



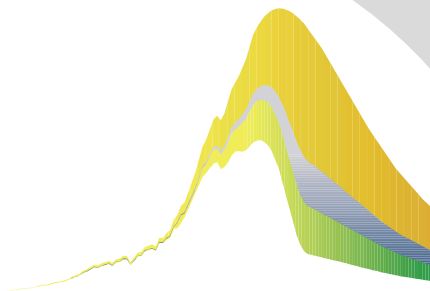
*"Stabilization inevitably requires 'contraction and convergence'."*

UNFCCC Secretariat

# C&C

## "Contraction & Convergence"

A Framework to avoid dangerous climate change



*"This kind of thinking [C&C] appears utopian only if we refuse to contemplate the alternatives honestly."*

*The Prime Minister has already declared that his international priorities as chair of the G-8 in 2005 will include climate change and the future of Africa; Contraction and Convergence addresses both of these"*

**Dr. Rowan Williams  
The Archbishop of Canterbury**

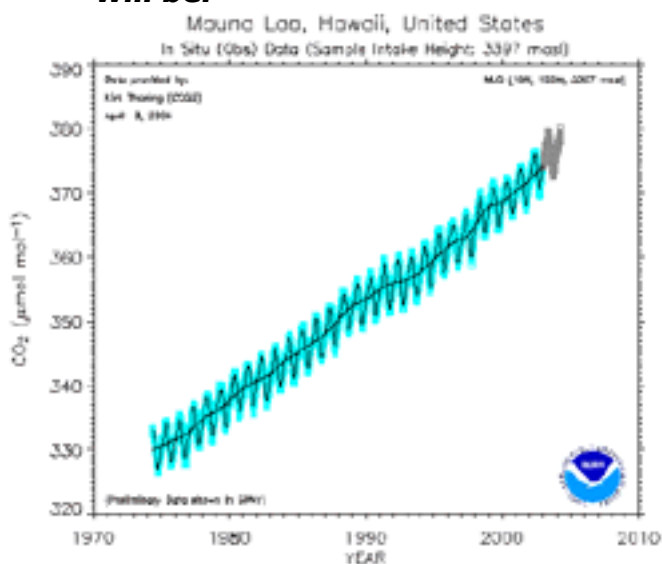
Memo to UK House of Commons  
Environmental Audit Committee  
UK Leadership on Climate Change  
in the EU and G-8 Presidencies  
December 2004



# Memo to UK House of Commons Environmental Audit Committee UK Leadership on Climate Change in the EU and G-8 Presidencies

The Royal Commission on Environmental Pollution's [RCEP] 22nd Report dated June 2000 concludes the first chapter with these words: -

***"The world is now faced with a radical challenge of a totally new kind, which requires an urgent response. The longer the response is deferred, the more painful the consequences will be."***



Later it says, "the present concentration of carbon dioxide in the atmosphere, about 370 ppmv, is well outside the range recorded in the last half million years . . . There is no precedent in recent geological history to help us understand precisely what consequences will follow."

In the five years since its report, effective action has not been taken and emissions and concentrations have steadily increased.

Carbon dioxide concentration in the atmosphere increased at the rate of 1.5 ppmv in the 1990s.

It increased 2.1 ppmv in 2001, 2.5 ppmv in 2002 and an unprecedented 3.01 ppmv in 2003. This touches 380 ppmv or 40% above pre-industrial concentration level.

We do not know yet whether this accelerating rise indicates a start to runaway global warming. However, Dr Ralph Keeling of NOAA's atmosphere monitoring station at Mauna Loa has said this year,

*"if you want to know what positive feedback looks like, it will look like this."*

## **KEY MESSAGE TO UK GOVERNMENT: ADOPT C&C**

The RCEP looked at 'prospects for an effective global response' and concluded with the single recommendation: -

*"The Government should press for a future global climate agreement based on the contraction and convergence approach, combined with international trading in emission permits. Together, these offer the best long-term prospect of securing equity, economy and international consensus."*

The UNFCCC Secretariat says achieving the Convention's objective "inevitably requires 'contraction and convergence'."

The UK Government should now adopt the recommendation of the Royal Commission.

It should make it clear, prior to its presidency of the EU and G8, that the Government supports Contraction and Convergence; and during its presidency, the UK Government should pursue all means by which C&C will be adopted and implemented internationally.



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# Preface: "Changing the Maths We Live By" Contraction & Convergence; "The Ultimate Sustainability Initiative."

[1] A briefing on '**Contraction & Convergence**' [C&C] is published this December in the journal "**Engineering Sustainability**". It is closely based on the briefing that follows.

[2] The journal is published by the prestigious Institute of Chemical Engineers [ICE] in London. They suggest that C&C, "*could prove to be the ultimate sustainability initiative.*"

[3] Seeing the maths of C&C as, "*an antidote to the expanding, diverging and climate-changing nature of global economic development,*" they describe C&C as, "*an ambitious yet widely supported plan to harmonise global greenhouse gas emissions to a safe and sustainable level per person within the next few decades.*"

[4] Making an unexpected inter-disciplinary link, ICE also note that in July 2004 C&C, "*received divine backing from the Church of England.*" This was helpful to the mission of the incumbent UK Prime Minister, a religious man who recognizes changing climate's threat to civilization. Mr Blair has correctly said that the cost of preventing climate change is less than the cost of failing to prevent it.

[5] At the time the ICE journal went to press, I was interviewed by the internationally read industry news-service Argus Emissions. Inter alia they asked me, "*what would your advice to President Bush be on climate change issues?*"

[6] Thinking about the inter-disciplinary link, I remembered the story told by the Archbishop of the Church of England, Rowan Williams, about the religious right in the US. It is said they were behind the recent re-election of George Bush.

[7] They noted Rowan's speech in support of C&C "*Changing the Myths We Live By*" and told him, "*Archbishop, you lack faith in God: if God wants to change the climate, he will change it.*"

[8] This challenge to 'Divine Support' exercised me more than the support itself, so I replied to Argus, "*Mr. Bush is a self-declared man of God. He does nothing to hinder climate change, and has been effectively positioned as its agent. So I advise candour in his relationship with God about the prospect of more people dying as a result of unfettered climate change than in the entire history of human conflict.*"

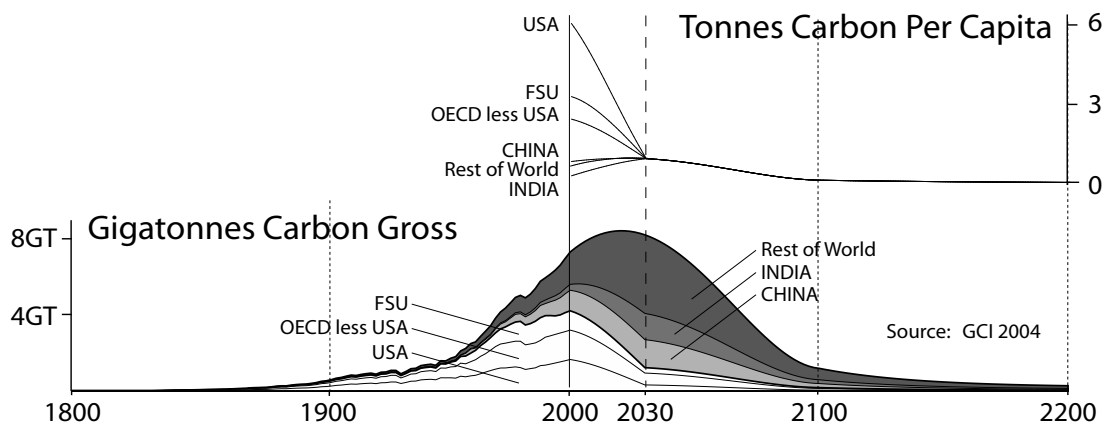
[9] It seems that a 'Twilight of the Gods' looms at the G-8 in 2005. The two top chairs – Mr Blair's and Mr. Bush's – appear for the moment to be the seats of Divine Support for clearly opposite views of climate change. Mr. Bush's view is that it is God's will to change the climate; this is the 'let go and let god' position that says whatever the costs, there are greater benefits. The other is the 'God helps those who help themselves' position. This says it is not against God's will to avoid that cost whatever the effort required, as unless we make this effort, the climate changes we force will force unbearable changes on us and our children.

[10] Such is the tension that UK avoidance is already being mooted. A relevant government website now refers to a preparatory meeting for the G-8 in March 2005 at which, "*Discussion . . . will not centre on targets for limiting carbon emissions, but on the business case for the adoption of lower carbon technology in countries with the biggest energy needs.*"

[11] This memo is intended to help focus the light shed by the Environmental Audit Committee on the dilemma that grips Mr Blair, Mr Bush, their G-8 colleagues and indeed all of us.

[12] Pursuing the impossible dream of infinite growth is expansion and divergence and death by damages. 'Changing the Myths We Live By', means 'Changing the Maths' to renewables and a low carbon economy in a C&C framework, the ultimate sustainability initiative.

# GCI BRIEFING: "CONTRACTION & CONVERGENCE"



This example shows rates of C&C negotiated as regions.  
This example is for a 450ppmv Contraction Budget, Converging by 2030.

The Global Commons Institute [GCI] was founded in 1990. This was in response to the mainstreaming of global climate change as a political issue. Realising the enormity of the climate crisis, we devised a founding statement on the principle of "Equity and Survival". [1]

In November 1990, the United Nations began to create the Framework on Climate Convention [UNFCCC]. GCI contributed to this and in June 1992 the Convention was agreed at the Earth Summit in Rio. Its objective was defined as stabilizing the rising greenhouse gas [GHG] concentration of the global atmosphere. Its principles of equity and precaution were established in international law. Climate scientists had showed that a deep overall contraction of GHG emissions from human sources is prerequisite to achieving the objective of the UNFCCC. In 1995 negotiations to achieve this contraction began administered by the specially created UNFCCC secretariat.

Between 1992 and 1995 and at the request of the Intergovernmental Panel on Climate Change [IPCC], GCI contributed analysis highlighting the worsening asymmetry, or "Expansion and Divergence" [E&D] of global economic development. It became clear the global majority most damaged by climate changes were already impoverished by the economic structures of those who were also now causing the damaging GHG emissions. [2]

To create a sustainable basis on which to resolve this inequity, GCI also developed the "Contraction and Convergence" (C&C) model of future emissions. In 1995 the model was introduced by the Indian Government [3] and it was subsequently adopted and tabled by the Africa Group of Nations in August 1997. [4]

Negotiations for the Kyoto Protocol to the UNFCCC ran from 1995 until 1997. In December 1997 and shortly before they withdrew from these negotiations, the USA stated, "C&C contains elements for the next agreement that we may ultimately all seek to engage in." [5]

Since then C&C has been widely referenced in the debate about achieving the objective of the UNFCCC. In 2000 C&C was the first recommendation of the UK Royal Commission on Environmental Pollution in its proposals to government. [6] In December 2003 C&C was adopted by the German Government's Advisory Council on Global Change in its recommendations. [7] In 2003 the secretariat of the UNFCCC said the objective of the UNFCCC, "inevitably requires 'Contraction and Convergence.'" [8] The Latin America Division of the World Bank in Washington DC said, "C&C leaves a lasting, positive and visionary impression with us." In 2004 the Archbishop of Canterbury took the position that, "C&C thinking appears utopian only if we refuse to contemplate the alternatives honestly." [9] In 2002, the UK Government accepted GCI authorship of the definition statement of C&C, recognising the need, "to protect the integrity of the argument."

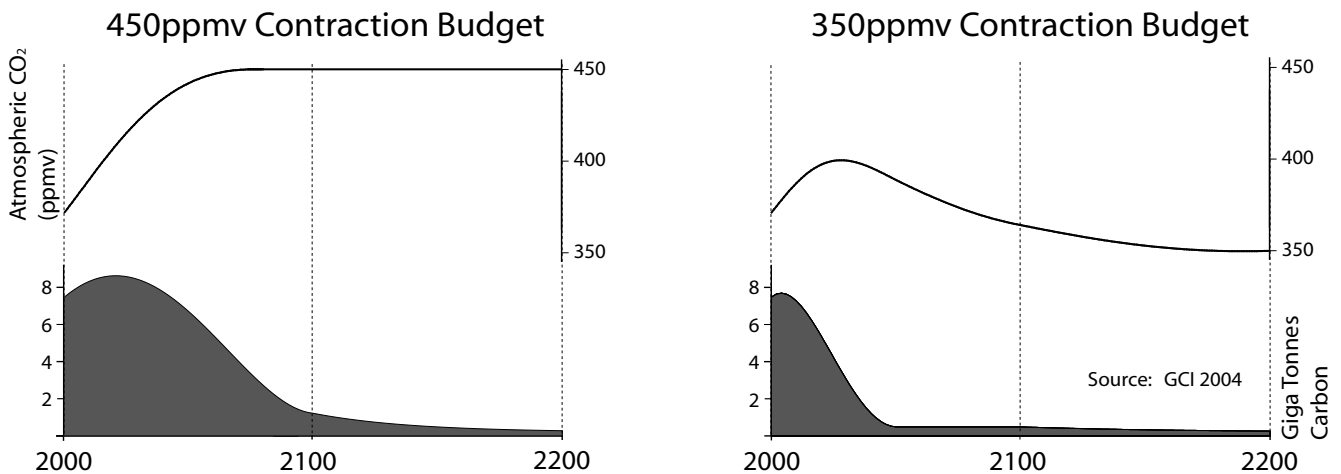
This statement follows and is available in thirteen languages. [10] It has been adopted by the House of Commons Environmental Audit Committee and in part in the UN's forthcoming "Millennium Assessment." In 2005, the UK Government will host the next G-8 summit. The Government has already committed this event to dealing strategically with the problems of Africa and Climate Change. Numerous civil society and faith groups are now actively lobbying the Government to have C&C adopted as the constitutional basis for avoiding dangerous future climate change.

- [1] <http://www.gci.org.uk/signon/OrigStatement2.pdf>
- [2] <http://www.gci.org.uk/articles/Nairobi3b.pdf>
- [3] [http://www.gci.org.uk/Archive/MegaDoc\\_19.pdf](http://www.gci.org.uk/Archive/MegaDoc_19.pdf) [page 116]
- [4] [http://www.gci.org.uk/nairobi/AFRICA\\_GROUP.pdf](http://www.gci.org.uk/nairobi/AFRICA_GROUP.pdf)
- [5] [http://www.gci.org.uk/temp/COP3\\_Transcript.pdf](http://www.gci.org.uk/temp/COP3_Transcript.pdf)
- [6] [http://www.gci.org.uk/Endorsements/RCEP\\_Chapter\\_4.pdf](http://www.gci.org.uk/Endorsements/RCEP_Chapter_4.pdf)
- [7] [http://www.gci.org.uk/Endorsements/WBGU\\_Summary.pdf](http://www.gci.org.uk/Endorsements/WBGU_Summary.pdf)
- [8] [http://www.gci.org.uk/slideshow/C&C\\_UNFCCC.pdf](http://www.gci.org.uk/slideshow/C&C_UNFCCC.pdf)
- [9] <http://www.gci.org.uk/speeches/Williams.pdf>
- [10] <http://www.gci.org.uk/translations.html>



# "CONTRACTION & CONVERGENCE" - DEFINITION STATEMENT

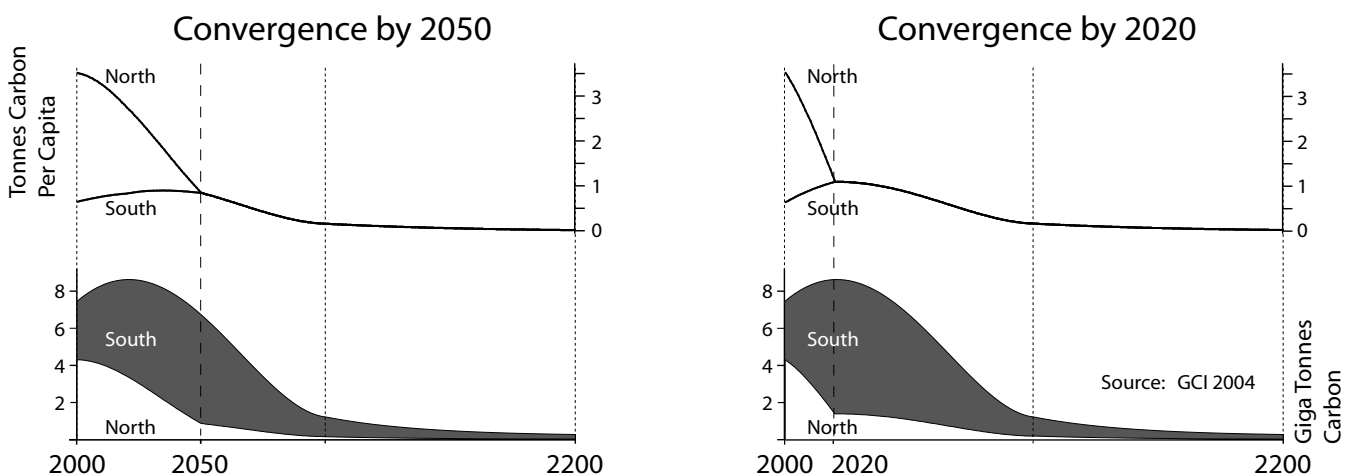
## Negotiating Rates of Contraction



Annual Carbon Emissions contract over time to a sustainable level. This is the "Contraction Event".  
 The Choice of a "safe" CO2 stabilisation level determines the total tonnage of carbon to be burnt during the contraction event.  
 Two examples of CO2 stabilisation levels are shown above, with their corresponding contraction budgets.

1. "Contraction and Convergence" (C&C) is the science-based, global climate-policy framework, proposed to the United Nations since 1990 by the Global Commons Institute (GCI). [1,2,3,4]
2. The objective of safe and stable greenhouse gas concentrations in the atmosphere and the principles of precaution and equity, as already agreed in the "United Nations Framework Convention of Climate Change" (UNFCCC), provide the formal calculating basis of the C&C framework that proposes:
  - \* A full-term contraction budget for global emissions consistent with stabilising atmospheric concentrations of greenhouse gases (GHGs) at a pre-agreed concentration maximum deemed to be safe, following IPCC WG1 carbon cycle modelling. (See Image Two on page two - GCI sees higher than 450 parts per million by volume [ppmv] CO2 equivalent as 'not-safe').
  - \* The international sharing of this budget as 'entitlements' results from a negotiable rate of linear convergence to equal shares per person globally by an agreed date within the timeline of the full-term contraction/concentration agreement. (GCI suggests [a] between the years 2020 and 2050, or around a third of the way into a 100 year budget, for example, for convergence to complete (see Image Three on page two) and [b] that a population base-year in the C&C schedule is agreed).
  - \* Negotiations for this at the UNFCCC should occur principally between regions of the world, leaving negotiations between countries primarily within their respective regions, such as the European Union, the Africa Union, the US, etc. (See Image One on page one).

## Negotiating Rates of Convergence



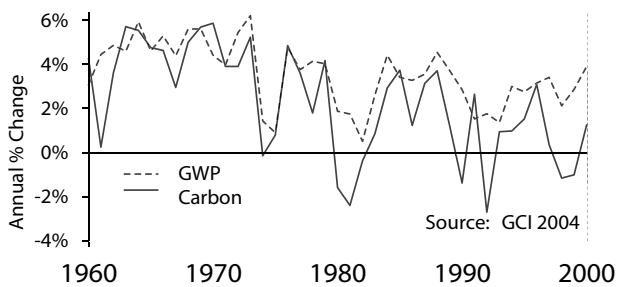
Per capita emissions around the World converge on equality by a negotiated "Convergence Date".  
 Two examples of convergence are shown here, each within a 450ppmv contraction budget.

- \* The inter-regional, inter-national and intra-national tradability of these entitlements in an appropriate currency such as International Energy Backed Currency Units [EBCUs - 5] should be encouraged.
- \* Scientific understanding of the relationship between an emissions-free economy and concentrations develops, so rates of C&C can evolve under periodic revision.

3. Presently, the global community continues to generate dangerous climate change faster than it organises to avoid it. The international diplomatic challenge is to reverse this. The purpose of C&C is to make this possible. It enables scenarios for safe climate to be calculated and shared by negotiation so that policies and measures can be internationally organised at rates that avoid dangerous global climate change.

4. GHG emissions have so far been closely correlated with economic performance (See Image Four Page Three). To date, this growth of economies and emissions has been mostly in the industrialised countries, creating recently a global pattern of increasingly uneconomic expansion and divergence [E&D], environmental imbalance and international insecurity (See Image Four Page Three).

### GWP, Carbon Lockstep



Year to year percentage change of Gross World Product, GWP (measured in US\$) and Global Carbon emissions

5. The C&C answer to this is full-term and constitutional, rather than short-term and stochastic. It addresses inertial argument about 'historic responsibilities' for rising concentrations recognising this as a development opportunity cost to newly industrialising countries. C&C enables an international pre-distribution of these tradable and therefore valuable future entitlements to emit GHGs to result from a rate of convergence that is deliberately accelerated relative to the global rate of contraction agreed (see Image Three on page two).
6. The UK's Royal Commission on Environmental Pollution [6] and the German Advisory Council on Global Change [7] both make their recommendations to governments in terms of formal C&C. Many individual and institutional statements supporting C&C are now on record. [8, 9] The Africa Group of Nations formally proposed it to the UNFCCC in 1997. [10] It was agreed in principle at COP-3 Kyoto 1997. [11] C&C conforms to the requirements of the Byrd Hagel Resolution of the US Senate of that year [12] and the

European Parliament passed a resolution in favour of C&C in 1998. [13]

7. This synthesis of C&C can redress the increasingly dangerous trend imbalances of global climate change. Built on global rights, resource conservation and sustainable systems, a stable C&C system is now needed to guide the economy to a safe and equitable future for all. It builds on the gains and promises of the UN Convention and establishes an approach that is compelling enough to galvanise urgent international support and action.

- [1] <http://www.gci.org.uk>
- [2] <http://www.gci.org.uk/model/dl.html>
- [3] [http://www.gci.org.uk/images/CC\\_Demo\(pc\).exe](http://www.gci.org.uk/images/CC_Demo(pc).exe)
- [4] [http://www.gci.org.uk/images/C&C\\_Bubbles.pdf](http://www.gci.org.uk/images/C&C_Bubbles.pdf)
- [5] <http://www.feasta.org/events/debtconf/sleepwalking.pdf>
- [6] <http://www.rcep.org.uk/pdf/chp4.pdf>
- [7] [http://www.wbgu.de/wbgu\\_sn2003\\_engl.pdf](http://www.wbgu.de/wbgu_sn2003_engl.pdf)
- [8] [http://www.gci.org.uk/Archive/1989\\_2004](http://www.gci.org.uk/Archive/1989_2004)
- [9] <http://www.gci.org.uk/consolidation/Sasakawa.pdf>
- [10] <http://www.gci.org.uk/papers/zew.pdf> [appendix C, page 16]
- [11] [http://www.gci.org.uk/temp/COP3\\_Transcript.pdf](http://www.gci.org.uk/temp/COP3_Transcript.pdf)
- [12] <http://www.gci.org.uk/briefings/C&C&ByrdHagel.pdf>
- [13] [http://www.gci.org.uk/consolidation/UNFCCC&A\\_Brief\\_History\\_to1998.pdf](http://www.gci.org.uk/consolidation/UNFCCC&A_Brief_History_to1998.pdf) [pp 27 - 32]

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The charts on page four are stacked one above the other on the same horizontal time axis [1800 - 2200]. This helps to compare some of what is known about existing rates of system change with an underlying assumption in favour of a C&C arrangement being put in place.

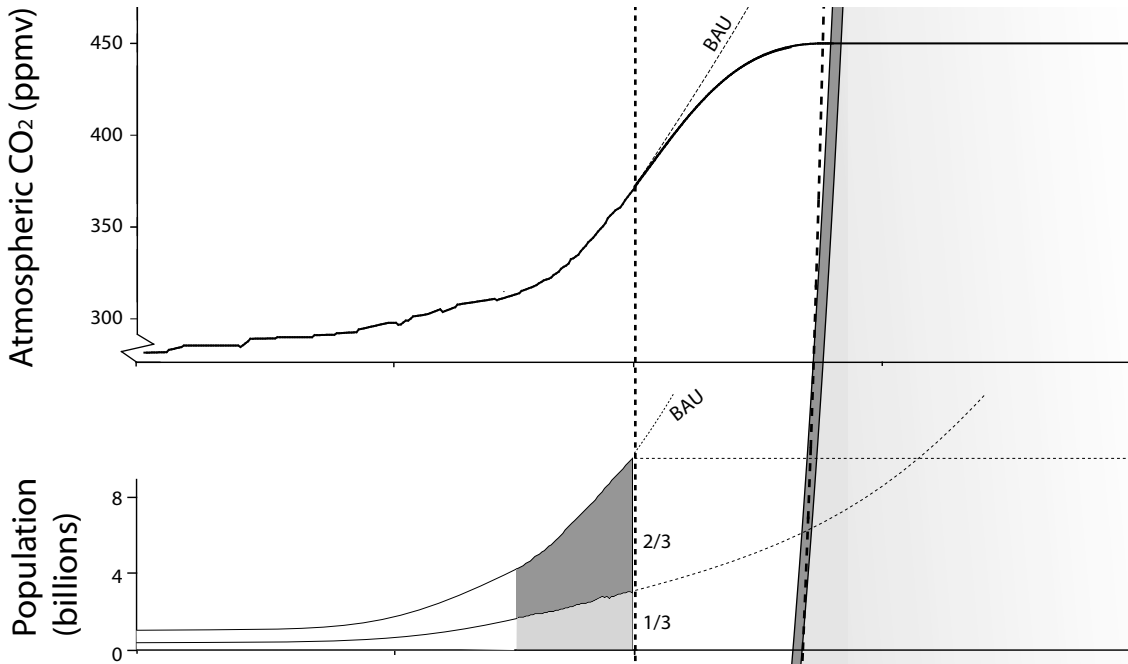
A new feature shown is the rate of economic damages from increasingly 'unnatural disasters' (measured as 'uninsured economic losses' by Munich Re) now rising at 7% per annum, twice the rate of global growth. Another is the devastating and worsening economic asymmetry of "Expansion and Divergence" (E&D). This shows a persistent pattern of increasingly dysfunctional economic growth. One third of population have 94% of global purchasing power and cause 90% of GHG pollution. [We call these 'debtors']. The other two thirds, who live on less than 40% of the average global per capita income, collectively have 6% of global purchasing power and a 10% share of GHG pollution. [We call these 'creditors'].

To escape poverty, it is creditors who embody the greatest impulse for future economic growth and claim on future GHG emissions. But this group also has the greatest vulnerability to damages from climate changes.

Most institutions now acknowledge that atmospheric GHG stabilization, "inevitably requires Contraction and Convergence". However, some of the response to C&C, sees it merely as 'an outcome' of continued economic growth with only tentative acknowledgement of the damages and little comprehension of E&D.

While C&C is not primarily about 're'-distribution, it is about a 'pre'-distribution of future tradable and valuable permits to emit GHGs. Its purpose is to resolve the devastating economic and ecological imbalance of climate change. GCI's recommendation to policy-makers at the United Nations is for the adoption of C&C globally for ecological and economic recovery as soon as possible.

# Double Jeopardy: Asymmetric Growth & Climate Damages



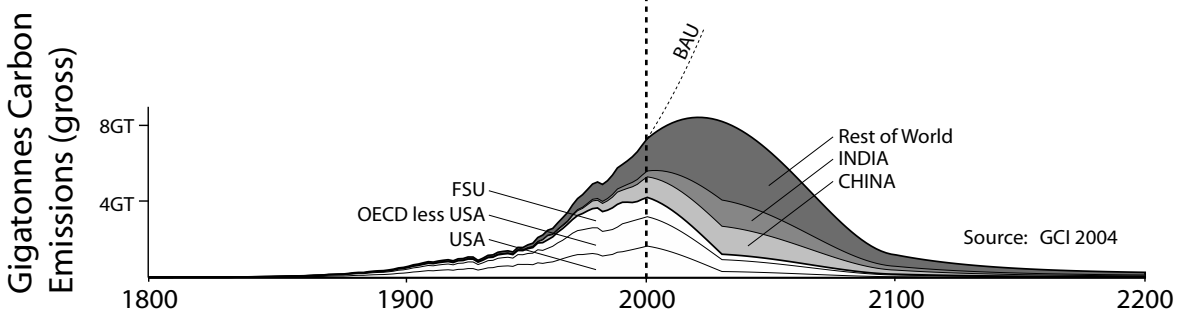
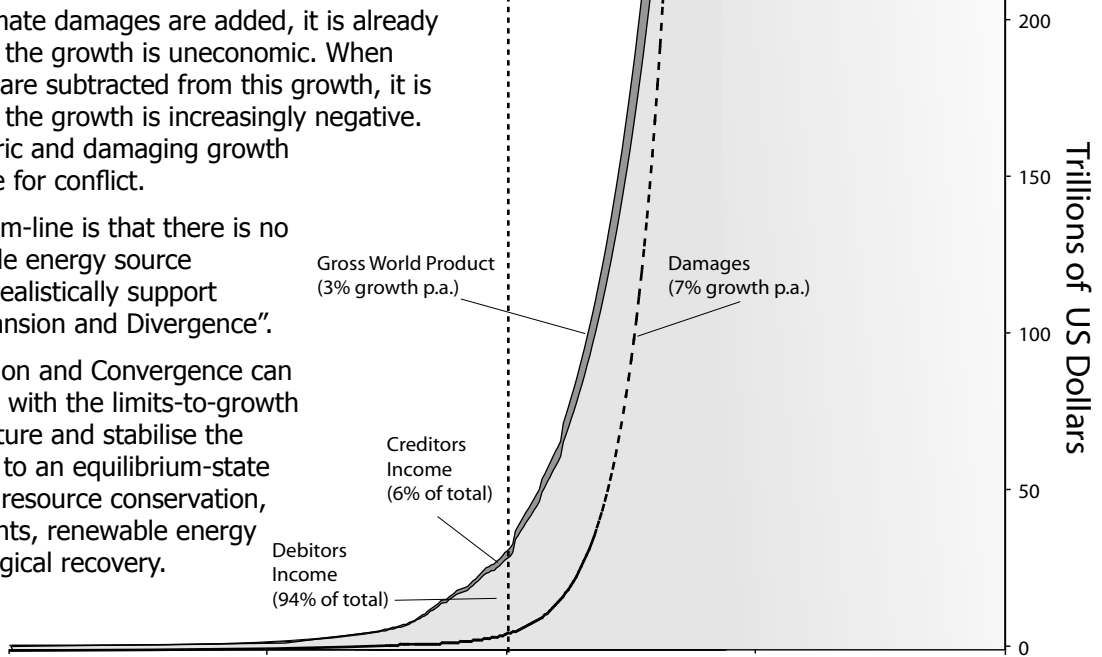
A 3% per annum exponent in the path integral of growth is starkly asymmetric and unsustainable.

Adhering to economic prognosis based on this is a measure of an increasingly dangerous economic "growth illusion".

When climate damages are added, it is already clear that the growth is uneconomic. When damages are subtracted from this growth, it is clear that the growth is increasingly negative. Asymmetric and damaging growth is a recipe for conflict.

The bottom-line is that there is no sustainable energy source that can realistically support this "Expansion and Divergence".

"Contraction and Convergence can help cope with the limits-to-growth and structure and stabilise the transition to an equilibrium-state based on resource conservation, global rights, renewable energy and ecological recovery.



# 'Honest Concept-Language'; Basic to Changing the Maths we Live by "Protecting the Integrity of the Contraction & Convergence Argument"

GCI welcomes these hearings by the Environmental Audit Committee [EAC] of the UK House of Commons into, "The International Challenge of Climate Change, UK Leadership in the G-8 and the EU." We also welcome that the EAC recognize the "Contraction and Convergence" [C&C] concept as a frame of reference for investigating how this challenge might be met. For fifteen years we have developed this as 'honest concept-language'. We hope this Inquiry will uphold and clarify this record.

In EAC's "Sustainable Development Strategy" report [No 13, November 2004] they identify climate change as, "the greatest challenge the world now faces". Focusing on the issue of global CO2 emissions rising out of control, they note, "*potentially catastrophic results*" if humanity continues to ignore the environmental limits to economic development activities. EAC also recognizes the concept-discourse of 'Sustainable Development' as the over-arching framework within which human activity should now take place. Noting that the language of 'sustainable development' is, "*ambiguous and complex*" EAC also say, "*there is an urgent need to promote a deeper understanding of sustainable development and to incorporate it within all aspects of policy making.*"

Crucially, EAC further recognizes a deeper and really fundamental problem. As terms are coined and taken into common everyday usage, EAC is correctly concerned about how these initially meaningful terms can become debased when Governments and other parties use them indiscriminately to describe what they were doing anyway. They cite, for example, how the term 'sustainable development' now proliferates in departmental formulations such as 'sustainable transport', 'sustainable communities', and even 'sustainable growth'. EAC suggests that such attempts to lend what it calls 'ethical credibility' to existing programmes are, "*a cause for serious concern*" and potentially even "*facetious*".

We agree. The opportunistic, euphemistic and even oxymoronic use of concept language, especially when trade-offs between basic survival rights and economic wrongs are linked to rates of environmental change, is counter-productive. In the already fraught international negotiating conditions to avert dangerous rates of climate change, many people are already dying as a result of the associated impacts. Consequently converting concept language into oxymorons and euphemisms to disguise unresolved ideological conflicts over economic and other forms of future growth, makes yet more difficult the possibility of coming to the constitutional terms of sustainable development - indeed of security and survival - at all.

The cost of failing to avert dangerous rates of climate change is inestimable. But the prospect of paying this is increasing, as with the growth of population, the economy and the resultant greenhouse gas pollution, we generate trends of climate change faster than we respond to restrain them. In this context, the growing use of the "Contraction and Convergence" [C&C] concept and language is welcome. However, the ambiguity and misuse of this concept-language, raises a cost to the concept.

On the one-hand intelligent peer-reviewed reports from the Intergovernmental Panel on Climate Change [IPCC] observe that, "*C&C takes the rights-based-approach to its logical conclusion*". The secretariat to the UN Framework Convention on Climate Change [UNFCCC] has underlined the logic saying that, "*stabilization [the objective of the UNFCCC] inevitably requires 'contraction and convergence'*". The Archbishop of Canterbury recently underscored the reflexive nature of the logic of C&C saying that, "*This kind of thinking appears utopian only if we refuse to contemplate the alternatives honestly.*" He pressed the Government to give global leadership with C&C at the forthcoming G-8. The Royal Commission on Environmental Pollution has also pressed this C&C leadership point on the UK Government since 2000. These are important messages that reflect the value of the 'honest-language' capital invested in C&C. They reflect the causal intent coherently structured in the principles of the global C&C framework and methodology.

At the same time, debasing the language capital of C&C, we now have advisors to and operatives in the British government simultaneously pressing views of C&C that not only contradict the model, they also contradict each other. In one set of arguments C&C is merely seen as the 'outcome', rather than the cause, of what we will all be doing in further quasi-random Kyoto-style negotiations.

In another, C&C faces the problem of being described by British civil servants as, "*a mathematical inevitability if we are to avoid dangerous climate change*" whilst also being a "*theory*" the "*calculations [of which] we just didn't understand.*" Disturbing on the diplomatic front is the situation where C&C is now wrongly described by some civil servants as both "*lacking support in Developing Countries*" yet also "*supported, [in India for example] but for the wrong reasons*" [see next section].

Yet the Government wrote to GCI undertaking to "*protect the integrity of the [C&C] argument*" and source GCI.

The intent with C&C has always been to integrate, simplify and - crucially - 'quantify' key issues relating energy and environmental limits to political structure built on rational principle. This enables inclusive, full-term practice and process to be guided before and during the fact by agreement to stability, as is required by the UNFCCC.

C&C is as much input as outcome; it is 'cause' before it is 'effect'. As such it has significant support around the world which should be nurtured rather than squandered by the debasement of its language or its methods. Clearly the cognitive and diplomatic effort required to guide the climate negotiations must be driven by the goal of the UNFCCC and a coherent framework for 'sustainable development', not contradictions and oxymorons.

This is a core message that we wish to establish in the C&C inquiry with EAC members. C&C concept-capital does not compromise prosperity. It under-writes it by subordinating future economic growth to global environmental security. The G-8 is an opportunity to establish C&C as the basis of the necessary framework.

# Sustainable Development, C&C and the UN Framework Convention on Climate Change and the Intergovernmental Panel on Climate Change

## **1990: IPCC FIRST Assessment Report [FAR]**

In 1990 the first Assessment Report of the IPCC was published. It established the need for the "Contraction" of Greenhouse Gas emissions [GHGs]. This was the recognition that cuts in the emissions of GHGs in the order of 60-80% would be needed to halt the rise of their concentrations in the atmosphere. This was the basis of the UNFCCC.

## **1992: UN FRAMEWORK CONVENTION on CLIMATE CHANGE [UNFCCC]**

**The necessity for the Convention.** Parties to the UNFCCC, 'acknowledge that change in the Earth's climate and its adverse effects are a common concern of humankind.' They are, 'concerned that human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind' (Preamble).

**The Convention's objective.** The Convention 'is to achieve.. stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.' (Article 2) In other words, greenhouse emissions have to contract.

**The Principle of Global Equity.** The Parties 'should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity.' (Article 3.1). They note that, 'the largest share of historical and current global emissions of greenhouse gases has originated in developed countries and that per capita emissions in developing countries are still relatively low' (Preamble). They therefore conclude 'that in accordance with their common but differentiated responsibilities and respective capabilities the developed country Parties must take the lead in combating climate change and the adverse effects thereof' (Article 3.1), while, 'the share of global emissions originating in developing countries will grow to meet their social and development needs,' (Article 3.3).' In short, the Convention covers Convergence and a system of emissions allocation.

**The Precautionary Principle.** The Parties, 'should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures . . . . (Article 3.3) . .

**Achieving global efficiency.** Taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at lowest possible cost.' (Article 3.3) This clause points to the global trading of emissions rights. More generally, the point to note here is that the idea of a framework based on precaution and equity had been established, with efficiency introduced in a subsidiary role purely to assist it.

## **1995: IPCC SECOND Assessment Report [SAR]**

Monetary valuation should not obscure the human consequences of anthropogenic climate change damages, because the value of life has meaning beyond monetary value. It should be noted that the Rio Declaration and Agenda 21 call for human beings to remain at the centre of sustainable development.

## **1995: UNFCCC First Conference of the Parties COP-1**

" . . . [India] equity should guide the route to global ecological recovery. Policy Instruments such as "Tradable Emissions Quotas", "Carbon Taxes" and "Joint Implementation" may well serve to make matters worse unless they are properly referenced to targets and time-tables for equitable emissions reductions overall. This means devising and implementing a programme for convergence at equitable and sustainable par values for consumption on a per capita basis globally."

## **1997: UNFCCC Third Conference of the Parties COP-3**

" . . . . [The Africa Group] support the amendment that is proposed by the distinguished delegation from India, and just to emphasise the point of the issues that still need a lot of clarification, would like to propose in that paragraph the inclusion, after "entitlements" that is the proposal by the delegation of India, the following wording. After "entitlements, the global ceiling date and time for Contraction and Convergence of global emissions. Because we do think that you cannot talk about trading if there are not entitlements. Also there is a question of Contraction and Convergence of global emissions that comes into play when you talk about the issue of equity . . . . "

USA, COP-3 Kyoto, 3a.m. 10th December 1997 [www.gci.org.uk/temp/COP3\\_Transcript.pdf](http://www.gci.org.uk/temp/COP3_Transcript.pdf) " . . . . It does seem to us that the proposals by for example India and perhaps by others who speak to Contraction and Convergence are elements for the future, elements perhaps for a next agreement that we may ultimately all seek to engage in . . . . "

## **2000: IPCC THIRD Assessment Report [TAR]**

"A formulation that carries the rights-based approach to its logical conclusion is that of contraction and convergence."

# The IPCC FOURTH ASSESSMENT REPORT [AR4]

Published for the IPCC by Munasinghe Institute for Development (MIND) Colombo, Sri Lanka March 2003

## CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT – VIEW FROM THE DEVELOPING WORLD

Kirit Parikh Chairman,

Integrated Research & Action for Development New Delhi

"The Rich are delaying action, but delay is free riding. The difference between the likely emissions of OECD countries, even if Kyoto Protocol is fully implemented, and what would have been under the FCCC understanding will exceed India's emissions of CO<sub>2</sub> over the next 40 years."

"Adaptation should not be an excuse for avoiding mitigation. "You adapt, I would not mitigate" is not acceptable."

**"Convergence and contraction in an equitable way should mean developing countries should have the right to converge to the level of per capita emissions of developed countries (DCs) world any time and then to contract together, not that LDCs converge and DCs contract to a sustainable level."**

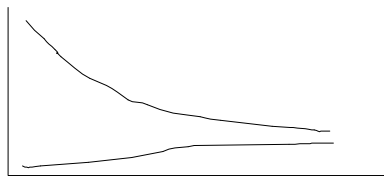
"An equitable solution is obvious: Tradable emission quotas over a long time horizon in terms of tonne-years of carbon in the atmosphere which are equitably distributed, within specified range that narrows as knowledge firms up, can endogenise many of the problems."

Here, an Indian expert to IPCC at an event to which the Indian Prime Minister contributed, sets a key-note message for an IPCC plenary in preparation for the 4th Assessment. It clearly emulates GCI's 'convergence accelerated relative to the contraction rate' in order to take C&C - as he puts it - from being 'unfair' to being 'equitable'.

This is perhaps why UK officials at DEFRA say that India [and other countries] supports C&C 'for the wrong reasons'.

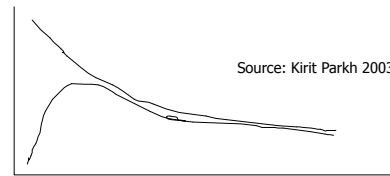
### Convergence and Contraction

- Unfair

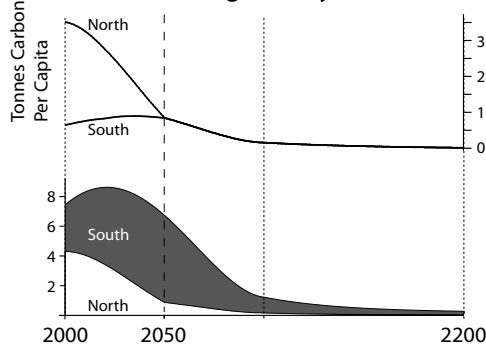


### Convergence and Contraction

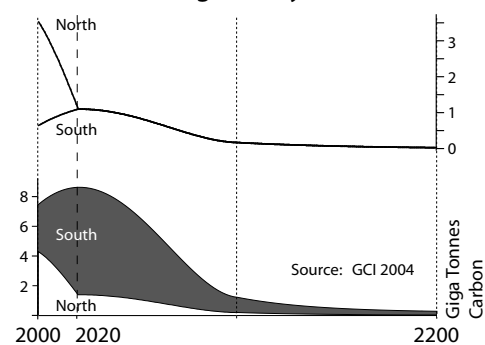
- Equitable



### Convergence by 2050



### Convergence by 2020



### INDIA-UK Joint Declaration - London; September 20, 2004

Prime Ministers Manmohan Singh and Tony Blair in London; their statement just avoids the issue.

### Sustainable Development

"Both our countries recognize that co-operation is essential to deliver the progressive global agenda set by the Johannesburg World Summit on Sustainable Development and the Millennium Declaration. We will initiate regular high-level dialogue to share experiences on how we can overcome social, economic and environmental challenges, and bring real quality of life improvements for people in both our countries and around the world.

Climate change and broader issues of sustainable energy security are high on our respective agendas.

Climate change will be a central theme of the UK's Presidencies of the G-8 and EU next year.

We will promote effective co-operation in our responses to climate change, including by building on the successful joint work that has already been carried out by the UK and India on climate change impacts and modeling.

To this end, we will establish a structured dialogue to exchange views and information and take forward any bilateral co-operation projects."

# General strategic Questions and Answers for the Committee to consider

1) Is there a consensus on the need to reduce emissions and on the level of carbon in the atmosphere which we must not exceed?

a) In a word; 'yes'. If the word 'consensus' is defined by gross majority of people concerned, the answer is noisy but increasingly 'yes'. If 'consensus' is defined by majority of relevant informed 'experts', the answer is a clear signal from the recognition of the need as defined. In other words, there is an overwhelming 'yes'. If 'consensus' is defined by all relevant 'experts' including noisy ones from the minority of the so-called 'contrarian experts', the signal to noise ratio becomes noisier again and this is distorted further when the media promote adversarial debate between experts from both sides one-to-one.

2) Is that enough to prompt a commensurate response from politicians and business/industry?

a) Notwithstanding detail in the first answer, the answer is a clear yes. Moreover, this response has begun. However, it is proceeding much too slowly as taking account of what we do know from the science about rates of changes, we know that time is not on our side.

3) Will free market approaches (including drivers such as the price of fossil fuels, and technical innovation) adequately address the need to limit carbon emissions?

a) No, as prices are an effect before they are a cause. They are rising in response to oil and gas scarcity, but as it is plentiful, coal consumption will rise in response. This will not only drive the aggregate price of fossil down again, it will drive emissions up faster as the carbon intensity of coal is twice that of gas, with oil halfway between the two. When emissions should be falling globally at least 2% a year, they are rising at 2% a year. Global damages from atmospheric accumulation of emissions, albeit from a lower base, are rising at three to four times the rate of the emissions increase. The market is to a large extent the amplifier of this, so markets cannot lead us out of this crisis. However unfashionable it may be, to remain constructively relevant, markets must be understood as "framework-based markets" directed by government to work within to the reality of environmental limits.

4) What role should governments play?

a) As a path integral, growth is becoming un-economic as it is increasingly asymmetric and damaging. Governments should now stop being driven by this blind, formless and over-riding goal of growth. [See evidence xxxx]. Sustainable development is much more about personal and community development, than it is about remote economic development and increasingly disembodied financial growth. "Money doesn't create value, life does." A failure to restrain uneconomic growth simply destroys development.

b) For 'governance' to work at any level, from local to global, it needs to be primarily grounded in constitutional frameworks that recognize environmental limits in the commons, with resource conservation and personally equal rights in resource consumption patterns that impact on the

commons. This is increasingly about the impact of energy consumption on the global commons. [See details under Expansion and Divergence].

c) Facing the scale of losses implied by climate change, it is time to stock-take and recognize over-consumption and 'over-shoot' and their potentially fatal implications. WWF's "Living Planet Index" is an excellent example of this. [See reference] Either we make changes or the climate changes we force will force unbearable changes on us.

d) So we need to reframe at a more fundamental level and change the epistemology of development and politics. With over-shoot, the evolution of capital and labour has reached the 'constitutional crunch-moment'. Governments must speak to this. The imperative now is to adjust the dialectical politics, the blue and the red positions, to the over-riding green imperative, the constitutional politics of pre-distribution under limits. The historical process where private shares [blue equity] are traded in the market, mitigated by redistributive social justice [red equity], has increasingly blinded capital development and industrial relations about the need to preserve the collateral of the geo/biological resource base upon which we jointly and severally depend for survival [green equity].

e) This survival/equity synthesis is the 'white-light' of a new understanding. With this, we may yet respond to the key feedback of climate change itself and avoid accelerating resource-depletion and market-failure into the security nightmare of social conflict and ecosystem collapse.

f) As with the pre-distributive sequence of cap-and-trade, markets and prices, by definition, are more effect than cause. They cannot and will not lead change. They can follow the signals from strong political leadership. In a phrase; Governments cap and markets trade.

g) To signal this cognitive change, Government must in the light of it: -

i) Openly accept that climate change is a deepening crisis that requires private economic aspiration and public development policy now to be governed by an absolute and collective commitment to achieve the objective of the United Nations Framework Convention on Climate Change (UNFCCC) as soon as possible. This, by design, is stabilization of the rising concentration of greenhouse gas in the atmosphere at a level low enough to prevent dangerous interference with and potentially runaway disequilibrium in the climate system.

ii) Because of the above, educate and internationally lead and canvass for the agreement necessary for the establishment and implementation of global Contraction and Convergence C&C procedures [see elsewhere for details of C&C].

iii) Nationally lead, educate and legislate for conservation behaviour, introducing energy demand-management in the form of the Personal Equal Carbon Quota Scheme personally traded in the private sector, as led in the recent Private Members Bill. Also, within this model, invoke the precedent of rationing and war-bonds. Centrally rebalance public/private investment in non-fossil fuel technology development,

deployment with increasing the reliance on decentralised conservation, solar systems, co/generation and distribution networks and the reuse and renewal possible with biological energy and transport systems.

5) To what extent are international agreements and mechanisms needed to limit carbon emissions?

a) The need for international - indeed global - agreement on the need to limit and reduce carbon emissions is absolute. This doesn't mean that sub-global efforts should wait until global agreement is reached. However, it does mean constantly reaffirming the need for, and working for, an international, intergovernmental agreement and a model of what it is.

6) If international agreements are needed, what shape and form should they take?

a) In respect of carbon emissions, the overall agreement needed is "Contraction and Convergence" (C&C) [See definition statement for details].

7) How would they relate to the Kyoto protocol the EU Emissions Trading Scheme?

a) The parent of the existing agreements cited here is the United Nations Framework Convention on Climate Change (UNFCCC) signed in Rio in 1992 and subsequently ratified into force. The secretariat of these UNFCCC negotiations has now and for more than a year, taken the position that achieving the objective of the Convention "inevitably requires 'contraction and convergence'. So the question is better answered by recognizing that the cited schemes need to explain their relevance to C&C and the UNFCCC.

b) It is worth quoting the RCEP 22nd Report item 4.47 recommendation: "*Continued, vigorous debate is needed, within and between nations, on the best basis for an agreement to follow the Kyoto Protocol. Our view is that an effective, enduring and equitable climate protocol will eventually require emission quotas to be allocated to nations on a simple and equitable per capita basis. There will have to be a comprehensive system of monitoring emissions to ensure the quotas are complied with.*"

8) In particular, to what extent would an international emissions trading system offer the most effective opportunity for reducing global emissions? Could other (bespoke) approaches offer better and more targeted solutions?

a) Trading on the basis of equal emission rights provides the incentive for all countries to reduce emissions. Industrial countries will wish to reduce emissions in order to need fewer emission coupons. Poor countries will wish to keep their emissions low so that they have more coupons to sell. Incentive is more effective than any other measure.

b) But trading carbon entitlements per se will not be effective in reducing carbon emissions globally. Without non fossil-fuel energy alternatives in play, this market would be a reluctant and futile negative-sum game and not gain private sector traction.

c) And even with the gradual uptake of non-fossil-fuel alternatives, present emissions-trading arrangements are 'cost-effective' in a very doubtful sense. 'Under-achievement' on fossil fuel mitigation is frequently re-presented as 'over-commitment' and so caps are relaxed. However, to minimize damage costs, the imperative of global decarboni-

sation is very pressing. So 'over-achievement' [which reveals a tradable surplus] should if anything be reframed as 'under-commitment' and 'over-entitlement'. C&C is intended to legitimate the entitlement of under-consuming third parties. Ironically, while these are often too remote to register their claim, they are also periodically wrongly accused of not supporting C&C.

d) As things are still without global structure, carbon-trading is often described as "picking low hanging fruit". In system terms, it is more chaotic than stochastic. In process terms, it is more like 'carpet-bagging' and 'carbitrage' than meaningfully 'cost-effective' as it depends on a range of faulty premises to demonstrate 'positive-achievement'.

i) We need but don't yet have and accountable, globally inclusive 'framework-based market' such as C&C within which to measure effective rates of change indexed to achieving the objective of the UNFCCC. The absence of this makes all parties even more vulnerable through third party exclusion.

ii) It is error to make fossil carbon [hydro-carbon] stocks and biological carbon [carbohydrate] flows commensurate. It compounds error when the social costs and benefits of using these across societies, whose dependence on and vulnerability to stocks and flows of these two forms of carbon, varies greatly. For example, tokenistic products claiming 'carbon-neutrality' have appeared in the market where it is claimed that fossil carbon burning is 'biologically off-set' by tree-growing.

iii) These mitigation 'benefits' between high-emitting first and second parties are not indexed to the mortality, damage and adaptation costs that the 'under-achievement' imposes on vulnerable and frequently low-emitting third parties. Sadly, these third party costs are already rising and are an unethical negative cost, or subsidy, to the trades of reluctant and tokenistic first and second party under-achievers.

iv) Together, under-commitments, errors of commensuration, trading these blind to third-party damage costs are suggested as part of a viable 'a market-based framework'. In reality, this institutionalises error and constitutes avoidance. It further dissipates the political will to break our fossil fuel dependence and - with suicidal undertones - commits us to increasingly fraught and possibly hopeless adaptation challenges.

9) Could an international emissions system come about in a voluntary (unstructured) manner?

a) Not a traded one. This requires 'self-capping' and would result in the persistent failure of under-commitment as the desire to profit from trade would result in a market of 'under-committed' sellers with no buyers.

10) Or would it require a more structured and regulated approach (as reflected in the EU ETS)?

a) The real question here is how we compare the difference between no structure and some structure in a regional scheme, with the difference between some regional structure and the internationally inclusive structure necessary to solve the global problem. The answer is that some structure is better than no structure, but some structure is not enough and only some-structure is futile.

b) A full-term global structure is pre-requisite to survival.



11) What downsides are there to emissions trading? In particular, will countries/companies simply walk away when the going gets tough?

a) Trading likes taxes, as we presently understand them, are at-the-margins with reflexively marginal expectations of change. The new situation shows that the changes that are coming at us are anything but marginal and that there's nowhere for companies and countries to walk away to. It used to be that, 'while some do sink, most boats do rise on the tide'. Now that 'we're all in the same boat', fighting for resources will sink it for all. Faced with this prisoner's dilemma, auctioning resources can help, but subject to the requirement for a coherent and constitutional rationing system like C&C. Emissions cap-and-trade should be understood in this light and the realization that, "you can't trade what you don't own."

b) GCI believes that companies prefer long-term stability and would welcome the opportunity to demonstrate collective social responsibility by taking up the global standard of "C&C compliance" and defending this global basis of cap-and-trade to the UNFCCC.

12) How certain can we be that these will deliver the absolute reductions in emissions required?

a) We can be sure the absolute reductions are required, we can be sure that trading and taxes alone will not deliver. That said, "C&C Compliance" and what we should think of as the C&C Roadmap-and-Trade, however visionary, is still less improbable than eco-taxes the make-it-up-as-you-go-along cap-and-trade-casino that Kyoto presently hunches on the back of the often forgotten UNFCCC.

13) To what extent should any such scheme (an international ETS or some other form of post-Kyoto agreement) be seen as a way of channelling low-carbon technology investment from developed countries into least developed and developing countries (e.g. through mechanisms such as the Clean Development Mechanism)?

a) To pay the considerable opportunity-cost that raised greenhouse gas concentration in the atmosphere represents to Developing Countries [sometimes referred to as 'historic responsibilities' or 'ecological debt'] this needs to be - and is - a core structural feature of the C&C proposal. It embeds the coherent negotiating property of being able to accelerate the rate of convergence to equality of tradable permits relative to the rate of contraction [see reference]. This, in other words, potentially increases climate-purchasing power in Developing Countries. This will enable them to initiate non-hydro-carbon development. It will also stimulate the markets for this.

b) The notion circulated still at the 'Developed' end of the global argument, that this understanding of C&C is not supported in Developing Countries is not supported by the evidence. The contrary is true and the evidence is considerable. [see annexe xxx].

14) Would least developed and developing countries be able to adequately exploit an international scheme (ETS or whatever), or would a lack of skills and resources prevent them from doing so? (Capacity building issue)

a) There is of course a so-called 'capacity-building' issue here. But Developing Countries have not been spared structural adjustment at the hands of the IMF. They have

had to develop the capacity to face the almost impossible demand to make their export-led growth also keep their public services going in the face of private commodity prices adversely determined in Chicago, with international currency speculation at the expense of the soft currencies, not to mention external debt service alongside a US trade-deficit that is now accumulated at over four trillion dollars, under-written as the US say by their Pacific fleet.

b) So it is wholly disingenuous of parties here in the UK to suggest that Emissions Trading is 'too difficult' for Developing Countries to deal with precisely at the moment that the C&C Road-map structurally recognizes that because of the 'ecological debt' they have rights to the majority share of a key global resource in what is obviously a seller's bull-market.

c) These are some of the issues tied up with why DEFRA, [rather than DFID], disingenuously argues that Developing Countries either don't support C&C, or when they do it is 'for the wrong reasons'.

d) The thing that is apparently, still after fifteen years, 'too difficult' for 'experts' advising and bureaucrats organising the over-consuming Developed Countries, is to accept that 'equity is the price of survival'. C&C is supported by many Developing Countries precisely because the C&C formulation of environmental limits and equal rights enables us all to come to the constitutional terms of global governance necessary for survival. For advisors here to tactically ignore this while revising the risks downwards and developing country incapacity and disinterest upwards, is dishonest folly and should be debated openly.

15) What priorities on Climate Change should the UK pursue prior to and during its presidencies of the EU and G8 in 2005? To what extent should the primary focus be on a post-Kyoto framework? Are there any other short or medium-term issues which should be part of the UK agenda? If so, what?

a) Speak the truth and take the consequences. If our leaders aren't sure what to do, they should say so.

b) The apex need is for leadership and no bluffing. In principle this is 'leadership by idea'. This means articulating a coherent full-term global strategy to avoid dangerous rates of climate change. This means C&C as means and ends - C&C as both cause and effect, as both stock and flow - must be clearly laid out emphasizing the structural feature that convergence can and should be accelerated relative to contraction, rather than contraction delayed relative to the rate of convergence. This means energy reform and energy-backed currency-reform.

c) African countries will propose this to the G-8 through the Africa Commission at DFID. Following this lead, however difficult, the UK government should amplify it at the G-8 stabilising the short and medium term process by addressing the full-term imperative.

d) However difficult, this is preferable to remaining collectively trapped in the confusion of the uneconomic growth rates of change in which we continue to generate the climate problem faster than we organize the global C&C solution. Nothing more, or less, than full-term C&C agreement enables all of us and our descendants to become first parties to a comprehensive and constitutional agreement to survive. We should be truthful about this.

# Appendix 1

## Selected References

### 1. Governments

#### 1.1. **Indian Environment Minister, Kamal Nath, COP 1, April 1995**

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“..equity should guide the route to global ecological recovery. Policy Instruments such as "Tradable Emissions Quotas", "Carbon Taxes" and "Joint Implementation" may well serve to make matters worse unless they are properly referenced to targets and time-tables for equitable emissions reductions overall. This means devising and implementing a programme for convergence at equitable and sustainable par values for consumption on a per capita basis globally.”

#### 1.2. **Chinese State Councillor Climate Change & Population, Dr Song Jian, Oct 1997**

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“When we ask the opinions of people from all circles, many people, in particular the scientists think that the emissions control standard should be formulated on a per capita basis. According to the UN Charter, everybody is born equal, and has inalienable rights to enjoy modern technological civilization.”

#### 1.3. **The Africa Group, August 1997**

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“As we negotiate the reduction of GHG, the countries of Africa believe that there should be certain principles that need to be clearly defined.

1. There must be limits on all GHGs if the danger to our climate is to be averted. The IPCC scientific assessment report provides us with the basis for global consensus on such limits.

2. A globally agreed ceiling of GHG emissions can only be achieved by adopting the principle of per capita emissions rights that fully take into account the reality of population growth and the principle of differentiation.

3. Achievement of a safe limit to global GHG emissions can be achieved by reducing the emissions of Annex One while at the same time ensuring that there is controlled growth of future emissions from Non-Annex One countries, reflecting our legitimate right to sustainable economic growth. We strongly believe that this will take us along a path to responsible climate management that allows us to reach our goal of defining a mutually agreed point of convergence and sustainable development. Such a convergence Mr. Chairman must ensure that we maintain a global ceiling on emissions to prevent dangerous interference with the climate system.

4. When we look at time frames, we believe that insufficient commitment by Annex One countries will only result in delaying our influence on the climate system. If this course is maintained, then we will all suffer and the burden will be even greater for humanity

in general. The burden for any future mitigation efforts on those of who have not been historically and currently responsible for creating the problem will be greater.

Mr. Chairman, we must focus our attention on the most appropriate, reasonable and acceptable time frame for action. There is an over-riding pre-requisite. The time frame cannot be too far away into the future if we are to avoid at all costs the dangers that global climate change poses. The current scientific evidence indicates that Africa faces decline in water resources, agricultural production and economic performance. It is therefore for this reason that we wish to register the seriousness with which we view the effective implementation of the Convention and future agreements emanating from it."

**1.4. The Africa Group, COP-3 Kyoto, 3a.m. 10<sup>th</sup> December 1997**  
[www.gci.org.uk/temp/COP3\\_Transcript.pdf](http://www.gci.org.uk/temp/COP3_Transcript.pdf)

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“ . . . we do support the amendment that is proposed by the distinguished delegation from India, and just to emphasise the point of the issues that still need a lot of clarification, would like to propose in that paragraph the inclusion, after “entitlements” that is the proposal by the delegation of India, the following wording. After “entitlements, the global ceiling date and time for Contraction and Convergence of global emissions. Because we do think that you cannot talk about trading if there are not entitlements. Also there is a question of Contraction and Convergence of global emissions that comes into play when you talk about the issue of equity . . . “

**1.5. Non-Aligned Movement, Heads of Government Conference, (NAM), September 1998**

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“In August and September the NAM held a heads of Government conference in South Africa. Combining the logic of "Contraction and Convergence" with the trade Article 17 of the Kyoto Protocol (KP), the NAM agreed the following statement: -

"Emission trading for implementation of (ghg reduction/limitation) commitments can only commence after issues relating to the principles, modalities, etc of such trading, including the initial allocations of emissions entitlements on an equitable basis to all countries has been agreed upon by the Parties to the Framework Convention on Climate Change."

**1.6. Indian Prime Minister, Shri Atal Bihari Vajpayee, October, COP-8, 2002**

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“First, our per capita Green House Gas emissions are only a fraction of the world average, and an order of magnitude below that of many developed countries. This situation will not change for several decades to come. We do not believe that the ethos of democracy can support any norm other than equal per capita rights to global environmental resources.

**1.7. Kenyan Minister for Planning and National Development, Anyang Nyong'o, April 2004**

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“It is now apparent that the world has to urgently agree to a more equitable method of reducing greenhouse gas emissions based on per capita emission rights allocations. This brings me to the concept of Contraction and Convergence. This concept embodies the principles of precaution (contraction of greenhouse emissions) and of equity (convergence at to equal share per head through a globally agreed date) in the reduction of greenhouse gas emissions between industrialized countries and developing countries.

The world must go an extra mile to avoid climate change, as it is cheaper than adapting to the damages. This in no way under estimates what the Kyoto Protocol aims to achieve from the flexible mechanisms. Kyoto should continue but due to the increasing and unbearable negative impacts of climate change on developing country economies, in particular Africa, the world must begin to evaluate other globally equitable approaches.

The concept of Contraction and Convergence therefore needs to be assessed and evaluated by the United Nations Framework Convention on Climate Change particularly, its Subsidiary Body for Scientific and Technical Advice or the Intergovernmental Panel on Climate Change. I am certain that our Ministers for Environment here present will see the need to bring this agenda very urgently to the attention of the Climate Change Secretariat.”

**1.8. Kenya, Director General of the ruling NARC, Alex K Muriithi, April 2004**

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“Avoiding dangerous rates of climate-change from fossil fuel dependency must be strategically guaranteed with appropriate structural adjustment of the international system.”

“The Contraction and Convergence” (C&C) scheme presented by the Africa Group at COP-3 in Kyoto, is the basis of this.”

“Combined with international currency arrangements, C&C determined carbon shares create an inclusive global standard for sustainable resource use.”

“The full rent for the use of the environmental and atmospheric space of Developing Countries, can be paid by the Developed Countries helping the world move from uneconomic growth to sustainable development for all,”

**1.9. Indian Minister of Food Processing Industries, Shri S. K. Sahay, October 2004**

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“We have to find an acceptable and equitable way to reduce emissions that involves every society but recognizes differentiated responsibilities. I suggest that the way forward should be based on the fundamental principles of equity incorporated in the proposals known as "Contraction and Convergence.”

In this increasingly interdependent world, there is no reason to suggest that any individual in any country should have a lesser right to see prosperity or comfort involving green house gas emissions than any other. On what basis is it acceptable that an American or European should have a greater right to consume the World's precious resources than an Indian, an African or indeed any other human being?

Thus, if the principle of “Contraction and Convergence” is acceptable, then it may be possible to develop a system of carbon trading that would allow those already over dependent on the use of environmentally damaging energy to plan their emissions reduction more slowly by transferring renewable energy technologies to those countries presently less dependent on the carbon emissions.”

**1.10. USA, COP-3 Kyoto, 3a.m. 10<sup>th</sup> December 1997**  
[www.gci.org.uk/temp/COP3\\_Transcript.pdf](http://www.gci.org.uk/temp/COP3_Transcript.pdf)

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“ . . . It does seem to us that the proposals by for example India and perhaps by others who speak to Contraction and Convergence are elements for the future, elements perhaps for a next agreement that we may ultimately all seek to engage in . . . .”

**1.11. European Parliament, 1998**

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". . . calls on the Commission & Member States to take the lead in brokering an agreement on a set of common principles & negotiating framework beyond BA based on:

1. agreement to have a worldwide binding limit on global emissions consistent with a maximum atmospheric concentration of 550 ppmv CO<sub>2</sub> equivalent,
2. initial distribution of emissions rights according to the Kyoto targets,
3. progressive convergence towards an equitable distribution of emissions rights on a per capita basis by an agreed date in the next century,
4. across-the-board reductions in emissions rights thereafter in order to achieve the reduction recommended by the Intergovernmental Panel on Climate Change (IPCC),
5. an agreement to have a quantitative ceiling on the use of flexibility mechanisms that will ensure that the majority of emission reductions are met domestically in accordance with the spirit of articles 6, 12 and 17 of the Kyoto protocol; in this context trading must be subject to proper monitoring, reporting and enforcement;
6. an adequately financed mechanism for promoting technology transfer from Annex 1 to non-Annex 1 countries;"

**1.12. Danish Environment Minister, Svend Auken, April 1999**

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“The approach of "Contraction and Convergence" is precisely such an idea. It secures a regime that would allow all nations to join efforts to protect our global commons from being over-exploited, without the risk that any country would be deprived of its fair long-term share of the common environmental emission space. And it allows for

consistent and efficient management of the global emissions that would enable us to strive for constraining global interference with the climate below fixed ceilings”

**1.13. Swedish Minister of the Environment, Kjell Larsson, September 2000**

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“On the issue of equity, Sweden strives for a global convergence, meaning that the long term objective of the international community should be a per capita emissions target equal for all countries. The work towards sustainability embraces the right for the poorest countries to continue their development and requires that the developed world contribute to this. In other words the industrialised countries must reduce their emissions in order to enable the least developed countries to develop.”

**1.14. Belgian Minister of the Environment, Olivier Delouze, COP6 November 2000**

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"We are conscious that in the end, we will have to inevitably evolve towards a more equitable partition between the north and south, of the capacity of our common atmosphere to support green house gases, by a gradual convergence of the levels of emissions on a per capita basis.”

**1.15. French President, Jaques Chirac, COP6, November 2000**

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“Since 1992, we have fallen too far behind in the fight against global warming. We cannot afford any further delay. That is why, I can confirm to you here, Europe is resolved to act and has mobilized to fight the greenhouse effect. Europe calls upon the other industrialized countries to join with it in this fight. And Europe proposes to the developing countries to join it in a partnership for sustainable development.

Let us start thinking about the post-Kyoto period without further ado. Tomorrow, it will be up to us to set forth the rights and duties of each, and for a long time to come. In order to move forward while respecting individual differences and special circumstances, France proposes that we set as our ultimate objective the convergence of per capita emissions. This principle would durably ensure the effectiveness, equity and solidarity of our efforts.”

**1.16. Netherlands Environment Minister, Jan Pronk, Chairman of COP-6, July 2000**  
[www.earthtimes.org/jul/environmentthekyotoprotocoljul25\\_00.htm](http://www.earthtimes.org/jul/environmentthekyotoprotocoljul25_00.htm)

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" . . . . Suggestions have been made for commitments for those developing countries in the period after 2012 in terms of increased energy or greenhouse gas efficiency. In other words: not an absolute cap, but a relative efficiency improvement in the production structure of developing countries. This strategy would imply that developing countries gradually start participating, as they achieve a certain level of economic development. That is a reasonable and realistic option. However, it can be argued that such gradual participation would only lead to a slow decline of global emissions, even if current industrialized countries would drastically decrease their emissions. As a result global average temperature increase would significantly exceed the 2 degrees centigrade limit that could be seen as the maximum tolerable for our planet.

There are alternatives for this scenario. Some developing countries have argued for an allowance of equal emissions per capita. This would be the most equitable way to determine the contribution of countries to the global effort. If we agree to equal per capita emissions allowances for all countries by 2030 in such a way that global emissions allow us to stay below the 2 degrees global temperature increase (equivalent to about 450 ppmv CO<sub>2</sub>), then the assigned amounts for Annex B countries would be drastically reduced. However, due to the fact that all countries would have assigned amounts, maximum use of global emissions trading would strongly reduce the cost of compliance. So, in such a scenario, industrialized countries would have to do more, but it would be cheaper and easier. . . . . "

**1.17. Sweden’s third national communication on Climate Change, 2001**

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“Emissions should ultimately converge towards a common international target, expressed as emissions per inhabitant.<sup>11</sup>”

<sup>11</sup>Gov. Bill 1996/97:84, p 74

## 2. Publications

- 2.1. **Corner House**, Briefing No.3 - Climate and Equity, December 1997  
[www.thecornerhouse.org.uk/briefing/03climate.html](http://www.thecornerhouse.org.uk/briefing/03climate.html)
- 

“Trading emissions only have a place if they are set in the discipline of contraction and convergence”

- 2.2. **Financial Times**, 30<sup>th</sup> November 2001
- 

“Many politicians - and businesses making long-term investment plans - would prefer to agree on some overarching principles that would determine future emissions targets.

For some policymakers, the answer is “contraction and convergence”.

- 2.3. **ENDS Report**, Blair leadership claim on climate change March 2003
- 

“...the RCEP said, future global climate agreements should be based on the so-called “contraction and convergence” approach, under which national emission allocations converge towards a uniform per capita figure.

The Government has accepted the RCEP’s 60% figure – but not the underlying logic”

- 2.4. **New Scientist**, December 2003
- 

“For the past two weeks, representatives from around the world have been in Milan, Italy, for COP9, the ninth annual meeting of signatories to the 1992 Framework Convention on Climate Change. Many of them now privately admit that C&C is what we have been waiting for.”

- 2.5. **ICE**, Proceedings of the Institution of Civil Engineers, Paper 13982, December 2004
- 

“‘Contraction and convergence’ is an ambitious yet widely supported plan to harmonise global greenhouse gas emissions to a safe and sustainable level.”

- 2.6. **Reason Online**, Ronald Bailey, November 3, 2004
- 

“While the climate talks in Buenos Aires will deal with the minutiae of implementing the Kyoto Protocol, they will also turn to considering what the next steps might be. And there will have to be next steps, because even when fully implemented the Kyoto Protocol will have next to no effect on any actual global warming trends. My bet is that negotiations will start to consider contraction and convergence”

## 3. Individuals

- 3.1. **Raul Estrada**, Chair Kyoto Negotiations, February 2000
- 

“Long before the end of the Framework Convention negotiation, the Global Commons Institute has presented a proposal on “Contraction and Convergence”, aimed to reach equality in emissions per capita. We all in this room know the GCI model where contraction is achieved after all governments, for precautionary reasons, collectively agree to be bound by a target of global GHG emissions, making it possible to calculate the diminishing amount of greenhouse gases that the world can release each year in the coming century, subject to annual scientific and political review. The convergence part of the proposal means that each year’s global emissions budget gets shared out among the nations of the world so that every country converges on the same allocation per inhabitant by an agreed date.”

3.2. **Sir John Houghton**, Former Chair IPCC Working Group One, 26th April 2003

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“Admiration is frequently expressed, regarding the elegance and simple logic of Contraction and Convergence and it has been widely supported by policy makers as a basis that should underlie the next stage of policy formulation.”

3.3. **Lord Bishop of Leicester**, November 2003

[www.publications.parliament.uk/pa/ld199900/ldhansrd/pdvn/lds04/text/40209-10.htm#40209-10\\_head0](http://www.publications.parliament.uk/pa/ld199900/ldhansrd/pdvn/lds04/text/40209-10.htm#40209-10_head0)

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“Contraction and convergence, therefore, is a simple yet radical solution, and one that I suggest we should be brave enough to support.”

3.4. **Lord Bishop of Hereford**, 9th February 2004

[www.publications.parliament.uk/pa/ld199697/ldhansrd/pdvn/lds03/text/31127-05.htm](http://www.publications.parliament.uk/pa/ld199697/ldhansrd/pdvn/lds03/text/31127-05.htm)

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“Contraction and Convergence meets every single objection raised by the United States to Kyoto.”

3.5. **Michael Meacher MP**, Former Minister for the Environment, December 2003

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“The best proposal so far is the “Contraction and Convergence” from the Global Commons Institute and Globe Parliamentarians.”

3.6. **George Monbiot**, Manifesto for a New World Order, ISBN: 1565849086, 2003

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“Contraction & Convergence... “the only just and sustainable means of tackling climate change”

3.7. **Myron Ebell**, CEI reports on COP-9, 12th December 2003

[www.globalwarming.org/cop9/cop9e.htm](http://www.globalwarming.org/cop9/cop9e.htm)

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“This so-called “Contraction and Convergence” approach appeals to both unreconstructed communists and to human rights absolutists. It has a certain moral force for those lost souls who have completely lost their bearings in the world. So it ought to be the winner in these darkening times.”

3.8. **Dick Lindzen**, After a good meal at “A New Global Vision” Conference, Pisa, July 2004

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“If you really have to stabilise concentrations, a 60% contraction of emissions would be necessary. As for the convergence requirement that follows from this, well I have no faith in the ability of humanity to organise anything like this.”

## 4. Organisations

4.1. **Africa Group**, Mrs. Rungano Karimanzira, Chair, February 1998

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“The approach of contraction and convergence presents a new economic development paradigm for the twenty first century and beyond.”

4.2. **European Parliament Resolution**, October 1998

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“ . . . a set of common principles will have to be based on agreement to have a worldwide binding limit on global emissions consistent with a maximum atmospheric concentration with progressive convergence towards an equitable distribution of emissions rights on a per capita basis by an agreed date with across-the-board reductions in emissions rights thereafter.”

- 4.3. **Royal Society on Environmental Pollution**, Sir Tom Blundell; Chairman, June 2000  
[www.rcep.org.uk/newenergy.htm](http://www.rcep.org.uk/newenergy.htm)
- 
- “The government should press for a future global climate agreement based on the ‘Contraction and Convergence’ approach, combined with international trading in emission permits. These offer the best long-term prospect of securing equity, economy and international consensus.”
- 4.4. **UK Chartered Insurance Institute**, Report on Global Climate Change, March 2001
- 
- “The most realistic way to bring about the required reduction in ghg emissions (which will have the combined effect of reducing the damage imposed on the insurance industry and encouraging the transition to renewable energy) is that proposed in the concept of Contraction and Convergence.”
- 4.5. **IPCC WG3**, Third Policy Assessment, Chapter 1, Section 3.2, 2001
- 
- “A formulation that carries the rights-based approach to its logical conclusion is that of contraction and convergence.”
- 4.6. **Green Party**, October 2001
- 
- “The Green party of England and Wales strongly endorses the GCI/GLOBE campaign for Contraction and Convergence as the key ingredient in a global political solution to the problem of Climate Change.”
- 4.7. **New Economics Foundation**, Ed Mayo, Director, October 2002
- 
- “We regard Contraction and Convergence as no less than the logical starting point for any sustainable future.”
- 4.8. **Performance and Innovation Unit**, The Energy Review, February 2002  
[www.number-10.gov.uk/su/energy/TheEnergyReview.PDF](http://www.number-10.gov.uk/su/energy/TheEnergyReview.PDF)
- 
- “The RCEP suggested that a 60% reduction for the UK by 2050 would be needed within a contraction and convergence agreement”
- 4.9. **UNEP Finance Initiatives**, 7th October 2002  
[www.unepfi.net/cc/ceobriefing\\_ccwg\\_unepfi.pdf](http://www.unepfi.net/cc/ceobriefing_ccwg_unepfi.pdf)
- 
- “For the long-term, policy makers should reach consensus on a global framework for climate stability based on the principles of precaution and equity such as Contraction and Convergence which would aim to achieve equal per capita emissions for all nations by an agreed date.”
- 4.10. **UNFCCC**, Secretariat, COP-9, 4th December 2003  
[www.gci.org.uk/slideshow/C&C\\_UNFCCC.pdf](http://www.gci.org.uk/slideshow/C&C_UNFCCC.pdf)
- 
- “Stabilization inevitably requires ‘contraction and convergence’”
- 4.11. **World Council of Churches**, David Hallman, Programme Coordinator, October 2003  
[www.wcc-coe.org/wcc/what/jpc/moscow2003.html](http://www.wcc-coe.org/wcc/what/jpc/moscow2003.html)
- 
- “A fair distribution, establishing the concept of per capita emission rights for all countries, as proposed in the ‘Contraction and Convergence’ scheme.”
- 4.12. **Climate Network Africa**, Grace Akumu, Director, 28th April 2003
- 
- “Many governments around the world have accepted the concept of Contraction and Convergence as the only equitable response mechanism to the threat of climate change.”
- 4.13. **UK Environment Agency**, Sir John Harman; Chairman, 9th December 2003  
[www.gci.org.uk/correspondence/EnvAgency.pdf](http://www.gci.org.uk/correspondence/EnvAgency.pdf)
- 
- “I support the concept of ‘Contraction and Convergence’, as does the Environment Agency.”



- 4.14. **World Nuclear Association**, John Ritch, President, December 2003  
<http://world-nuclear.org/dgspeeches/wiltonpark2003.htm>
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“I not only support the C&C concept, I find it inconceivable that we will avert climate catastrophe without a regime built on some variation of this approach. In the debate about climate change, an impression has been created that the problem is too daunting and complex to prevent. Contraction and Convergence provides a way forward that is both fair and feasible.”

- 4.15. **FEASTA**, Richard Douthwaite;
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“ . . . to say - as a growing number of people now do - that the right to emit carbon dioxide should be considered a human right and that emissions permits should therefore be issued to all humankind on an equal basis. “Contraction and Convergence”, a surprisingly flexible plan is based on this idea.”

- 4.16. **WBGU**, German Advisory Council on Global Change, Dr. John Schelnhuber; Climate Protection Strategies for the 21st Century: Kyoto and beyond, November 2003  
[www.wbgu.de/wbgu\\_sn2003\\_engl.pdf](http://www.wbgu.de/wbgu_sn2003_engl.pdf)
- 

“ . . . WBGU recommends emission rights be allocated according to the ‘Contraction and Convergence’ approach.”

- 4.17. **IPPR**, Tony Grayling, Associate Director and Head of Sustainability, September 2003
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“The Prime Minister has already expressed his desire to create a global deal or ‘climate covenant’ between North and South on the issue of climate change. IPPR’s belief is that the Contraction and Convergence framework for global climate policy is the practical application of this aspiration.”

- 4.18. **Zululand Environmental Alliance (ZEAL)**, Prof. James M. Phelps, Chairman, 30<sup>th</sup> April 2003
- 

“Without equity considerations as devised in Contraction and Convergence, the Climate Change Convention and the Kyoto Protocol will remain un-implementable and leave all people on earth facing the devastating effects of climate change.”

- 4.19. **The Australia Institute**, Dr Clive Hamilton, 29 April 2003
- 

“The idea of ‘Contraction and Convergence’ is destined to be one of the most important principles governing international relations in the 21st century. It is a powerful ethic that incorporates global justice and sustainability and thereby bridges the dominant concerns of the last century and this one. It is the only way to accommodate the interests, ethical and economic, of developing countries and rich countries in the struggle to find a solution to the most important environmental problem facing the world.”

- 4.20. **DEFRA**, The Scientific Case for Setting a Long-Term Emission Reduction Target, 2003  
[www.defra.gov.uk/environment/climatechange/ewpscience/ewp\\_targetscience.pdf](http://www.defra.gov.uk/environment/climatechange/ewpscience/ewp_targetscience.pdf)
- 

“Methodology:

The framework of this study builds on the RCEP work which uses a convergence and contraction methodology. Whilst prescribed per capita emissions are retained, the flexibility is such that these are only a tool to constrain total emissions and this should not be considered a typical contraction and convergence (C&C)\* approach (although any mechanism which brings all emissions to a level lower than today’s will have an element of C&C).

\* Contraction and convergence is an international policy framework for dealing with global climate change developed by the London-based Global Commons Institute.”

- 4.21. **WWF**, Living Planet Report, November 2004  
[www.panda.org/downloads/general/lpr2004.pdf](http://www.panda.org/downloads/general/lpr2004.pdf)
- 

“Contraction & Convergence (C&C) as proposed by Aubrey Meyer from the Global Commons Institute (Meyer 2001) provides a simple framework for globally allocating the right to emit carbon in a way that is consistent with the physical constraints of the biosphere.”

- 4.22. **GLA**, Green light to clean power - The Mayor's Energy Strategy, February 2004  
[www.london.gov.uk/mayor/strategies/energy/docs/energy\\_strategy04.pdf](http://www.london.gov.uk/mayor/strategies/energy/docs/energy_strategy04.pdf)
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"The recommendations of the Royal Commission on Environmental Pollution are based on a contraction and convergence scenario in which global emissions converge in 2050, and atmospheric CO<sub>2</sub> concentration is stabilised at 550ppm by 2100. The Mayor believes that all national and regional emissions reduction targets, including those proposed in this strategy, must be seen as part of this long-term process. The Government's support for the commission's recommendations for a 60 per cent reduction in emissions by 2050 implies an acceptance of the contraction and convergence scenario that produced the recommendation. The Mayor encourages the Government to acknowledge this.

**policy 2** The Mayor supports the principle of contraction and convergence as a long-term international policy objective.

The contraction and convergence proposal was developed by the Global Commons Institute, London. Details of its origins, methodology, and support are available online at <http://www.gci.org.uk>."

- 4.23. **Church of England**, Archbishop of Canterbury Dr. Rowan Williams, 5th July 2004  
[www.gci.org.uk/speeches/Williams.pdf](http://www.gci.org.uk/speeches/Williams.pdf)
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"This kind of thinking [C&C] appears utopian only if we refuse to contemplate the alternatives honestly"

The Prime Minister has already declared that his international priorities as chair of the G-8 in 2005 will include climate change and the future of Africa; Contraction and Convergence addresses both of these"

- 4.24. **Scottish Environment Protection Agency**, Report No. SEPA 69/04, 12 October 2004  
[www.sepa.org.uk/pdf/board/agency/2004/papers/1210/6904.pdf](http://www.sepa.org.uk/pdf/board/agency/2004/papers/1210/6904.pdf)
- 

"It is essential that the EU facilitates the exporting and uptake of energy efficient technologies to developing nations, to ensure that the growth of emissions from these countries is minimised and consistent with the principles of Contraction and Convergence."

- 4.25. **Liberal Democrats, Charles Kennedy**, 16<sup>th</sup> November 2004  
[www.gci.org.uk/speeches/Kennedy\\_C&C\\_Speech.pdf](http://www.gci.org.uk/speeches/Kennedy_C&C_Speech.pdf)
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"If Tony Blair is really serious in making his mark in these areas, the greatest single achievement for the UK's G8 presidency in combating climate change would be securing agreement among G8 nations, including the United States, that the way forward will be based on this principle of contraction and convergence."

Note: All references without a weblink can be found in the GCI Archive Document under their respective dates.  
[www.gci.org.uk/Archive/MegaDoc\\_19.pdf](http://www.gci.org.uk/Archive/MegaDoc_19.pdf)

## Climate change politics

**GCI's Meyer looks ahead**

*The last time Argus interviewed Aubrey Meyer, head of the London-based environmental think-tank the Global Commons Institute (GCI), the Kyoto protocol looked unlikely to come into force and the EU had yet to pass its emissions trading scheme (ETS) into law (AGE, August 2003, pp12-13). Now, times have changed and a new urgency has entered the world of emissions mitigation. Edited highlights of an interview follow with the respected pioneer and populariser of the concept of contraction and convergence (C&C):*

**Were you surprised by the speed of Russia's ratification of the Kyoto protocol this year?**

I was surprised it took so long. However, the Russians seem now to have accepted that to protect the economy, global climate must be protected from the emissions that are changing it. A lesson for President Bush here, one feels.

**Do you think the protocol will actually deliver any emissions cuts, or is it more of a gesture?**

The Russian economy and emissions contracted sharply at the end of the cold war. In the context of industrial country emissions, the balance of emissions permits issued under the Kyoto protocol partly redresses that, so it is more than a mere gesture. However, in the global picture, Kyoto is insufficient and also constitutionally formless. As such, it is an inadequate basis for a future and sufficient agreement.

**What do you think would be the best kind of climate change agreement after the Kyoto protocol commitment period expires in 2012?**

C&C - which is a global, full-term constitutional framework derived from the objective of the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC's objective is a safe and stable greenhouse gas concentration level in the atmosphere and its principles are precaution and equity. C&C embodies these in an equal rights-based negotiating framework of emissions permits that, subject to the agreement, are tradable. This is the necessary template.

**What kind of support has C&C picked up recently?**

Support picks up steadily. In the last year key academic and faith-based institutions such as the German Advisory Council on Global Change and the Church of England have come out in support. Perhaps most interesting was the UNFCCC secretariat which said at Cop-9 that atmospheric stabilisation inevitably requires contraction and convergence. In a sense this makes them the UNFCCC&C!

**How crucial do you see US participation in any future multilateral climate change agreement?**

Even by refusing Kyoto the US participates. Throughout the

last 15 years, their main demand has been for inclusive global arrangements. Like the US Senate's Byrd Hagel Resolution C&C creates these. If there is a more inclusive arrangement, now is the time for them to declare it.

**From a corporate angle, firms finally have something to work around with the onset of the EU ETS. What are your views on emissions trading?**

In the absence of a rights-based framework, what started as a well-intentioned attempt to facilitate emissions control sees, as it were, the arrival of some kerb crawlers. This will change. Individual life is short but life itself is a great survivor and so a great teacher. We will get better at this.

**The clean development mechanism (CDM) concept is still controversial to non-government organisations (NGOs), but we are near the first official CDM/JI approvals. What are your views of the KP flexible mechanisms?**

These are more like bartering resources, emissions trading without the money as well as without the framework.

**What sort of outreach have you managed to achieve with corporations rather than governments or NGOs?**

Not enough. We should do more. Some entities have become involved with corporate Carbon Disclosure. Some have also become entangled with the rather fractal idea of carbon neutrality. GCI proposes the more embracing idea of C&C compliance, especially for commercial entities. This includes demonstrating their willingness to be seen as C&C-compliant in the context of the UNFCCC negotiations which are, after all, about carbon enclosure.

**What new initiatives give you hope on the climate change scene?**

The framework of sustainable development is impossible without personal and human development. These are things we have to work for so hope has momentum as well as motive.

**What is contraction and convergence (C&C)?**

Meyer's C&C idea is based on two main elements as a solution to the global climate change problem. The main overriding principle is equity and "equal rights" for all countries.

- **Contraction:** all governments collectively agree to be bound by a global atmospheric emissions target set at a particular date in the future. This makes it possible to calculate the diminishing or "contracting" amount of greenhouse gases that the world can release for each year.
- **Convergence:** means that the global emissions budget is shared out on a per capita basis, so that every country converges on the same allocation per capita by an agreed date.
- **Markets:** C&C would allow emissions trading, as countries unable to meet their C&C obligations could buy the unused parts of the allocations of other countries.

