

Select Committee on Energy Independence and Global Warming

“The Foundation of Climate Science”

May 6, 2010

9:30 am.

2237 Rayburn House Office Building

Questions for the Record

General Questions for ALL Witnesses

- 1) Why should anyone trust the integrity of the IPCC reports given the recent revelation of significant errors in the 4th AR, notably the ludicrous claim that the Himalayan glaciers would disappear in 2035?
- 2) By its own admission, EPA has said that its Endangerment Finding for greenhouse gases relied on IPCC data and reports. In light of the errors revealed within the IPCC 4th AR (see page 9 of Committee Report), how can this Congress and the current administration justify implementing legislation that will lead to fewer jobs and cost taxpayers more money?
- 3) The Climategate e-mails scandal reveals a troubling pattern of behavior among a group of scientists influential to the IPCC process and reports that have been issued thus far. The e-mails sent between scientists at the University of East Anglia's Climatic Research Unit show a pattern of data manipulation and secrecy that undermine the British academic body's credibility, and even demonstrate CRU researchers violating UK law by plotting to avoid Freedom of Information requests. How can you defend and promote the work of the IPCC in light of these revelations?
- 4) What recommendations would you make to regain public trust in the climate science discipline?
- 5) It has been acknowledged that certain sets of primary data have been intentionally destroyed and other sets of data are not shared within the scientific community. Do you believe that sharing of primary data sets will lead to more transparency in scientific work and is a step towards climate scientists being held more accountable?
- 6) Can you address the Medieval warming period and why temperatures were much higher in recent pre-industrial time periods? Are you able to model why such periods took place?
- 7) All of the climate research seems to be focusing on the previous 100 years and examining the recent rise in atmospheric CO₂ levels. Given the incredible complexities associated with the global climate, is it possible that this timeframe is not adequate? How can one overcome the lack of accurate data dating back before 1800?

Questions for Dr. Chris Field, Director, Department of Global Ecology, Carnegie Institute at Stanford:

- 1) As co-chair of the Working Group tasked with assessing scientific information concerning impacts of climate change, what will you do different from your predecessor to provide transparency and ensure the integrity of the material incorporated in the IPCC's 5th Assessment Report?
- 2) Do you agree with the IPCC claim that the world "suffered rapidly rising costs due to extreme weather-related events since the 1970s"¹ because of global warming? If yes, how do you respond to the information that the IPCC cited one unpublished study to prove this? When the underlying research was published in 2008, the authors backpedaled, saying "We find insufficient evidence to claim a statistical relationship between global temperature increase and catastrophe losses."²
- 3) Earlier this year, you were quoted in a UK paper saying the IPCC 4th AR was broadly accurate at the time it was written. Specifically, you stated that, "The 2007 study should be seen as "a snapshot of what was known then. Science is progressive. If something turns out to be wrong we can fix it next time around."³ If Congress passes and the President signs into law a bill implementing a cap and tax scheme, and we find out years from now that the science behind the EPA's Endangerment Finding is wrong, how would we fix it next time?
- 4) One of the criticisms of the IPCC Fourth Assessment Report—particularly that of IPCC's Working Group II—was that many of the cited references were so-called "gray literature"; that is, non-peer reviewed literature. How do you respond to that criticism?
- 5) You were one of two coordinating lead authors of Chapter 14 of the IPCC Working Group Fourth Assessment Report, entitled "North America." This chapter included references to newspaper and magazine articles from the Associated Press, *Better Roads*, *Business Insurance*, *The Rocky Mountain News*, *The New York Times*, *The Seattle Times*, and *The Wall Street Journal*.⁴ Why did you include such items in a "scientific

¹ Jonathan Leake, *UN Wrongly Linked Global Warming to Natural Disasters*, The Sunday Times (January 24, 2010), available at <http://www.timesonline.co.uk/tol/news/environment/article7000063.ece>.

² *Id.*

³ *Id.*

⁴ Associated Press, 2002: Rough year for rafters. September 3, 2002; Business Week, 2005: A Second Look at Katrina's Cost. Business Week. September 13, 2005. [Accessed 09.02.07: http://www.businessweek.com/bwdaily/dnflash/sep2005/nf20050913_8975_db082.htm]; Butler, A., 2002: Tourism burned: visits to parks down drastically, even away from flames. Rocky Mountain News. July 15, 2002; Fletcher, M., 2004: Blackout sheds light on outage risks; Dark days of 2003 teach lessons. Business Insurance, 1-4. May 24, 2004; Kesmodel, D., 2002: Low and dry: Drought chokes off Durango rafting business. Rocky Mountain News, 25 June 2002; Kim, Q.S., 2004: Industry Aims to Make Homes Disaster-Proof. Wall Street Journal, 30 September 2004; Stiger, R.W., 2001: Alaska DOT deals with permafrost thaws. Better Roads. June, 30-31. [Accessed 12.02.07: <http://obr.genpublishing.com/articles/brjun01c.htm>]; Welch, C., 2006: Sweeping change reshapes Arctic. The

assessment”? Do you intend to continue that practice with the IPCC’s Fifth Assessment Report?

- 6) When Chairman Markey asked you if you disagreed with Lord Monckton's testimony, you replied that you did. Please explain why, while incorporating the information highlighted in the slide show Lord Monckton presented as part of his testimony.

Questions for Dr. Lisa Graumlich, Professor and Director, School of Natural Resources and the Environment, University of Arizona:

- 1) Dr. Graumlich, you referred to your involvement with the Oxburgh Panel that investigated the CRU in light of what you call “various external assertions.” Those assertions presumably were made by the CRU's critics. Can you tell us which of the CRU's critics you interviewed during your investigation? If none, how could you conclude the CRU was innocent of any wrongdoing without interviewing a single critic?
- 2) One of the criticisms of the Oxburgh Report, which you included in your testimony, is that the 11 papers you studied were not the controversial ones, and you omitted at least 9 CRU papers that have been criticized. Your report states that the 11 papers were selected “on the advice of the Royal Society.” Yet on April 16, a spokesman for the Royal Society contradicted this claim, and said only that they recommended your panel look at a broad selection of papers. Can you please explain how you selected these 11 papers, and why you didn't look at ones that the CRU's critics were focusing on?
- 3) The Chairman of your panel was Lord Oxburgh, who has strong personal and financial interests in promoting a global warming policy. He is a director of an international environmental organization called Globe International. He is also Chairman of a green energy firm called Falck Renewables, and President of the Carbon Capture and Storage Association. According to an article in the Times of London, Lord Oxburgh even warned the University of East Anglia that people might question his independence. Did the obvious conflict of interest of the Chairman of your inquiry not strike you as a problem? Did you not think you should mention his conflict of interest in your testimony?
- 4) In your testimony and the Oxburgh Report you say that CRU scientists were not guilty of misrepresenting data. Instead, in your report (page 5, paragraph 7) you blame the IPCC for, in effect, covering up the discrepancy between tree rings and temperature data. But you must have been aware that it was a CRU scientist, namely Keith Briffa, who was Lead Author of that section of the IPCC Report. So how can you claim that CRU scientists had nothing to do with it? Why did you not mention the CRU role in the IPCC report in the Oxburgh Report, or in your testimony today?
- 5) Paragraph 3 of the Introduction of Oxburgh Panel report states: “The Panel was also free to ask for any other material that it wished and did so. Individuals on the panel asked for and reviewed other CRU research materials.” What other CRU research materials were reviewed?
- 6) Paragraph 9 of the Dendroclimatology section of the Oxburgh Panel report states: “we deplore the tone of much of the criticism that has been directed at CRU.” What were the specific criticisms that the Panel deplored?
- 7) At the bottom of page 2 and top of page 3 of your written testimony, you state that from 1940 through the mid-1970s, temperatures were “relatively stable.” However, wasn't the trend during that period one of “global cooling” and concerns that we were entering

another ice age? For example, the May 21, 1975 edition of *The New York Times* reported that the Northern Hemisphere's climate "has been getting cooler since about 1950" and that "a major cooling of the climate is widely considered inevitable." And *Newsweek* published an article entitled "the Cooling World" in its April 28, 1975 edition citing a survey by NOAA's Dr. Murray Mitchell showing "a drop of a half a degree in average ground temperatures in the Northern Hemisphere between 1945 and 1968." If such cooling took place, how can you say that temperatures were "relatively stable" from 1940 through the mid-1970s?

- 8) When Chairman Markey asked you if you disagreed with Lord Monckton's testimony, you replied that you did. Please explain why, while incorporating the information highlighted in the slide show Lord Monckton presented as part of his testimony.

Questions for Dr. James McCarthy, Alexander Agassiz Professor of Biological Oceanography, Harvard University:

- 1) Dr. McCarthy, in your testimony you referred to the Antarctic ice cores, specifically stating that “the cycle of atmospheric CO2 content varies in concert with temperature over the hundred thousand year glacial - interglacial cycle.” As I understand it, however, the temperature change comes before the CO2 change in that record. In other words the two series do not vary “in concert,” but are separated by a lag of hundreds of years, and the change in CO2 is a response to temperature change, not vice versa. Can you comment on this?
- 2) In an email sent by Phil Jones to some of his colleagues in November 1999. He says:

“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.” (<http://www.eastangliaemails.com/emails.php?eid=154&filename=942777075.txt>)

He's talking about a graph that went onto the cover of a report by the World Meteorological Organization in which a long segment of declining temperature data was removed to make the various data sets look like they all showed warming. Have you ever written an email to a colleague in which you talk about using a “trick” to hide a data trend that contradicts a conclusion you want to present? If you had received this email would you have felt at all uncomfortable about what he was doing?

- 3) In your testimony, you make the observation that there are a vast number of studies proving the accumulation of greenhouse gases in the atmosphere are a result of human activity and that this – not natural cycles, solar cycles or volcanic activity - is the cause for warming trends in the earth. You say there exist no credible challenges to the validity of these studies. Let me read you a portion of a 2003 e-mail from Michael Mann to Phil Jones and others:

“...This was the danger of always criticising the skeptics for not publishing in the "peer-reviewed literature". Obviously, they found a solution to that--take over a journal! So what do we do about this? I think we have to stop considering "Climate Research" as a legitimate peer-reviewed journal. Perhaps we should encourage our colleagues in the climate research community to no longer submit to, or cite papers in, this journal. We would also need to consider what we tell or request of our more reasonable colleagues who currently sit on the editorial board...”

(<http://www.eastangliaemails.com/emails.php?eid=295>)

Is it possible that the reason for a lack of credible challenges to the validity of the studies you cite is because of a concerted effort by some of your colleagues to coerce journals to quash them?

- 4) When Chairman Markey asked you if you disagreed with Lord Monckton's testimony, you replied that you did. Please explain why, while incorporating the information highlighted in the slide show Lord Monckton presented as part of his testimony.

Questions for Dr. James Hurrell, Senior Scientist and Chief Scientist for Community Climate Projects, National Center for Atmospheric Research:

- 1) Dr. Hurrell, your testimony is quite bullish on the performance of climate models, although you do make reference to “uncertainties” arising “from shortcomings in the understanding and how to best represent complex processes models” on page 12.
 - However, the rosy picture painted in your testimony appears to be in conflict with the contents of the paper^[1] by you and your colleagues that was published in the December 2009 issue of the Bulletin of the American Meteorology Society. There, you talk about “biases in models that make observations possibly incompatible with the model climate state”, “profound gaps in our prediction abilities” with respect to the El Niño-Southern Oscillation phenomenon,” and that “[f]or decadal and longer time scales, the problem of quantifying prediction skill becomes even more difficult” and “[e]ven if we could test long-term climate metrics proposed in the last decade of journal papers, we have no current method to prioritize or weight their impact in measuring uncertainty in predicting future climate change for temperature, precipitation, soil moisture and other variables of critical interest to society”.

Please reconcile your testimony with your recently published work.

- 2) In your testimony you reference the rapid rate of global warming and that your models are capable of explaining the climate. I want to read you an email from your colleague Kevin Trenberth, sent on October 2009 to a group of your colleagues:
 - “The fact is that we can't account for the lack of warming at the moment and it is a travesty that we can't. The CERES data published in the August BAMS 09 supplement on 2008 shows there should be even more warming: but the data are surely wrong. Our observing system is inadequate.”
 - The same month Dr. Tenberth wrote the following to Tom Wigley: “How come you do not agree with a statement that says we are no where close to knowing where energy is going or whether clouds are changing to make the planet brighter. We are not close to balancing the energy budget. The fact that we can not account for what is happening in the climate system makes any consideration of geoengineering quite hopeless as we will never be able to tell if it is successful or not! It is a travesty!”

You and your colleagues make confident claims in public, but in private, you admit a lot more uncertainty. Why weren't these uncertainties presented in the IPCC Report? Why did we only learn about them when the CRU emails were leaked?

^[1]James Hurrell, Gerald A. Meehl, David Bader, Thomas L. Delworth, Ben Kirtman, and Bruce Wielicki 2009: A Unified Modeling Approach to Climate System Prediction. *Bull. Amer. Meteor. Soc.*, 1819-1832.

- 3) In your testimony you note “widespread changes in temperature extremes have been observed over the last 50 years.” What sort of data collection is available to measure the number of heat waves and frost nights prior to the last 50 years of observations? Is it possible that in previous climatic periods, heat waves and frost nights were more commonplace than now?

- 4) When Chairman Markey asked you if you disagreed with Lord Monckton's testimony, you replied that you did. Please explain why, while incorporating the information highlighted in the slide show Lord Monckton presented as part of his testimony.

Questions for Lord Christopher Monckton, Third Viscount Monckton of Brenchley, Chief Policy Advisor, Science and Public Policy Institute:

- 1) What should climate scientists do to regain the public's trust in their work? What should they do to ensure transparency and accountability in the climate science community, especially as we look towards the development of the upcoming IPCC's Fifth Assessment Report?
- 2) Given the EPA's heavy reliance on IPCC climate science, much of which has been called into question, do you think the U.S. government should conduct a full scale investigation into the state of climate science and the certainty thereof?