

## Further written evidence submitted by Aubrey Meyer, GCI

The previous memo from GCI to EAC stands. With a view to strengthening what has already been written and said by GCI to the EAC 2013 Enquiry, the following information is added: -

### 1. A corrective point on the exchange between EAC and Juliet Slingo on the 12<sup>th</sup> of June 2013: -

#### a. First point - Martin Caton's question to Juliet Slingo:

*"Aubrey Meyer said that the Met Office claimed to include all feedback effects in its projections on global emissions when it had not. Would you like to respond to that assertion?"*

This is simply wrong. GCI said no such thing.

However, GCI's evidence to EAC 2013 did point at two specific things: -

1. GCI pointed out that the UKMO - without disclosing this to the EAC Enquiry 2009 - completely reversed their own stated meaning of 'coupled-carbon-cycle' modelling from a *positive* to a negative feedback [see major point two below];

2. GCI also pointed out that *UKMO's own disclosure of other feedback effects they had omitted* only occurred after pressure was brought to bear in the EAC Enquiry 2009. UKMO's disclosure did admit that they had indeed left out major feedback effects from their climate-modelling [which they described as potentially 'a big deal'] and it is also now true that they continue to omit these to this this day [all the way into IPCC AR5] preparation due to 'uncertainties' and 'complexity'.

To this GCI adds now two more points: -

3. Given what is already now years of delay in doing this including these other feedback effects - i.e. accomplishing the task of effectively and comprehensively modelling rates of global climate change on this global scale in the face of these omissions due to uncertainties and complexities - it is possibly [and some would say even probably - see statements below] in fact *an insurmountable task*.

4. And therefore that in these circumstances, it is at the very least misleading to the policy community, to continue to hold out the hope that this comprehensive 'climate-modelling' may yet emerge and will be accomplished in any meaningful time-frame in any useful way, when there is an even likelihood that it will not.

#### b. UKMO's [Julia Slingo's] reply to Martin Caton's question is meaningless: -

*"Yes, it is absolutely untrue. To say that we don't include them is absolutely wrong."*

Her reply: -

1. Avoids again the UKMO's own admission of the omitted feedback effects.

2. Restates what UKMO did with coupled-carbon feedbacks, but again with no reference to having turned what was a *positive* feedback into a *negative* feedback between IPCC AR4 [2007] and UK Climate Act [2008]!

3. Confirms that UKMO has now put this package as stated above into the IPCC AR5 preparations: -

*"We have, as I think has already been made clear for the fifth assessment report, entered the fifth assessment with a full earth system model that includes feedbacks associated with the terrestrial carbon cycle. It includes dynamic vegetation, so this is the long-term changes in forests and shrub land and so on, ocean bio-geochemistry and interactive atmospheric chemistry.*

To which she conspicuously adds: - *"we have probably contributed more model simulations than virtually any other group in the world, so we take the IPCC process very seriously."*

To all this GCI now adds two more obvious points which one would expect were obvious even to the UKMO: -

4. Modelling negative feedback into the coupled carbon cycle is only theoretically plausible as long as UKMO's 'climate-modelling' continues to omit all the other larger scale feedback effects [as they have already admitted], and

5. Actually doing this, would probably recognize a degree of increased concentrations and temperature rise that would make it even theoretically implausible for that coupled carbon cycle *positive* feedback to have been turned into a *negative* feedback effect as they now have modelled into the coupled carbon-cycle, in the first place.

**2. Some further points clarifying the what is the iterative but undisclosed about-face on 'coupled-carbon-cycle' modelling performed by the UKMO in a trail that goes through the following sequence: -**

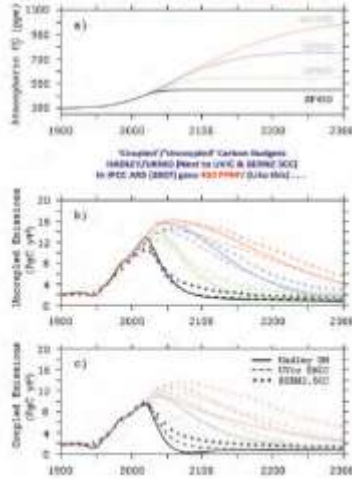
- a. After some years of development through the C4MIP programme led by Betts Cox et al, results of the UKMO/C4MIP work was published in IPCC AR4 [2007] where UKMO's 'coupled-carbon-cycling' showed that concentrations would be significantly *higher* and *rising* than with 'uncoupled-carbon-cycling'.
- b. The reverse of this was then made into law in the UKCA [2008] where UKMO's 'coupled-carbon-cycling' showed that concentrations would be significantly *lower* and *falling* than with 'uncoupled-carbon-cycling' [as was shown in IPCC AR4].
- c. If this was 'true' [realistic accurate] it is something to which the UKMO would have been conspicuously drawing attention, as in terms of UNFCCC-compliance [achieving safe and stable atmospheric concentrations of GHG] it was 'good news' in the sense that 'the problem was not as bad as we thought'.
- d. However, when the matter was then addressed by UKMO in the EAC Enquiry [2009] and on this very point, Jason Lowe reported that concentrations would be significantly *higher* and *rising* than with 'uncoupled-carbon-cycling' – see the evidence given.
- e. Consequently, in doing this, GCI consider that it is not inaccurate to say that the UKMO were *concealing* in the EAC Enquiry [2009] this very point [in other words *specifically not reporting*] the 'good news' that concentrations were portrayed in the UK Climate Act as significantly *lower* and *falling* than with 'uncoupled-carbon-cycling' then [http://www.gci.org.uk/images/Volta\\_Face\\_UKMO\\_.pdf](http://www.gci.org.uk/images/Volta_Face_UKMO_.pdf)

## UKMO'S ABOUT-FACE ON THE EFFECT OF COUPLED CARBON-CYCLE MODELLING

Below is what was published in IPCC AR4 WG1 [2007]  
Hadley Coupled & Uncoupled for 450 PPMV [solid black lines].  
'Coupled-emissions' have to be lower than 'uncoupled-emissions'  
to achieve the 450 PPMV concentrations outcome.

This would mean also that if the uncoupled budget was held constant, and the model was then 'coupled', the PPMV outcome would be significantly higher than 450 PPMV, due to what Mr Richard Betts of the UKMO calls 'weaker sinks'. This was repeated to EAC [2009] by Mr Jason Lowe [UKMO].

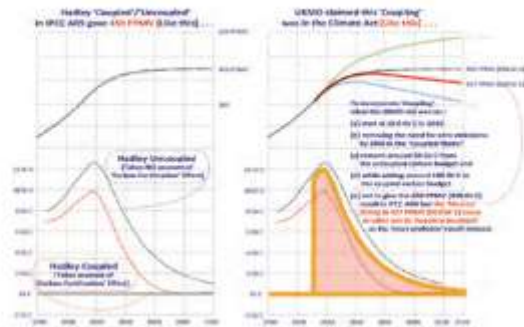
### UKMO claim this 'Coupled Modelling' is in UKCA



Here is what became law in the UK Climate Act [UKCA 2008] compared with Hadley Coupled & Uncoupled IPCC AR4 for 450 PPMV. The Carbon-Budget in the Act [solid pinkish colour] is larger than UKMO's 'Coupled-Budget' & smaller than their 'Uncoupled-Budget' [in IPCC AR4 2007] where 'Coupled-emissions' need to be lower than 'uncoupled-emissions' to achieve the 450 PPMV concentrations outcome in IPCC AR4 [2007].

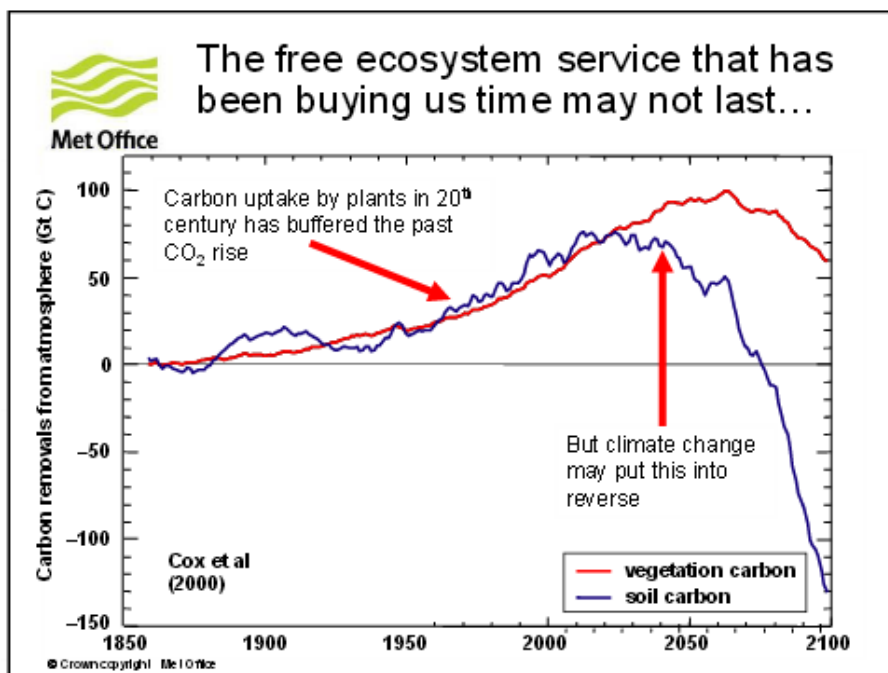
However, in this comparison a new feature is revealed in UKCA [2008]. For this, UKMO produced a 'coupled-emissions-budget' that was larger than the 'coupled-emissions-budget' in their IPCC AR4 exercise, but it also - AND THIS IS THE POINT AT ISSUE - resulted in:-

- [a] a PPMV pathway where concentrations are falling and not rising
- [b] which completely reverse Mr Betts' argument [that concentrations would be rising and not falling with coupling]
- [c] Jason Lowe UKMO giving evidence to EAC [2009] re-iterating that concentrations would rise & not fall for 'coupling'
- [d] in other words concealing this change from the EAC 2009 and now denying there was a change in the EAC 2013 enquiry.



- f. Finally, two years after the Climate Act became law and three months after UKMO/Lowe had given this evidence to the EAC Enquiry 2009, UKMO [Lowe Betts et al] were presenting their work at a conference in Oxford in September 2009.

In this presentation UKMO again contradicting the coupled carbon cycle modelling in the UK Climate Act that clearly modelled *negative* feedback, they presented a truly massive *positive* feedback effect in the coupled carbon cycle modelling shown [from forest die-back] as this summary graphic unambiguously indicates.



Mr Richard Betts, a civil servant at the UKMO, seems to have led the UKMO's whole programme on coupled carbon cycle modelling through C4MIP to the results published in IPCC AR4 [2007].

When all these example of their work and the dates of its presentation were put to him, he explained the UKMO's contradictions away publicly [and on a well-known 'climate-contrarian website' - Bishop's Hill] in the following manner.

For simply pointing out these discrepancies, omissions and contradictions in the UKMO's output, this civil servant mounted the UKMO's defence of it all by stating there simply that GCI: -

- [a] was a 'well-known alarmist scare-monger'
- [b] 'did not understand climate-science'
- [c] 'failed to recognize that these were *all different models*' [!]

Moreover, he: -

- [d] refused to recognize any discrepancies in the UKMO performance
- [e] and refused to discuss the matter further.

- g. All-in-all, the UKMO's performance in this matter is remarkable.

For the contrarians it now all represents evidence of UKMO coming round to their way of thinking. For the record it is evidence of an extraordinary attitude and deterioration in the UKMO's noticeably unreliable and even erratic performance standards.

- 3. As a living demonstration of the fact that CH4 release from the already melting permafrost and is combustible, this video from a year or two ago is a striking demonstration of a present reality: -**

<http://www.youtube.com/watch?v=YegdEOSQotE>

**A statement from Dr Ulrich Loening about this matter (see separate submission)**

- 4. A statement from Dr Mayer Hillman about this matter (see separate submission)**

Others have been asked for their views and in due course I expect there to be more statements.

10 July 2013