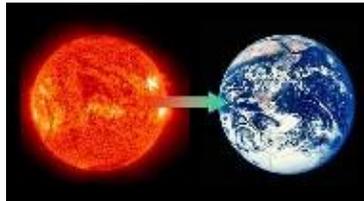


The Apollo- Gaia Project



MERIDIAN HOUSE
115 POPLAR HIGH STREET
LONDON E14 0AE
Tel: 020 7-987 3600
Fax: 020 7-515 8627
e-mail: wasdell@meridian.org.uk
Web-site: www.meridian.org.uk
Web-site: www.apollo-gaia.org

Hosted by the Unit for Research into Changing Institutions (URCHIN) Charity Reg. 284542

ANNUAL REPORT FOR 2014

2014 saw the culmination and publication of some 9 years of intensive work under the aegis of the Apollo-Gaia Project. We had sought definitive answers to two fundamental questions:

1. By how much does the natural planetary climate system amplify the greenhouse effect of the CO₂ emissions? In other words, how sensitive is the climate to human disturbance?
2. Is there a critical threshold beyond which the world system moves into self-amplification, or runaway behaviour, and if so, then what boundary conditions are involved?

The robust results were published in June as 'Sensitivity and the Carbon Budget: The Ultimate Challenge of Climate Science'. The open-access paper is currently undergoing an archived peer-review process and is available on the Apollo-Gaia web site.

(See: <http://www.apollo-gaia.org/sensitivitycarbonbudget.html>) Unless significant errors can be found in the analysis, that paper sets the benchmark against which all further strategic solutions to the problem of global climate change must now be judged. Our derived value of "Climate Sensitivity" is some two and a half times greater than that projected by the basic computer models used as the foundation for the IPCC Fifth Assessment Report and treated as the basis for current international negotiations.

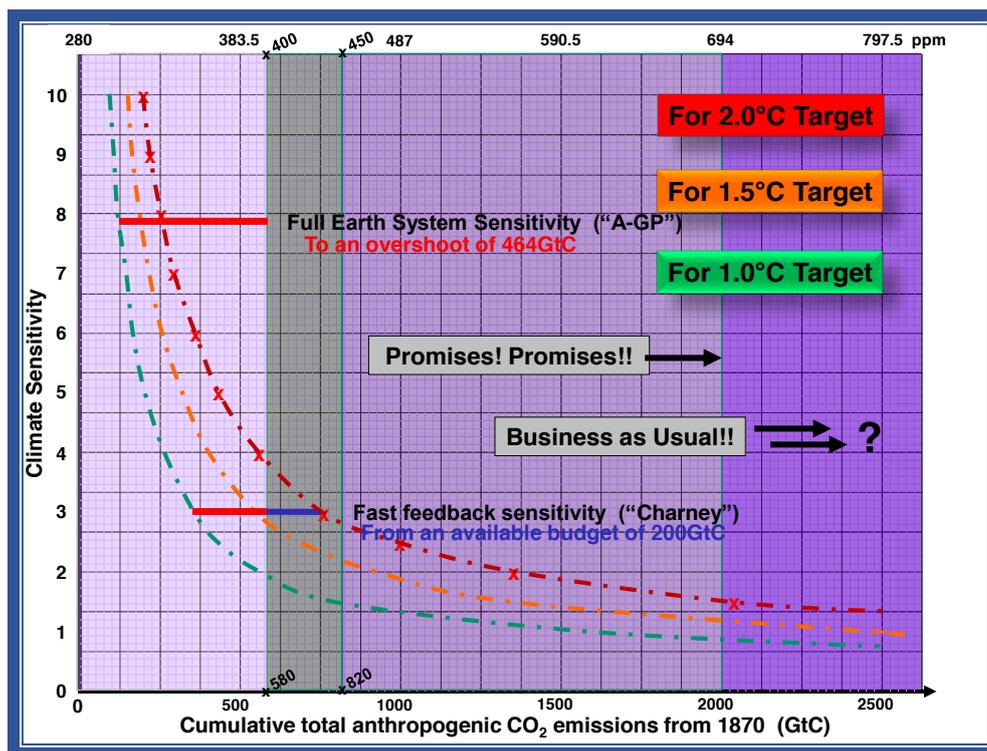
Following on from the Climate Summit Meeting organised in late September by Ban Ki-Moon in New York, a major application of the Apollo-Gaia analysis was produced. Entitled 'Beyond the Summit: Sensitivity, Temperature and the Carbon Budget', the material was released in dual media, both as video lecture and also as illustrated pdf.

See: (<http://www.apollo-gaia.org/BeyondtheSummit.html>) The presentation was formally tabled at the 18th Annual Conference on Climate Change at Chatham House, and is currently being widely circulated to interested parties. It concludes:

‘Emissions reduction on its own cannot deliver the goods. We must have a two pronged strategy of stopping all further emissions and reducing the atmospheric stock, drawing down from the atmosphere much that is already in place. Only that kind of dual strategy, within a time span that is appropriate for the earth systems behaviour, will enable us to achieve the agreed objective of avoiding dangerous climate change.’

This sample slide shows the cumulative carbon emissions associated with different target temperatures for varying climate sensitivity. The light purple shading shows cumulative

emissions to 2014, with the grey overlay representing the effects of additional non-CO2 greenhouse gasses.



For a 2°C target, the IPCC sensitivity value (“Charney”) allows a positive carbon budget only if the latter are ignored. The full Earth System Sensitivity shows the collapse of the budget approach and the reality of a massive overshoot. The paper also argues that the 2°C target is set far too high for safety and should be reduced to a maximum rise of only 1°C. Best national promises of emissions reduction, currently on the table at the COP 20 in Lima, are represented by the medium purple shading, while the actual track of ‘Business as Usual’ (deep purple shading) stretches even further to the right. The enormity of the gap between current practise and required solution goes way beyond the proposals from the UN Climate Summit, (i.e. to stabilise temperature increase at not more than 2°C above the pre-industrial value by means of an emissions reduction process in keeping with the “available carbon budget” based on the fast-feedback value of Climate Sensitivity). The Apollo-Gaia presentation charges that:

‘Any agreement reached in Paris on those terms would be a strategic disaster, committing humanity to a course of action that would guarantee catastrophic climate change with all the unmanageable consequences that would involve.’

In short, these two papers lay out the criteria for effective strategic solutions to the problem of global climate change against which to evaluate the output of COP 20 in Lima and the proposed treaty being prepared for acceptance at COP 21 in Paris in 2015.

Our engagement must now move on beyond the long period of basic systems analysis to the urgent task of communication, strategic formulation and the catalysis of effective action.

All our outputs have a long history of repeated presentation, reception of critical feedback and subsequent revision. At the time of writing our Report last year, the Inter-Governmental Panel on Climate Change (IPCC) had just published the scientific section of its 5th Assessment Report. We attended presentations of the Summary for Policymakers (SPM) and noted discrepancies between the published edition (as revised by the political representatives) and the version submitted by the scientific community. The SPM also elided the dependence of the “Carbon Budget” on the value of Climate Sensitivity to which attention had been drawn in the Technical Summary (produced by the scientists). A critical response citing these discrepancies and

reintroducing the impact of climate sensitivity was produced early in the New Year. It was entitled 'Basis for a Carbon Budget?' and was featured in a lead article in the Guardian (Environment section). It was uploaded to our web-site (<http://www.apollo-gaia.org/AR5SPM.html>). Early in March we were invited to give a brief presentation to the Climate Challenge Conference in Birmingham. The dynamics of that event provided the spur for the revision of the IPCC critique and its amalgamation with the core of the previous keynote presentation to the Club of Rome, see: (<http://www.apollo-gaia.org/ClubofRome.html>). We also attended the public meetings introducing the newly published reports of the IPCC Workgroups 2 and 3. Here again the co-chairs of those reports also alluded to political distortion of the science during the political editing process. At the Members Day of the Climate Psychology Alliance in June, the Director provided a brief psychological perspective of the dynamics and pressures on those producing the Summary for Policymakers documents.

In early July we held a small workshop at Meridian House on the 'Necessary and Sufficient Conditions for the Catalysis of a Global Phase Change in Human Behaviour'. The intense process encountered appeared to represent the wider dynamics of reaction to global problems and society's collective response. Thinking 'outside the box' proved to be quite remarkably difficult against the backdrop of fear, profound despair and the truncation of the time dimension.

We also produced a response to the Deep Decarbonization paper produced by the UN Sustainable Development Solutions Network in collaboration with the Institute for Sustainable Development and International Relations. (See: <http://www.apollo-gaia.org/DeepDecarbNotes.html>). As with so much now written around this subject, their report demonstrated profound confusion between emissions reduction and concentration reduction. All international focus [as was apparent in the 2014 Lima conference] appears to be on reducing the amount of carbon dioxide being emitted each year. This ignores the equally pressing need to reduce the current stock of atmospheric CO₂.

Apart from the Birmingham conference, we have also had meetings with various colleagues from around the world, both in the flesh whilst they are over in Britain and via the On-Sync video platform and welcomed many to Meridian House.

The new IT equipment has now settled down and is proving its worth. We changed IT support supplier to one which is more compatible with our values – they attempt to solve problems remotely rather than make unnecessary visits, and monitor the equipment 24/7. They also appear to be more customer-focused than profit-focused, which also helps! We have now invested in some bulk e-mail software and hope to be able to communicate news, papers and presentations more effectively next year.

David Wasdell,
Director