

The State of the Planet

A Climate Dynamics Update

An Apollo-Gaia Project Briefing

By David Wasdell*

1. A Systems Dynamics Analysis of the global climate shows it to be dominated by a complex, interactive web of reinforcing (“positive”) feedback mechanisms. This accelerates climate change in ways not effectively predicted by current models, or addressed in current strategic negotiations.
2. Scientific monitoring indicates that Climate Change is not simply going faster than predicted, but its rate is accelerating. Moreover, the rate of acceleration is itself accelerating.
3. The behaviour is non-linear and includes a critical threshold (or “tipping point”) in the earth system as a whole, beyond which positive feedback overwhelms all system constraints and precipitates the condition of runaway global warming. Current analysis indicates that that threshold has already been passed.
4. There is only a narrow window of opportunity within which the re-stabilisation of the runaway behaviour can be achieved. Beyond that the condition becomes unstoppable. Intervention to sustain the viability of our planetary life-support system then becomes not simply more expensive or un-economic, but absolutely impossible at any cost.
5. The current (most stringent) proposal to limit atmospheric concentrations of greenhouse gases to 440 parts per million, does not lead to a stable increase in equilibrium temperature of 2°C above pre-industrial levels as previously assumed. It precipitates the condition of runaway global heating.
6. The global climate constitutes the macro or containing system within and upon which the sub-systems of population, energy, economics, security, food, water, health, etc. are totally dependent. Breakdown in the economic sub-system is indicatively symptomatic of the onset of breakdown in the containing macro-system on which it depends. The global economy is therefore the canary in the cage of the global climate. Current attempts to find ways of resuscitating the dead canary are at best diversionary and at worst destructively dysfunctional.
7. Establishment of a sustainable economic system is therefore totally dependent on the re-stabilising of the global life-support system. Urgent achievement of that goal must now become the fundamental and over-arching strategic commitment of human civilisation.

* **David Wasdell** is the Founder and Director of the **Unit for Research into Changing Institutions**, a twenty-five year old, independent, non-profit, consultancy-research organisation based in London Docklands. He directs the **Apollo-Gaia Project**, a world-wide action-research initiative focussed on the dynamics of the global climate system and the effective human response. He also heads up the work on feedback dynamics of coupled complex systems for the **Global System Dynamics and Policy Co-ordination Action** of the European Commission.