reconstructions, CRU staff members Jones and Briffa were directly involved in the authorship of the relevant sections of the IPCC reports. It is not known whether Kelly ever followed up his concerns when he interviewed CRU staff, since no mention of these issues appeared in the Oxburgh report.

Finding: At least one panellist had serious concerns over CRU science and how it was used in the IPCC reports. There was no word of these concerns in the Oxburgh panel report.

142. Despite the fact that the Oxburgh panel did not examine the contested scientific data and the analytical methods applied by CRU researchers, looking instead at a self-selected subset of the CRU's published papers, it is being widely stated that Oxburgh has shown that the CRU's science is sound. In particular in evidence to the House of Commons Science and Technology Select Committee in July, Science Minister, David Willetts said:

"I think [the inquiries] show that when it comes to the conduct of the science ... that was done at UEA, as I understand it, has passed muster when assessed by independent experts to check whether anything went wrong. My view is that their scientific work stands."⁷⁹

143. A few days later, Lord Rees told the same committee that "nothing has really

⁷⁹ Willetts, D. Oral evidence to Science & Technology Committee, 22 July 2010. Uncorrected transcript at <http://www.publications.parliament.uk/pa/cm201011/cmselect/cmsctech/uc369i/uc36901.htm>.

changed regarding the science" and "the science is unaffected".⁸⁰

Summary

144. The Oxburgh panel did not assess the reliability of the science at CRU, as the Science and Technology Committee had been told it would. Instead it only looked for evidence of deliberate misconduct.

145. The panel was carefully selected to have a majority who were convinced of the case for manmade global warming. The papers examined were selected by UEA and approved by Phil Jones.

146. Concerns over the representation of CRU's science by CRU scientists in the IPCC reports did not appear in the report.

Part IV The Climate Change Emails review

Lawson's letter

147. Shortly after the announcement of the CCE panel, Lord Lawson wrote to Russell setting out some of the concerns of the Global Warming Policy Foundation regarding the issues raised by the Climategate emails.⁸¹ Lawson pointed out the need for openness and transparency in the conduct of the inquiry, with hearings that should be held in public, and with transcripts made available as soon as possible thereafter. He also suggested that it was necessary to examine unpublished emails on the CRU servers and to take evidence from those outside CRU who claimed to have been wronged by the unit's staff.

The Panel

148. As noted above, Sir Muir Russell's review was the first to be announced, but the last to report. The panellists were as follows:

- Sir Muir Russell
- Professor Geoffrey Boulton, Emeritus Professor in the department of Geology and Geophysics at the University of Edinburgh and General Secretary of the Royal Society of Edinburgh
- Dr Philip Campbell, editor-in-chief of *Nature*
- Professor Peter Clarke, Professor of Physics at the University of Edinburgh
- David Eyton, head of research at BP
- Professor Jim Norton, Vice President of the British Computer Society.

Philip Campbell

149. Within minutes of the announcement of the panel, commentators had expressed concern at the appointment of Philip Campbell, the editor of *Nature*, the journal responsible for the publication of two of the key papers in the Climategate scandal:

⁸⁰ Rees, M. Oral evidence to Science & Technology Committee, 27 July 2010. Video at <http://www.parliamentlive.tv/Main/Player.aspx?meetingId=6545> (Relevant questions from 38 mins).

⁸¹ Lawson Calls For CRU Inquiry To Be Held In Public; <http://thegwpcf.org/news/476-lawson-calls-for-cru-inquiry-to-be-held-in-public.html>

- Jones' 1990 study on urban heat islands,⁸² described above, which was central to Douglas Keenan's fraud allegation
- The 1998 Hockey Stick paper by Michael Mann,⁸³ which plays an important role in the Climategate emails.

150. Since criticism of either of these papers could have been seen as criticism of *Nature* and, in the case of the Hockey Stick paper, of Dr Campbell himself, his appointment might have been considered inappropriate.⁸⁴

151. To make matters much worse, however, it was then discovered that Dr Campbell had apparently prejudged the CCE review, declaring in an interview with Chinese Television that the scientists involved in the emails had done nothing wrong:

"The scientists have not hidden the data. If you look at the emails there is [sic] one or two bits of language that are jargon used between professionals that suggest something to outsiders that is wrong...

In fact the only problem there has been is on some official restrictions on their ability to disseminate data. Otherwise they have behaved as researchers should."⁸⁵

152. When confronted with his own words Dr Campbell resigned, declaring that he had made the remarks in good faith on the basis of media reports and going on to add that "There must be nothing that calls into question the ability of the independent review to complete this task, and therefore I have decided to withdraw from the team"⁸⁶

Geoffrey Boulton

153. When the panel was announced, Sir Muir Russell had made much of the independence of the panellists. The panel's website explained the situation:

"None [of the panel] have any links to the Climatic Research Unit, or the United Nations' Intergovernmental Panel on Climate Change (IPCC)."⁸⁷

154. This emphasis was continued in the website's Frequently Asked Questions section:

"Q: Do any of the Review team members have a predetermined view on climate change and climate science?"

⁸² Jones, PD et al. Assessment of urbanization effects in time series of surface air temperature over land. *Nature* 1990;347: 169–172.

⁸³ ME et al. Global-scale temperature patterns and climate forcing over the past six centuries. *Nature*, 1998; 392: 779–787.

⁸⁴ Campbell became editor-in-chief at *Nature* in 1995, so would not have borne any responsibility for Jones et al. 1990.

⁸⁵ Clarke, T. 'Climate-gate' review member resigns. Channel Four News website. 11 February 2010. http://www.channel4.com/news/articles/science_technology/aposclimategateapos+review+member+resigns/3536642

⁸⁶ Clark, T. 'Climate-gate' review member resigns. Channel Four News, 11 February 2010. http://www.channel4.com/news/articles/science_technology/aposclimategateapos+review+member+resigns/3536642.

⁸⁷ The Independent Climate Change Emails Review website. About the review. <http://www.cce-review.org/About.php>

A: No. Members of the research team come from a variety of scientific backgrounds. They were selected on the basis they have no prejudicial interest in climate change and climate science and for the contribution they can make to the issues the Review is looking at."⁸⁸

155. On the inquiry website Professor Boulton was described as having expertise in "fields related to climate change...though not in the climate change field itself."⁸⁹

156. However, these declarations were soon being questioned. Prof Boulton was actively involved in climate change advocacy, making numerous presentations that focused on the most extreme scenarios of future climate change.⁹⁰ An article in *The Scotsman* described some of Boulton's views:

"Prof Boulton, from the University of Edinburgh, was among a number of scientists who, in the wake of the Climategate scandal, signed a petition to show their confidence that global warming was caused by humans. And for at least five years, he has made clear his strong views on global warming. He has given interviews and written articles...that have spelled out his firmly held beliefs."⁹¹

157. This appeared to directly contradict Russell's statements that panellists had 'no prejudicial interest in climate change'. In addition, Prof Boulton also turned out to be an ex-employee of UEA, having worked in its School of Environmental Sciences for some eighteen years.⁹² The School of Environmental Sciences incorporated CRU, and Boulton was therefore a former colleague of Jones and other scientists who appeared throughout the Climategate emails, such as Professor Tom Wigley and Ben Santer. Again, this was the opposite of what had been stated by Russell.

158. Prof Boulton defended himself, stating in an interview with the Scotsman that he had been open about his employment at UEA and that he had had no professional contact with the university since leaving in 1986. This was a surprising statement, since Boulton's biography on the Russell review website made no mention of his time at UEA. Several commentators also pointed out several instances of professional contact with people from UEA. For example, in October 2009, just days before the Climategate furore broke, Boulton had been invited to lecture at the Royal Society of Edinburgh alongside Dr Andrew Dlugolecki, a visiting fellow at UEA, and Professor John Mitchell, who was the review editor for Briffa's IPCC chapter and was involved in the related FOI controversies.

159. In his position at the University of Edinburgh, Professor Boulton was also a colleague of Professors Tom Crowley and Professor Gabriele Hegerl, both closely associated with the authors of the Climategate emails, including Jones.

160. In the face of these and other criticisms, Russell defended the appointments, making the extraordinary claim that it was not possible to find panellists who were

88 This quotation originally appeared on the FAQ section of the CCE panel website. This page is now blank. However the quotation is repeated in several of the submissions of evidence.

89 This quotation has also been removed from the inquiry website, although it still appears in the evidence submitted by both McIntyre and McKittrick

90 Masudi, F. UAE warning: Climate change effects. Gulf News, 28 February 2008. <http://gulfnews.com/news/gulf/uae/general/uae-warning-climate-change-effects-1.449068>

91 Fyall, J. Senior Scots scientist in climate probe row. The Scotsman 13 February 2010. <http://news.scotsman.com/news/Senior-Scots-scientist-in-climate.6069702.jp>

92 Drake, R. SCE, Ev 163.

acceptable to both sides:

“As others have pointed out, it would be impossible to find somebody with the qualifications and experience we need who has not formed an opinion on climate change. I am completely confident that each member of the Review team has the integrity, the expertise, and the experience to complete our work impartially.”⁹³

Finding: Several members of the panel were unsuited to be panellists, having strong connections to UEA or having a tendency to make alarmist statements on the impact of manmade global warming.

Finding: No known critic of CRU was on the panel.

Scope

161. The press release from UEA's press office set out the nature and scope of the investigation:

“The Independent Review will investigate the key allegations that arose from a series of hacked e-mails from CRU. The review will:

1. Examine the hacked e-mail exchanges, other relevant e-mail exchanges and any other information held at CRU to determine whether there is any evidence of the manipulation or suppression of data which is at odds with acceptable scientific practice and may therefore call into question any of the research outcomes.
2. Review CRU's policies and practices for acquiring, assembling, subjecting to peer review and disseminating data and research findings, and their compliance or otherwise with best scientific practice.
3. Review CRU's compliance or otherwise with the University's policies and practices regarding requests under the Freedom of Information Act ('the FOIA') and the Environmental Information Regulations ('the EIR') for the release of data.
4. Review and make recommendations as to the appropriate management, governance and security structures for CRU and the security, integrity and release of the data it holds.”⁹⁴

Short timescales for submissions

162. The timescales envisaged for the submission of evidence was extremely short. With over 1000 emails to consider, together with all the data and code in the Climategate archive, the two and a half weeks allowed for submissions was inadequate. Russell's explanation for this timetable was bizarre.

⁹³ “Everyone likely to make a submission to the Review already has a view on the is- CCE Review website. Allegations of bias against Review member rejected. 15 February 2010. <http://www.cce-review.org/News.php>.

⁹⁴ University of East Anglia Press Office. Sir Muir Russell to head the Independent Review into the allegations against the Climatic Research Unit (CRU). 3 December 2009. <http://www.uea.ac.uk/mac/comm/media/press/2009/dec/CRUreview>

sues within its remit, and the hacked emails are in the public domain. The Review team is also keen to ensure that preliminary conclusions are presented to UEA in the Spring, as has been requested.”⁹⁵

The work programme

163. The panel undertook a series of interviews with staff at CRU, mostly with people working in administrative areas. Only a fraction of the interviews involved the issues of concern to the public. No transcripts or recordings of these interviews have been kept, apparently because the panel did not intend to use them as primary evidence, but instead as a starting point from which documentary evidence could be checked.⁹⁶ Minutes of the meetings were made public after the publication of the report, preventing critics from challenging evidence presented by CRU staff.

164. Orientation meetings at the university were held in December and January prior to the announcement of the panel on 12 February. Subsequently, there were only two evidence-taking interviews with CRU staff, one concerning the CRUTEM station data and one concerning proxy reconstructions. Remarkably, the majority of the panel, including Russell, did not attend these. The interview on proxy reconstructions was carried out by Geoffrey Boulton – the most conflicted member of the panel – accompanied by only one other panellist.⁹⁷

165. Interviews and other evidence were also sought from third parties, such as the Information Commissioner's office and IPCC officials. No interviews were conducted with any of the critics of the CRU, again suggesting that the purpose of the inquiry was to find grounds for exonerating the CRU scientists rather than to determine the truth.

Finding: Only two interviews were held with key CRU staff. The majority of the panel, including the chairman, Sir Muir Russell, did not attend.

Finding: No interviews were held with critics of the CRU.

The report

Criticisms of Prof Boulton

166. Perhaps the most remarkable feature of the written submissions is the number of submissions that criticised the appointment of Geoffrey Boulton. Around half condemned his presence on the panel. With so many people expressing dismay at the composition of the panel, it is remarkable that Muir Russell refused to take any steps to restore the balance in the membership that he had claimed was vital to demonstrate its integrity.

Hide the decline

167. Unlike the Parliamentary Select Committee the CCE panel were quite clear that the steps taken in the preparation of the WMO report (“Hide the decline”) were not acceptable.

⁹⁵ CCE website. FAQs. This page has now been removed from the website, but the relevant lines are quoted at <http://climateaudit.org/2010/02/11/a-muir-russell-avatar/#comment-221214>.

⁹⁶ CCE, p23.

⁹⁷ McIntyre, S. Muir Russell Skipped Jones' Interviews. Climate Audit blog, 9 July 2010. <http://climateaudit.org/2010/07/09/muir-russell-skipped-jones-interviews/>.

“On the allegation that the references in a specific e-mail to a ‘trick’ and to ‘hide the decline’ in respect of a 1999 WMO report figure show evidence of intent to paint a misleading picture, we find that, given its subsequent iconic significance (not least the use of a similar figure in the IPCC Third Assessment Report), the figure supplied for the WMO Report was misleading.”⁹⁸

168. However, the panel failed to confront the corresponding deletion of post-1960 tree-ring data in the IPCC's Third and Fourth Assessment Reports. They blandly said that there was no general rule against deleting data, but conspicuously avoided addressing the IPCC deletion.

Finding: The panel correctly noted that hiding the divergence problem in the WMO report was misleading but failed to investigate similar issues in the IPCC reports.

Subversion of the peer review process

169. Following the resignation of Philip Campbell from the panel, Richard Horton, the editor of *The Lancet*, was invited to assist the CCE team, although his role appears to have been as an advisor on the peer review process rather than taking on full membership of the panel as had been intended for Dr Campbell.

170. Horton provided a detailed paper describing the nature of peer review and some of the problems that are encountered in its application in the day-to-day work of scientific journals. Much of his paper therefore represents useful background information for the panel but is not directly relevant to its remit. However, Horton did make links directly to the panel's work and these instances are instructive.

171. Horton first drew attention to what he saw as the critical peer review issue for the panel to address, namely whether CRU scientists had gone beyond the normal rough-and-tumble of peer review, entering into an area of professional misconduct:

“If a research paper is especially controversial and word of it is circulating in a particular scientific community, third-party scientists or critics with an interest in the work may get to hear of it and decide to contact the journal. They might wish to warn or encourage editors. This kind of intervention is entirely normal. It is the task of editors to weigh up the passionate opinions of authors and reviewers, and to reflect on the comments (and motivations) of third parties. To an on-looker, these debates may appear as if improper pressure is being exerted on an editor. In fact, this is the ordinary to and fro of scientific debate going on behind the public screen of science. Occasionally, a line might be crossed. We experienced such a border crossing recently, where several reviewers and third parties encouraged us to delay publication of a paper for non-scientific reasons. *Defining that line is the crucial task when judging the role of CRU scientists.*” [Emphasis added]⁹⁹

172. Although Horton did not define this line himself, the panel seem to have taken careful note of his words, repeating them in the body of the report. However, their subsequent investigation into whether CRU scientists had in fact crossed the line into

⁹⁸ CCE, p17.

⁹⁹ CCE, p133.

unethical behaviour was ineffectual.

173. In its original work plan, the panel listed only three of the many possible cases of the peer review process being undermined. In its report, the panel limited its consideration to these incidents, despite others being brought to their attention. For example, McIntyre notes the following email, in which a scientist named Ed Cook discusses tactics for reviewing a critical paper with CRU's Keith Briffa:¹⁰⁰

"If published as is, this paper could really do some damage. It is also an ugly paper to review because it is rather mathematical, with a lot of Box-Jenkins stuff in it. It won't be easy to dismiss out of hand as the math appears to be correct theoretically."

174. One important case of a journals apparently being threatened by CRU scientists and their associates concerns the replacement of the editor responsible for McIntyre and McKittrick 2005 at *Geophysical Research Letters*.¹⁰¹ The details and the failure of the Science and Technology Committee to investigate them are outlined above. The CCE panel likewise did not look into the allegations and the affair is not mentioned in the report.

175. Another allegation concerns the possible subversion of the peer review process at the journal, *Climate Research*, (concerning the Soon and Baliunas 2003 paper). The emails reveal CRU staff apparently discussing the possibility of removing the editor of this journal and shunning it if they didn't get their way. In the report, the panel discussed the Soon and Baliunas affair, and noted that they had also discussed it with Phil Jones, who had told them that the reaction to the paper was "not improper or disproportionate". As noted above, the panel have said that they have not made transcripts available because their conclusions were "founded on information given in submissions and at interviews relating to facts that can be checked and referenced, rather than on interview testimony as such." Thus although it is not possible to discover what was said, Jones' testimony was presumably not central to the panel's conclusions. However, no other evidence was put forward to support these conclusions. In particular, there appears to have been no attempt to discover what approaches were made by CRU staff to *Climate Research*. The panel merely observe that reactions are often heated in peer review disputes and on that basis, exonerate the CRU team of any wrongdoing.

Finding: The panel appear to have exonerated CRU staff of undermining the peer review process without any evidence beyond unrecorded statements from Phil Jones. The panel themselves acknowledge that such uncorroborated testimony is inadequate.

Finding: The possibility of improper approaches having been made to another journal was not investigated.

Confidentiality in the peer review process

176. Richard Horton also identified the possibility of breach of the confidentiality of the peer review process as an important area:

¹⁰⁰ McIntyre, S. Evidence to CCE panel. <http://www.cce-review.org/evidence/StephenMcIntyre.pdf>

¹⁰¹ There has been some confusion over this issue. The allegation is that the editor, James Saiers, had responsibility for the paper taken away, not that he was removed from his position at the journal.

“Editors send manuscripts to reviewers based on a principle of confidentiality. The author expects the editor to maintain a covenant of trust between the two parties. The editor will not misuse the author’s work by circulating it outside of the confidential peer review process. The editor expects that covenant of trust to be honoured by the peer reviewer. No manuscript should be passed to a third party by a reviewer without the permission of the editor, usually on the grounds of improving the quality of the critique of the manuscript by involving a colleague in the review process. A disclosure to a third party without the prior permission of the editor would be a serious violation of the peer review process – a breach of confidentiality.”¹⁰²

177. There is at least one instance of what appears to be a breach of peer-review confidentiality in the Climategate emails. On 26 February 2004, Phil Jones apparently emailed Michael Mann to discuss a paper he has apparently been shown by his CRU colleague, Tim Osborn.

“Can I ask you something in CONFIDENCE – don’t email around, especially not to Keith and Tim here. Have you reviewed any papers recently for Science that say that MBH98 and MJ03 have underestimated variability in the millennial record – from models or from some low-freq proxy data. Just a yes or no will do. Tim is reviewing them – I want to make sure he takes my comments on board, but he wants to be squeaky clean with discussing them with others. So forget this email when you reply.

Cheers
Phil”¹⁰³

178. It appears likely that Osborn had shown the paper to Jones, since Jones has been able to offer comments on it. If this is the case then it would represent, in the words of Richard Horton, a serious violation of the peer review process. Despite this, the CCE panel do not seem to have examined the issue.

179. The email from Ed Cook to Keith Briffa, which was discussed in the previous section, also appears to represent a breach of the confidentiality of peer review.

Finding: The panel ignored the recommendation of their own advisor that they investigate the possibility that CRU staff had breached the confidentiality of the peer review process.

McKittrick’s allegation of fabrication

180. The published minutes of the Russell panel’s early deliberations suggested that Muir Russell and his team had decided to rule any of the dealings of the CRU panel with the IPCC as beyond their remit.¹⁰⁴ Since this area is where most of the most serious allegations are to be found, this was potentially an extraordinary decision. However, perhaps because prompted by a letter from Stephen McIntyre reminding them of their ability to change their terms of reference, the panel seems to have reversed its decision and a section on the IPCC was included in the report.

¹⁰² CCE, p137.

¹⁰³ Climategate emails. 1077829152.txt.

¹⁰⁴ CCE panel. Confirmed note of actions from CRU Review Group meeting (Teleconference), 22 April 2010. <http://www.cce-review.org/pdf/Confirmed%20Note%2022%20April.pdf>

181. The details of McKittrick's allegation that Jones inserted a fabricated statement – that McKittrick's results were statistically insignificant – into the IPCC's Fourth Assessment Report have already been discussed in Part 2 above. As noted, McKittrick stated that in order to disprove an allegation of fabrication, it was necessary for Jones to show a paper in the scientific literature that demonstrates this alleged insignificance by means of formal statistical measure called a P-value. The panel repeated these allegations but concluded that there was 'no justification of the view that that this response was invented'¹⁰⁵

182. It is not clear how they reached this conclusion since no P-value was offered up to the CCE panel by Phil Jones or other members of the CRU. It must therefore be concluded that the accusation of fabrication stands unanswered. It should be noted however that Jones has stated that he did not write the line in question. McKittrick has accepted this claim. Nevertheless, as a member of the author team Jones must bear some responsibility.

183. Jones instead provided an entirely different defence of the IPCC's rebuttal of McKittrick's paper, arguing that McKittrick's findings were incompatible with the ocean records and also that they were an artefact of ocean circulation patterns. McKittrick has described these claims as, respectively, untrue and unsubstantiated.¹⁰⁶ Regardless of who is right, the claims are irrelevant to the question of whether or not the claim of statistical insignificance was supported in the literature.

184. The panel attempted to back up Jones' position by suggesting that it was reasonable for McKittrick's paper to be excluded because it was part of the role of the IPCC to assess the literature and to choose which papers they accepted.

"[...] those within the team had been entrusted with the responsibility of forming a view, and that is what they did."¹⁰⁷

185. The erroneous idea that IPCC authors were responsible for deciding on such scientific disputes is repeated elsewhere in the CCE report:

"The IPCC produces assessments of the current state of understanding of climate change, its causes and implications. Its approach is to produce the most probable account of these issues; together with their uncertainties, and to identify where there is insufficient evidence to discriminate between different interpretations of a phenomenon. Its purpose is to produce a 'best estimate' of what is currently understood, through the work of a group of scientists chosen for their expertise and experience to make reasoned assessments on the balance of evidence. It is not to produce a review of the scientific literature."¹⁰⁸

186. This is a position that contradicts the IPCC's own description of its work:

"All chapters undergo a rigorous writing and open review process to ensure consideration of all relevant scientific information from established journals with robust peer review processes or from other sources which have undergone robust

¹⁰⁵ CCE, p76..

¹⁰⁶ McKittrick, R. Response to Independent Climate Change Email Review. 7 July 2010. http://rossmckittrick.weebly.com/uploads/4/8/0/8/4808045/mckittrick_iccer_response1.pdf.

¹⁰⁷ CCE, p76.

¹⁰⁸ CCE, p41.

and independent peer review.”¹⁰⁹

187. As Professor Roger Pielke Jnr has noted this mischaracterisation of the role of the IPCC is likely to have impacted directly upon the panel’s findings regarding McKittrick’s paper:

“Had the Muir Russell review actually taken an accurate view of the IPCC, it is likely that its judgment about the appropriateness of the behaviors revealed by the emails would be considerably different.”¹¹⁰

Finding: No substantive defence against McKittrick’s allegation of fabrication has been made.

Finding: The panel misunderstood the nature of the IPCC process, almost certainly affecting their conclusions in result.

The Wahl and Ammann affair

188. It was alleged that during the preparation of the IPCC’s Fourth Assessment Report, Keith Briffa had inappropriately used an unpublished paper by Eugene Wahl and Caspar Ammann in an attempt to rebut a critique of the Hockey Stick graph. A detailed analysis of the events was provided in evidence by David Holland, who was at the centre of attempts to obtain details of the affair under Freedom of Information Act. However, the CCE panel refused to publish Holland’s submission, citing concerns that it was potentially libellous, and then refused to tell Holland which parts of the submission they were concerned about. Despite their public commitment to openness they then claimed that their legal advice was privileged.

Finding: The panel refused to publish the evidence of one of the most important witnesses.

189. Remarkably, the panel did publish Briffa’s response to Holland’s allegations. This amounted to a heavily edited version of Holland’s evidence, with comments added by Briffa and Osborn. Some of Holland’s most important evidence can therefore not be seen.

190. The CCE panel said that the relevant section of the IPCC report was ‘assumed’ to have been written by Keith Briffa,¹¹¹ and it was also stated that Briffa had denied being solely responsible. However, there is abundant evidence from the emails that Briffa was in fact the author of the text, something that is borne out by a quotation given later in the CCE report, where Briffa says of this section:

“I have to consider whether the current text is fair or whether I should change things in the light of the sceptic comments.”¹¹²

191. It is possible that Briffa was creating a distinction between composing the text and being responsible for it.

¹⁰⁹ IPCC. Summary Description of the IPCC process. <http://www.ipcc-wg1.unibe.ch/statement/WG1-summary22122009.html>.

¹¹⁰ Pielke Jnr, R. The Muir Russell Review. Roger Pielke Jnr’s blog 7 July 2010. <http://rogerpielkejr.blogspot.com/2010/07/muir-russel-review.html>.

¹¹¹ CCE, p78.

¹¹² CCE, p79.

192. It is alleged that Briffa may have used the Wahl and Ammann paper knowing that the version he was working with was not final and that it did not include important statistical information that would have showed that its conclusions were unreliable. If he *did* consider the final version then he must explain why he cited a set of results that were clearly unreliable. The CCE panel do not appear to have investigated this aspect of Briffa's conduct.

193. The Wahl and Ammann paper relied on an unpublished companion paper by the same authors. This contained further important statistical information that might have thrown doubt on the paper considered by Briffa. Briffa and Osborn responded that the question of these figures was not discussed in the IPCC report and that therefore the reliance of the Wahl and Ammann paper on the companion paper is besides the point.¹¹³ The point Osborn and Briffa did not address was the fact that they *should* have discussed the verification statistics since this spoke directly to the question of reliability of the Hockey Stick, which was the point at issue in this part of the IPCC report. There is no evidence that the panel challenged Briffa on this point.

Finding: The panel did not address the question of whether Briffa chose to ignore the problems with the Wahl and Ammann paper or to break the IPCC rules by using a preliminary version.

194. The IPCC rules required that papers considered for inclusion had to be in print in December 2005. The Wahl and Ammann paper was too late to be included under the original timetable and it is undisputed that IPCC staff subsequently changed the deadline. Holland noted in his evidence that the UK government were not informed of this change, as was required for all official IPCC notices, suggesting that this was an 'unofficial' change, which suited IPCC staff since it enabled them to incorporate the Wahl and Ammann paper. Among the allegations made by Holland that the Russell panel refused to publish was documentary evidence that IPCC staff made untruthful statements to the Russell review about the circumstances in which these deadline changes took place.

195. Holland also presented evidence that senior IPCC staff had colluded with British review editors, and CRU's Keith Briffa, in order to prevent release of information about the IPCC review. Holland alleges breaches of the Environmental Information Regulations and the Data Protection Act. These allegations are not discussed in the report.

Finding: The panel did not publish David Holland's evidence that the change to the IPCC timetables was unauthorised and did not mention it in the report.

196. The IPCC states that it is committed to openness and transparency and requires that all reviewers be registered and that all review comments be registered in an archive that will be made available for public scrutiny following the release of the report. Briffa is accused of breaching IPCC rules in July and August 2006 by sending the final draft of his IPCC chapter to an unregistered reviewer (Eugene Wahl, who was actively involved on one side of the Hockey Stick controversy) and failing to record review comments in the IPCC archive. There is strong evidence from the emails that Briffa was aware that he was violating IPCC procedures, as the emails are marked by

¹¹³ Briffa, K and Osborn T. Response to specific questions raised by Professor Geoffrey Boulton, in his letter of 6 May 2010, in his role as a member of the Muir-Russell review team. [http://www.cce-review.org/evidence/6 May Briffa Osborn response.pdf](http://www.cce-review.org/evidence/6%20May%20Briffa%20Osborn%20response.pdf).

insistence on confidentiality and concerns that Wahl's editorial changes should not be identifiable. The surreptitious correspondence resulted in a substantial change in the IPCC assessment of the status of the Hockey Stick controversy from the assessment sent to external reviewers, resulting in an assessment much less favourable to critics.

197. David Holland's submission, however, makes it clear that Wahl and Briffa had breached IPCC's governing principles, which require openness and transparency, and its Appendix A procedures, which state that government and expert reviewers should be able to see all review comments.¹¹⁴ The panel, however, relied on declarations in Briffa's favour from his IPCC associates, stating that there is nothing in IPCC rules to prevent chapter authors acting as Briffa did.

Finding: The panel did not discuss strong third party evidence that Briffa acted outside IPCC rules, preferring to rely on submissions from scientists at the centre of the allegations.

Were emails deleted?

198. David Holland had attempted to discover more details of what had happened during the IPCC's review. On 27 May 2008, he made an FOI request to CRU for any correspondence relating the Fourth Assessment Report. His request specifically mentioned Ammann. There was strong evidence that this correspondence existed and also that it was, in the words of the Guardian's Fred Pearce, a 'direct subversion' of the IPCC's policies of openness and transparency.

199. The following day, Jones sent the university FOI officer and his CRU associates an email (with a subject line citing the Holland FOI request identification number) saying that "Keith [Briffa] should say" that he had received no such correspondence outside the IPCC record. This assertion was untrue,

200. On 29 May, Phil Jones, in an email in an email entitled 'IPCC & FOI', says the following:

"Can you delete any emails you may have had with Keith [Briffa] re AR4? Keith will do likewise. He's not in at the moment – minor family crisis. Can you also email Gene [Wahl] and get him to do the same? I don't have his new email address. We will be getting Caspar [Ammann] to do likewise."¹¹⁵

201. The Science and Technology Select Committee asked the CCE panel to report back conclusively on the question of whether, aside from the six-month statute of limitations, an offence would have taken place under the Freedom of Information Act.

202. The panel concluded that nothing untoward took place:

"There seems clear incitement to delete emails, although we have seen no evidence of any attempt to delete information in respect of a request already made."¹¹⁶

¹¹⁴ CCEH, paras 10, 87.

¹¹⁵ Climategate emails. 1212063122.txt.

¹¹⁶ CCE, p92.

203. The second part of this finding is extraordinary, since the email quoted above was clearly a direct response to David Holland's Freedom of Information request just two days earlier. Even more remarkably at the press conference releasing their report, Muir Russell admitted that Jones had not even been questioned on this subject at all.

Finding: The panel failed to ask Jones whether he had deleted emails, but said they had not seen anything to suggest he had, despite having evidence to the contrary.

204. Confidential minutes of the Russell panel's interviews of key members of UEA staff have recently been published – perhaps inadvertently – on the inquiry website. These reveal that the panel were informed by UEA IT staff that Briffa had taken steps that might be construed as an attempt to block Freedom of Information requests. On 18 December 2009, at the very start of the inquiry, Muir Russell met with Jonathan Colam-French, UEA's Director of Information Services and other members of the UEA IT team. The minutes record two statements made by Colam-French during this meeting:

“JCF – full CRU data set held electronically can be made available and can be accessible. However, part of it may not be electronic. Working data, emails, more transitory working information – may be stored in other locations.”

“JCF – For example *Keith Briffa took home emails that were subject to FOI to ensure their safekeeping.*”¹¹⁷ [Emphasis added]

205. It is not clear why Keith Briffa thought that taking home emails would make them safe. At UEA they would presumably have been backed up and therefore much more secure than elsewhere. It is probable that Briffa took these steps in the wake of Jones' request that he delete emails relating to the Fourth Assessment Report. Briffa would probably have been aware that compliance with Jones' request would have been a criminal offence under the Freedom of Information Act. He may therefore have thought that by taking the emails home, he would be able to tell Jones that he had complied while still avoiding a breach of the Act.

206. These questions are of critical importance in understanding what took place at the CRU in the wake of the IPCC's Fourth Assessment Report. Yet despite this, there is no discussion of Briffa's actions or their meaning in the report.

Finding: The panel failed to consider important evidence of breaches of Freedom of Information legislation.

Yamal

207. The panel consider the issue of cherrypicking and the representativeness of certain tree-ring series, such as Yamal and the Polar Urals update (see above). The panel concluded that since no peer-reviewed critique of CRU's choice of series existed, they were unable to investigate further.¹¹⁸ Since one of the allegations the panel was investigating was that the peer reviewed literature had been closed to critics this

¹¹⁷ Russell review. Minutes of 18th December Meeting with IT Personnel. <http://www.cce-review.org/pdf/MR%2018%20Dec%20final%20IT%20Personnel.pdf>.

¹¹⁸ CCE, p56.

does not seem a reasonable line of argument. It is also not clear why they did not ask for clarification from the critics of CRU.

208. The panel also argued that the Yamal series was only used in four (or perhaps five) of the twelve series shown in the IPCC's Fourth Assessment Report. This is misleading since four of these twelve are not tree-ring reconstructions and thus could not use Yamal anyway. Yamal is used in five of the eight tree-ring temperature reconstructions comparing medieval and modern periods and is thus an important factor in the IPCC's position on temperature history.

209. The panel conceded that the Yamal data had not been available to allow readers to assess the reliability of the study.

210. Questions of possible cherrypicking of data series in CRU's multiproxy temperature reconstructions appear to have gone uninvestigated.

Finding: The panel failed to investigate allegations of cherrypicking.

Bodging

211. As noted above, the issue of bodging – ad hoc adjustment of data – was raised by several submissions to the Science and Technology Committee, who chose not to examine it. The Russell panel did however make some comments, stating without any support whatever that the “bodge” to the Tornetrask chronology was not “unusual”, but did not provide any references or other examples. They argued that an unpublished paper by Briffa and Melvin (nearly 20 years after the original paper) vindicated the Tornetrask adjustment. The panel did not report on the bodes, fudge factors and artificial adjustments.

Finding: It is not possible to question the panel's findings on the issue of 'bodging' since they rely on unpublished research.

Summary

212. The CCE panel, like the Oxburgh panel, included several members whose independence and objectiveness was open to question. No critics were on the panel and no critics were interviewed by the panel.

213. The panel failed to investigate many important allegations, exonerating CRU staff on the basis of their oral testimony. In particular, no contact was made with journal editors to determine if CRU staff had tried to undermine the peer review process.

214. The panel ignored their own advisor in failing to investigate the possibility of breaches of the confidentiality of peer review.

215. The panel did not present evidence that the alleged fabricated statement in the IPCC's chapter on surface temperatures was supported in the peer reviewed literature. This allegation therefore stands, although the panel have sought to justify it on other grounds.

216. The panel appears to have accepted that IPCC staff can override the rules

agreed for its governance by governments.

Part V The Penn State inquiry

217. This report is focused on the UK inquiries, but will cover the Penn State University investigations in brief.

Penn State

218. In the wake of the release of the Climategate emails, Penn State University launched an investigation into the conduct of Professor Michael Mann under its research misconduct procedures. The inquiry committee consisted of two tenured members of staff and an administrator. This represented a breach of the university's own rules, which required the inquiry committee to have five tenured members.

219. The inquiry set out four main areas for investigation:

- had data been suppressed or falsified
- had data or emails relating to the IPCC's Fourth Assessment Report been deleted
- had privileged information been misused
- had there been any deviation from accepted academic standards.

220. The inquiry failed to take oral evidence from any of Professor Mann's critics, including McIntyre and McKittrick. This was also a breach of the university's own procedures.

Findings

Hiding the decline

221. In sharp contrast to the CCE Panel, the Penn State inquiry saw no problem with 'hiding the decline':

"They were not falsifying data; they were trying to construct an understandable graph for those who were not experts in the field. The so-called "trick" was nothing more than a statistical method used to bring two or more different kinds of data sets together in a legitimate fashion by a technique that has been reviewed by a broad array of peers in the field."

222. The suggestion that truncating and splicing data in this way is "a statistical method" and moreover that it one that is accepted in the field is extraordinary and is likely to bring Penn State into considerable disrepute.

Deleting data

223. The inquiry concluded that there was no evidence that Prof Mann had deleted emails or data related to the Fourth Assessment Report. Mann stated that he did not delete any emails and provided the inquiry with an archive of emails, including some relating to the IPCC report. However, the panel did not address the question of the email in which Mann appeared to accept Jones' suggestion that they should delete their IPCC correspondence.

Deviation from accepted academic standards

224. The inquiry could not reach agreement on this final question and a further investigation was launched. This new panel reported on a number of issues, but chiefly on the availability of Mann's data and code.

225. Mann told the investigation that the data and code for his famous Hockey Stick paper had long been available. He said that the data had been on his FTP site and also that he had released the code a year after McIntyre had requested it. He also claimed that McIntyre had received an incorrect version of the data because errors had been inadvertently introduced during the transcription of the data into the spreadsheet that McIntyre had requested.

226. These claims could readily have been shown to be untrue. McIntyre published his correspondence with Mann in 2003. This shows clearly that even Mann did not know where the data was at the time of McIntyre's request. There is also no mention of a spreadsheet. These facts are confirmed in the Climategate emails, where a message from the CRU's Tim Osborn to (amongst others) Mann notes that the published correspondence contradicts any claim that McIntyre asked for a spreadsheet or that he could have known where Mann's data could be found.

"The mention of ftp sites and excel files is contradicted by their email record on their website, which shows no mention of excel files (they say an ASCII file was sent) and also no record that they knew the ftp address."¹¹⁹

Other allegations

227. The investigation panel dismissed other allegations against Mann, citing his success in obtaining grants and his long publication record as evidence in his favour.

Finding: By failing to interview Mann's chief critics, the inquiry failed to notice clear falsehoods in the evidence presented to them.

Aftermath

228. The way in which Mann was exonerated proved extremely controversial and even neutral commentators appeared to be taken aback by some of the panel's reasoning. Writing in *The Atlantic*, Clive Crook, widely seen as a neutral on the question of global warming, said:

"The report...says, in effect, that Mann is a distinguished scholar, a successful raiser of research funding, a man admired by his peers – so any allegation of academic impropriety must be false..."

Mann is asked if the allegations (well, one them) are true, and says no. His record is swooned over. Verdict: case dismissed with apologies that Mann has been put to such trouble."

¹¹⁹ Climategate emails. 1067596623.txt

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