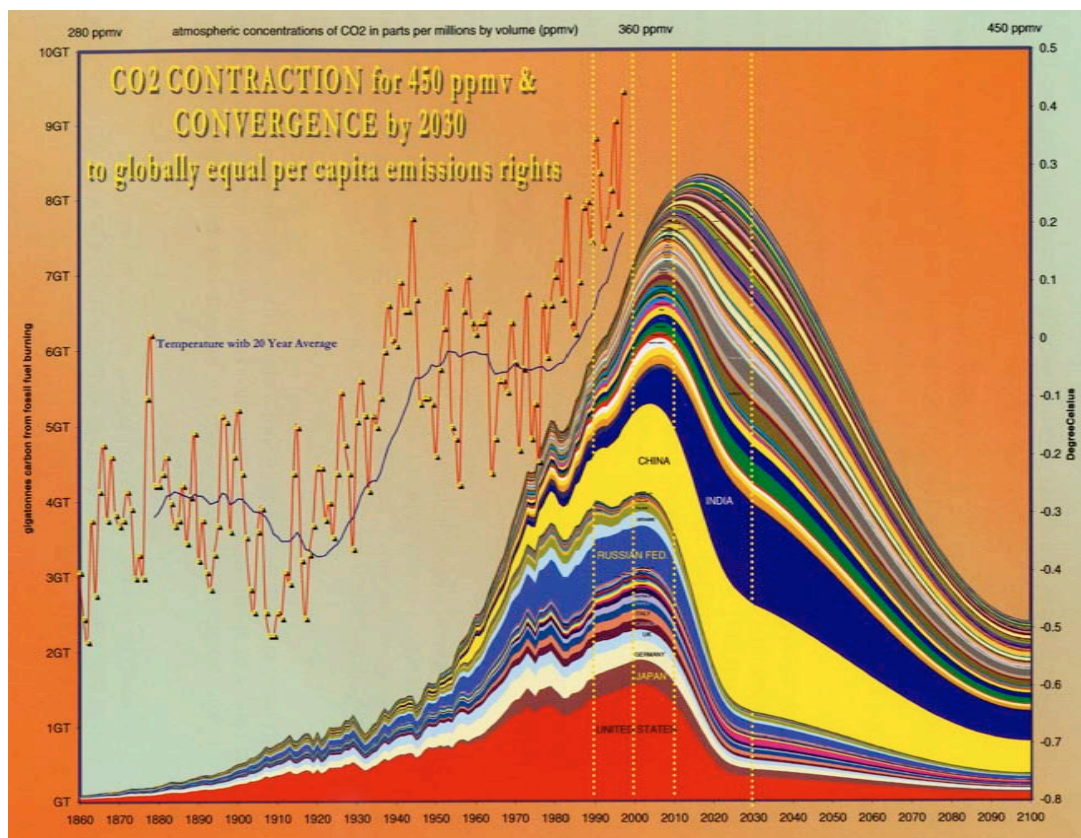


Contraction & Convergence [C&C]

The Twentieth Year of GCI/GCT & Realizing the Objective of the UN Climate Treaty 1989 - 2009

Appeal for Financial Support
for activities and developments
in the promotion of 'C&C'
in the UK and globally



An appeal from Professor Bill McGuire, Director Benfield Centre, UCL

"There is a way of cutting global greenhouse gas emissions that is equitable, sensible and workable. It is called Contraction & Convergence, or simply C&C, and it is the brainchild of the South African musician Aubrey Meyer, founder of the London-based Global Commons Institute.

Meyer is one of the most extraordinary characters on the climate change activist 'scene', who grasped the urgency of finding a viable solution to climate change earlier than most of us realised that there was a problem. Almost two decades ago he gave up a professional music career that included playing with the London Philharmonic Orchestra and writing for the Royal Ballet, to focus on the issue.



The C&C concept has been forced onto the world stage by Meyer's unstinting enthusiasm and incredible work rate. So successful has the lobbying process been that C&C is now a serious contender in terms of forming the basis of the post-Kyoto climate agreement that will, fingers crossed, be signed at Copenhagen in 2009. C&C already has many supporters in government and industry circles around the world.

In the months left before Copenhagen however, it is imperative that the mechanism is promulgated as widely as possible as the only option available to bring the climate change beast to heel.

To help accomplish this, I urge you as strongly as I possibly can to support Aubrey and the GCT, for all our sakes and those of our children and grand children."

Bill McGuire

Professor of Geophysical & Climate Hazards

Director, Aon Benfield UCL Hazard Research Centre

This document is structured on pages numbered as follows: -

Page 3	Request for Financial Support with thumbnail sketch of C&C campaign for
Pages 5 - 6	Exchanges in UK Parliament now show UK Government has adopted C&C
Page 7	Various tributes to GCI Director Aubrey Meyer
Pages 8 - 9	'Zoomable' C&C images at rates called for at Economic Forum DAVOS Jan 2009
Pages 10 - 27	Letters from eminent persons supporting this campaign and this appeal
Pages 28 - 31	Awards to and comments about GCI Director Aubrey Meyer
Pages 32 - 37	<u>Detailed contents list</u> of some C&C activity and development 2008/9
Pages 38 - 180	Detailed contents
Pages 181 - 216	Carbon Countdown Campaign Document
Pages 216 - 241	C&C Animation for Minister Hilary Benn at DEFRA - full slide imagery
Pages 242 - 303	Some recent authoritative C&C documentation in academic press

This is a request for financial support for Global Commons Trust [GCT]. GCT has been the only source of funding Global Commons Institute [GCI] has had throughout its twenty year campaign to establish '*Contraction & Convergence*' [C&C] as the global basis of responding to the climate crisis.

- In 1989, GCI began a campaign to establish the principle of equity in the UN Framework Convention on Climate Change [UNFCCC] as equal per capita emissions entitlements globally, within the overall emissions limitation 'event' that achieves the objective of the UNFCCC - a safe and stable concentration of greenhouse gas in the global atmosphere.
- By 1992, GCI had helped to establish the principles of 'precaution' and 'equity' in the UNFCCC and was asked to prepare analysis for the Intergovernmental Panel on Climate Change [IPCC] for its 'Second Assessment Report' on 'The Unequal Use of The Global Commons'.
- This gave rise to GCI's '*Expansion and Divergence*' analysis and the report on this was published by IPCC in 1995.
- The full calculating '*Contraction and Convergence*' [C&C] model, showing GCI's equity principle in practice as the remedy for 'Expansion and Divergence', was introduced to the UNFCCC at the 2nd Conference of the Parties [COP-2] to the UNFCCC in Geneva in 1996.
- By 1997, supported by India, China, the Africa Group and in principle the USA, C&C was nearly adopted at COP-3, where the 'Kyoto Protocol' was adopted as a stop-gap measure instead.
- By 2000, C&C had been formally adopted and advocated to the UK Government by the UK Royal Commission on Environmental Pollution [RCEP].
- In 2003 the Executive Secretary of the UNFCCC - the late Joke Waller Hunter - stated publicly that, "*achieving the objective of the UNFCCC inevitably requires contraction and convergence.*" Further support was generated after that.
- By the end of 2008 the UK Government passed into law the UK 'Climate Act'. In 2009, Lord Adair Turner the Chairman of the Committee that prepared the Bill, acknowledged that the 'Climate Act' was based on C&C. He then also acknowledged that the rate of convergence to equal per capita shares globally, would need to be accelerated relative to whatever overall accelerated rate of global emissions contraction was needed to achieve the objective of the UNFCCC.
- GCI's campaign to establish C&C as the basis of the global response to the objective of the UNFCCC is in its twentieth year and C&C is now the most widely cited and arguably the most widely supported model in the entire global process.
- 2009 is the year of COP-15 to UNFCCC and scripted to produce the 'global-deal' on climate change. As the eminent people write in their letters supporting this appeal [pp 10 -27], C&C must now be established as the basis of that global deal.
- The Global Humanitarian Forum, based in Geneva and chaired by Kofi Annan, is holding a conference there in June. The so-called post-Kyoto deal is to be debated in terms of C&C and they have asked GCI to speak at this event.

This document gives some evidence of progress during 2008/9 in GCI's campaign to establish C&C. A list of GCI links and references for documents and activities generated over the last twenty years appears on page 270 of this document.

"UN Climate Treaty likely to adopt C&C" Mar 26, 2009

In a recent report from the Tata Group, Tim Flannery the Chairman of the Copenhagen Climate Council, apparently addressed employees there saying, *"though chances of failure of arriving at an agreement at COP15 in Copenhagen this year are real, negotiations are leading to a global treaty that will be stronger and more binding than the Kyoto protocol . . . the treaty is likely to adopt a contraction and convergence model to accommodate interests of developing nations."*

<http://www.tataquality.com/UI/SPage.aspx?contentid=031009123351686322>

I first read of Tim's support for the Contraction and Convergence [C&C] campaign when I read his book "The Weathermakers" in 2006. I was touched by that then and also by his support for GCI's attack on the 'global-cost-benefit-analysis' of climate change carried out for IPCC SAR in 1994/5. GCI said that as a function of 'expansion and divergence', the analysis amounted to 'the economics of genocide'. He agreed and said so.

Positively, for the last twenty years, the main focus of GCI's campaign has been for Contraction & Convergence, the global solution to climate change and this has been conducted with considerable success.

This document is stored here: -

<http://www.tangentfilms.com/GCI20years.pdf>

and has recent evidence of this.

It includes that Lord Adair Turner, Chair of the Committee on the UK Climate Bill who in answers to questions from MPs, explained that;

[1] C&C is in fact the basis of what is now the UK Climate Act and that

[2] if - for reasons of 'urgency' - the global contraction rate has to be accelerated, the rate of convergence must again - for reasons of 'equity' - be accelerated relative to that.

A call for an 80% cut globally by 2050 sent out from DAVOS this January.

On pages 8 and 9 of this pdf document there are 'zoomable' images of C&C demonstrating the *quantification* of those points - accelerated contraction with accelerated convergence.

The campaign for C&C began in 1989 and C&C is now widely recognised as the basis of the global deal on climate change now debated by the global community. The document also shows support for the C&C campaign and a C&C-based outcome from Copenhagen. Some is from eminent people and Australian Prof. Garnaut is now amongst these.

I hope this information is useful and if it is that you may say so.

Colin Challen MP; *"Too Little Too Late"* Chair All-Party Parliamentary Group on Climate Change; 02 09

"Let us recognise that a global deal has to be fully inclusive and demonstrate how we calculate burden-sharing and be equitable and that that framework is Contraction & Convergence."

Lord Turner; Chair UK Climate Bill Committee evidence to Environmental Audit Committee, re C&C in Bill; 06 09

Joan Walley: - *How consciously does your method for working out the 2050 target [in the Act] resemble contraction and convergence?*

Adair Turner: - *The core of it is contract and converge. The words I have said are strong support for what Aubrey Meyer is saying . . .*

Tim Yeo: - *Well I think that's been clear and helpful.*



Lord Turner; Chair UK Climate Bill Committee evidence to Climate Energy Committee, re rates of C&C vis-a-vis the UK Climate Bill; 03 09

Colin Challen - [key question]

"Just lastly Chair if I may, I think your pragmatic support for Contraction and Convergence is very welcome. Certainly for me and that is on the record from a meeting with the EAC that you do see this as being roughly the way we're headed. Would you accept that as the speed of Contraction accelerates, as it seems likely that we'll have to go down that route, that the speed of the acceleration of Convergence will also have to pick up, because there's always been a presumption at the International Climate Change negotiations that Developing Countries will be allowed to increase temporarily their emissions to help development. But that's going to be a concertina'd process - is that really how you'd see it?"

Adair Turner - [key answer]

"Well I think you must be right - yes."

C&C Now? UK Gov! Nov 20, 2008

Michael Jacobs heads the climate and energy directorate under Gordon Brown at 10 Downing Street. When asked if the UK Government yet supported the principle of Contraction and Convergence he said, "it is a matter of public record; not only the Adair Turner's letter, but the Garnaut Report . . . indeed the Prime Minister spoke to it on his visit to India in January this year! But what you've got to understand is that if we were open about it now that would mean that it applies now and you've got to understand that we are in a negotiation!"

G-8: "C&C - on the table" Jul 08, 2008

Adam Morton

The AGE [Australia daily]

"Let's not get carried away - One approach on the table is contraction and convergence — rich countries contracting their emissions quickly, while developing countries are given some room to grow on condition they make cuts later."

G8: UK Government Supports C&C [?] Jul 08, 2008

Clouds part slowly in climate change diplomacy - Patrick Wintour, July 8, 2008

Yet there is no formula in place on how the developed and developing countries could share the burden on emissions cuts. There also needs to be a way of differentiating between the developing countries themselves. Angola cannot be put in the same pool as Saudi Arabia, for instance. The British government has some modelling under way in the most favoured method - contraction and convergence - but there is no diplomatic agreement that this is the best way to proceed.

UK House of Commons; Climate Bill debates C&C Jun 10, 2008

HANSARD

David Howarth MP

"The hon. Member for Morley and Rothwell (Colin Challen) was right to say that if the Government have accepted contraction and convergence, in the 60 percent figure, they must also accept it for any other figure that comes along. The Government have already accepted the principle and cannot go back on it."

Colin Challen MP

"I, too, welcome the Bill, which shows genuine leadership on climate change. Clause 3 refers to the Royal Commission on Environmental Pollution report, 'Energy—the Changing Climate', published in 2000, which is seen as a base point for our thinking on climate change. Adoption of the contraction and convergence model was explicit in that report. One cannot arrive at a figure, whether 50, 60 or 80 percent, without a distribution of the responsibility for tackling climate change. We cannot simply say that the science tells us that the globe must have an average cut of, say, 50 percent by 2050, and that that just happens to be our share. We should ask how we arrive at our share. The RCEP report in 2000 considered the various options, calculations and methodologies, and concluded that contraction and convergence were the most elegant and most likely to succeed."

"Contraction and convergence" is not a phrase that the Government like to use much. I suspect that the reason for that is that one does not necessarily want to set out one's entire stall before going into an international negotiation. Just as we are showing leadership with this Bill, and taking action before any other Parliament in the world, we should go to Poznan later this year and Copenhagen next year and back the principle that underpins our Bill. If people ask us what the report says, and we scratch our heads thinking, "We can't mention contraction and convergence, which underpins our whole thinking, as that might reveal our hand," we will not follow through the leadership that the Bill represents."

It is time that we urged the Government to consider the principle once again, and to make clear in a new clause in the Bill their methodology for arriving at a figure. Until they produce their methodology, they will always be open to the accusation that they are plucking figures out of thin air. If they do not do so, the independent climate change committee, if it is to be asked to bring forward figures, should be under a duty to produce its methodology."

Mrs Ruddock Minister

"The Bill requires the committee to publish its advice and the reasons for it, so if the Government were to set a target at a different level, they would have to say why. The issue of transparency is covered."

Nicholas Stern states origin & source-referencing for C&C:

http://www.hm-treasury.gov.uk/media/6/7/chapter_2_technical_annex.pdf

The notions of the right to climate protection or climate security of future generations and of shared responsibilities in a common world can be combined to assert that, collectively, we have the right only to emit some very small amount of GHGs, equal for all, and that no-one has the right to emit beyond that level without incurring the duty to compensate. We are therefore obliged to pay for the right to emit above that common level. This can be seen as one argument in favour of the 'contract and converge' proposition of Meyer, 1990, whereby 'large emitters' should contract emissions and all individuals in the world should either converge to a common (low) level or pay for the excess (and those below that level could sell rights).

Contraction and Convergence™ (C&C) is the science-based, global climate policy framework proposed to the UN since 1990 by the Global Commons Institute (GCI)

<http://www.gci.org.uk/briefings/ICE.pdf>

Dr Mark Levene

Reader in Comparative History, Southampton University

"Aubrey Meyer is probably the most important person on the planet. Contraction and Convergence [C&C] represents the joining of science and ethics, prescience and social justice. It is fundamentally about the reconciliation of the human condition set against the background of ever accelerating anthropogenic climate change. C&C is not only utterly grounded in the reality of the science and economics of the here and now but is in its essence graspable by everybody. While governments and their advisors seek complex ways of avoiding what is at stake, Aubrey has got to the heart of the matter."

**Prof Ross Garnaut, Research School of Pacific and Asian Studies
Australia National University**

Over the last twenty years, Aubrey Meyer's sustained work through the Global Commons Institute [GCI] with the "Contraction and Convergence" - or C&C - concept and campaign, has created a global standard that is now widely recognized as an outstanding and essential contribution to the global debate on what to do avoid dangerous rates of climate change.

2008 Tribute to Aubrey Meyer from Prof. Bill McGuire UCL

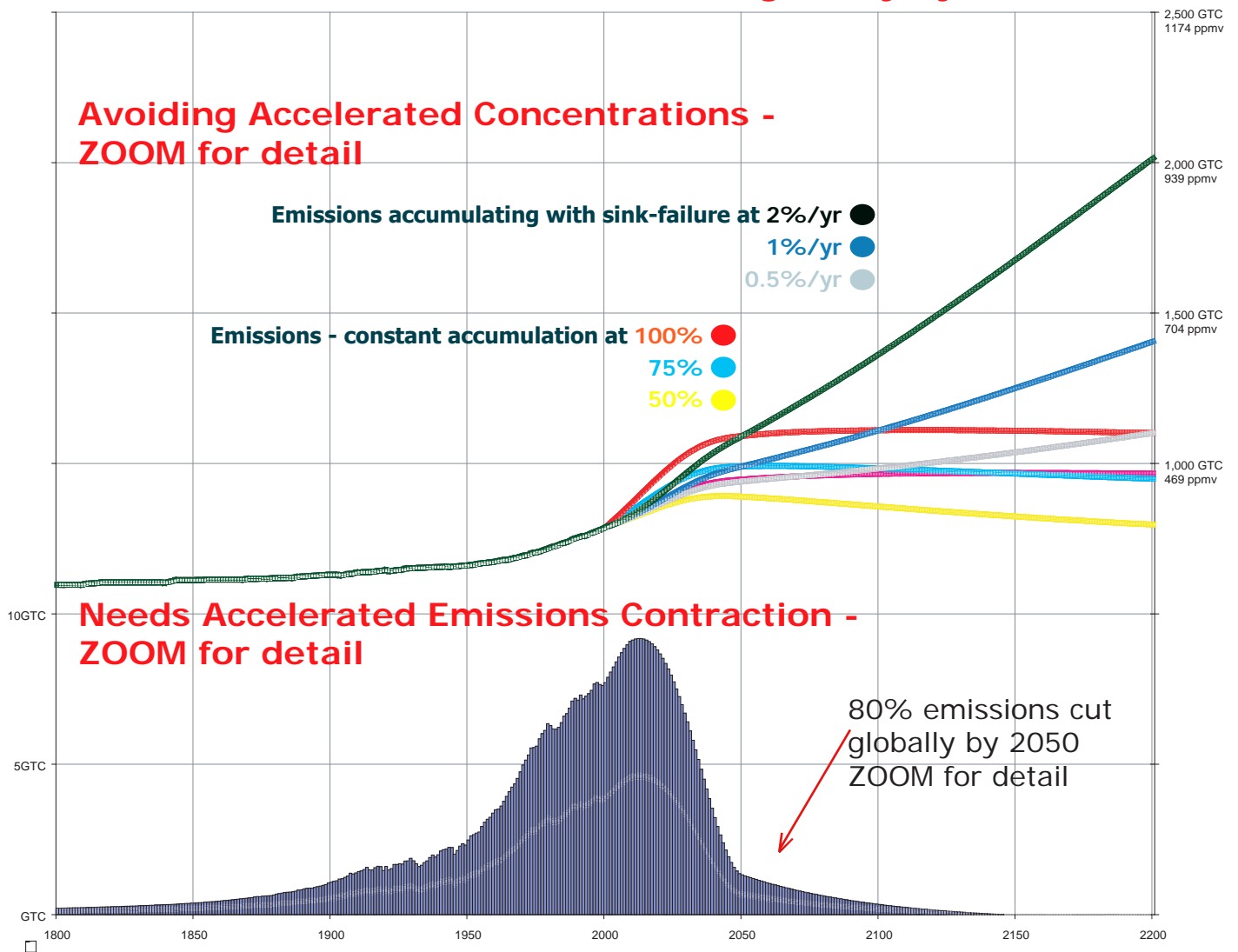
"Contraction & Convergence, or simply C&C, is the brainchild of the South African musician Aubrey Meyer, founder of the London-based Global Commons Institute. Meyer is one of the most extraordinary characters on the climate change activist 'scene', who grasped the urgency of finding a viable solution to climate change earlier than most of us realised that there was a problem. Almost two decades ago he gave up a professional music career that included playing with the London Philharmonic Orchestra and writing for the Royal Ballet, to focus on the issue. Through the vehicle of the grand-sounding Global Commons Institute, which was actually launched in Meyer's bedroom and remains close to being a one-man band, the C&C concept has been forced onto the world stage by Meyer's unstinting enthusiasm and incredible work rate. So successful has the lobbying process been that C&C is now a serious contender in terms of forming the basis of the post-Kyoto climate agreement that will, fingers crossed, be signed at Copenhagen in 2009. Whether or not C&C will form the basis of any post-Kyoto climate agreement remains to be seen, but there is certainly nothing else on the table that can hold a candle to it in terms of simplicity, elegance and downright even-handedness. I am sure that adoption of C&C by the international community would prove to be an almighty relief to Aubrey Meyer, who commented, in a recent Guardian interview, that he 'did not realise that it would take quite so long to change the world'."

**2008 Nobel Prize Nomination for Aubrey Meyer
by UK All Party Parliamentary Climate Change Group**

"We have nominated Aubrey Meyer for the Noble Peace Prize 2008 because we believe that it would, now, be right to recognise the man who has done most to provide an international solution to averting the disaster of global warming. He realised that we need a comprehensive climate change framework if we are to protect our planet and founded the Global Commons Institute in 1990 to developed just such a framework known as 'contraction and convergence'. This is the logical way forward. The human race reduces its carbon footprint towards zero at the same time as greenhouse gas emissions on a per capita basis in developed and developing nations converge. If his initiative was recognised now then it would send exactly the right message to world leaders as we consider what comes after the end of the Kyoto round in 2012."

RATES of Accelerated Contraction with Accelerated Convergence related to Accelerated RATES of 'Sink-Failure'

**Due to rising concerns about accelerating 'sink-failure',
WEF/DAVOS 2009 calls for Accelerated Contraction,
with an 80% cut in emission *globally* by 2050**



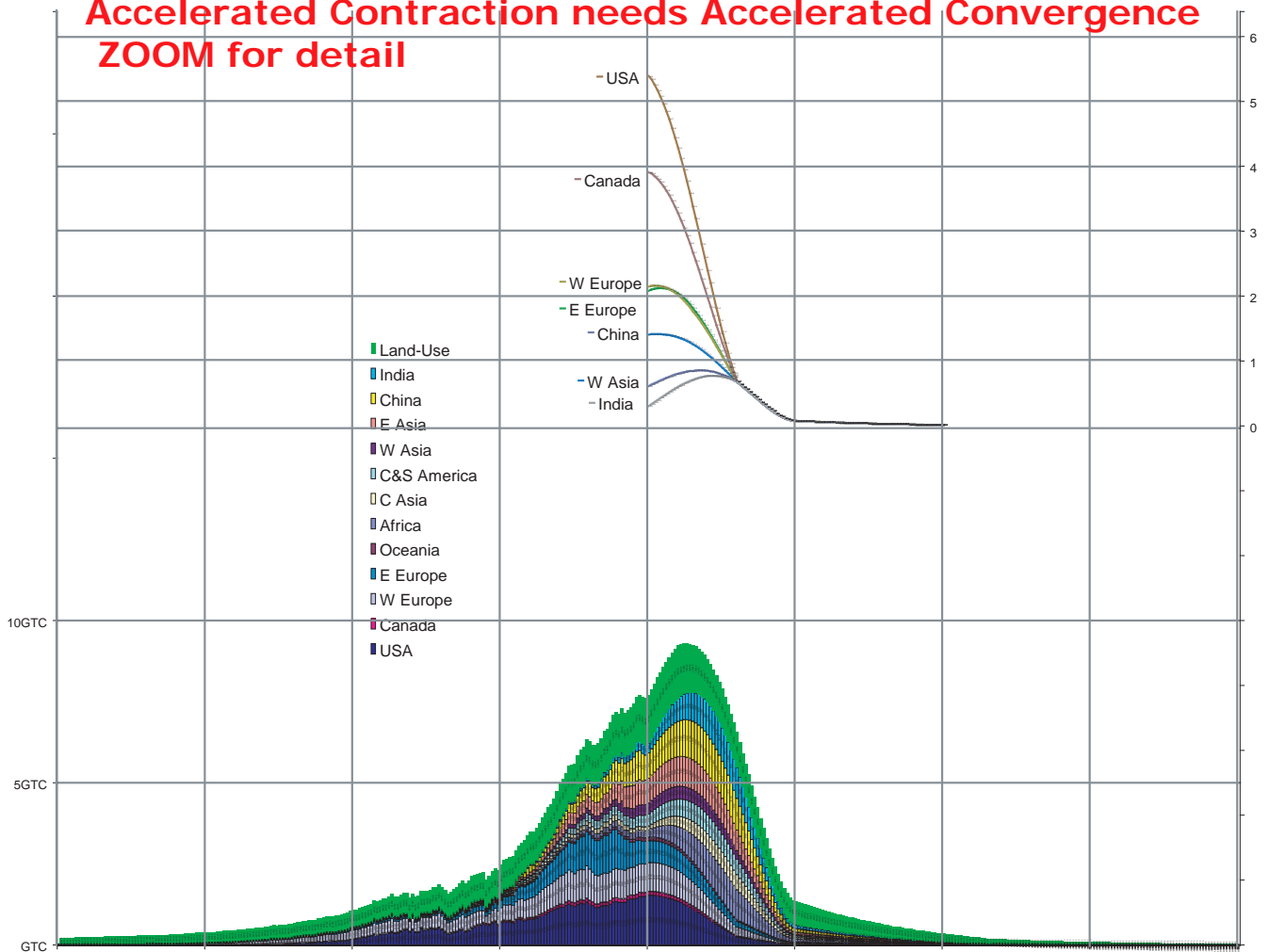
The "Global Agenda Council on Climate Change" [MGACCC] in DAVOS [www.undp.org/climatechange/docs/GACmessage.pdf] now [2009] argue for deeper faster contraction. Now calling for 80% emissions cuts globally they are not accelerating convergence. This C&C combination [page 274 lower image] will provoke Developing Countries. Previously MGACCC said that 80% for Developed Countries with convergence to per capita equalization globally by 2050 under a 50% cut globally was "the emerging consensus" [Dervis UNDP]. Now - as good as pro rata - they revise it to 80% *globally*.

Accelerated contraction is justified, but must go with accelerated convergence. These zoomable images show quantified detail. [1] The global contraction rate shown gives the 80% by 2050 with different rates of atmospheric accumulation reflecting sink-failure [2] The accelerated convergence of that same rate of contraction is on the next page at the top, compared with no accelerated convergence below. This is the systematic way to discuss this matter.

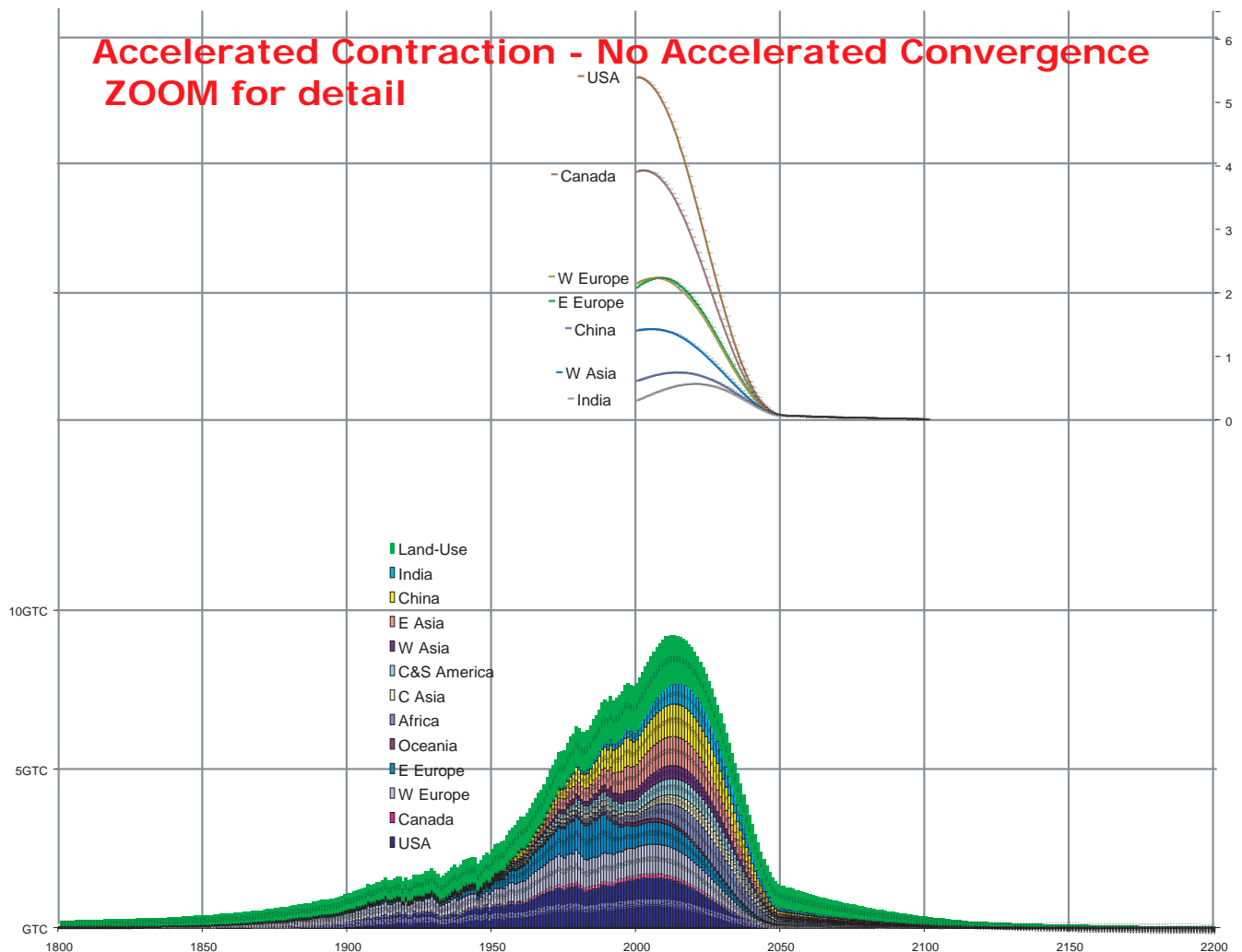
http://cid-de0ea255e7dd07f9.skydrive.live.com/self.aspx/.Public/yyy%7C_pc%7C_2020%7C_.pdf?ccr=368

Modelled and animated here: - http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe is '2%/yr sink-failure' [100% net-failure in 50 years] that is roughly equal to the rates compensated for in the revised-reduced [coupled] carbon budgets in IPCC AR4 [2007].

Accelerated Contraction needs Accelerated Convergence ZOOM for detail



Accelerated Contraction - No Accelerated Convergence ZOOM for detail



**Some letters from eminent persons
supporting the application for funds
by the Global Commons Trust
to support the continuation of
the climate change campaign for
'Contraction and Convergence'
from the Global Commons Institute**

Written by: -

1. Prof Tom Blundell - University of Cambridge
2. Mark Levene - University of Southampton
3. Mike Mainelli - Z-YEN
4. Julian Salt - ex-UNEPFI
5. Sunand Prasad RIBA
6. Peter Head - ARUP
7. Robert Goodland - ex World Bank
8. Geoff Lean - Independent on Sunday
9. Joan Walley MP
10. Prof Ross Garnaut - Australia National University
11. Andrew Dlugolecki - CII
12. Prof Brendan Mackey - Australia National University
13. Bill McGuire - Benfield
14. Crispin Tickell
15. Tim Smit - EDEN
16. Frank Jotzo - Australia National University

Professor Sir Tom Blundell FRS

Sir William Dunn Professor of Biochemistry

Head of School



28 February 2009

80 Tennis Court Road, Cambridge CB2 1GA, UK

Tel: 44(0)1223 333628 Fax : 44(0)1223 766082

E-mail: tom@cryst.bioc.cam.ac.uk

To Whom It May Concern

Dear Sirs,

Aubrey Meyer and "Contraction and Convergence"

I am writing as a former Chairman of the Royal Commission on Environmental Pollution concerning Aubrey Meyer's contributions to the global debate on how to avoid dangerous rates of climate change and to support his application for funding from your Foundation.

Aubrey began his campaign to establish Contraction and Convergence in the UK in 1989 and in 2000 the Royal Commission on Environmental Pollution under my chairmanship advocated it to Government. Since then Contraction and Convergence has proved to be a defining concept in the work of many in the UK and beyond. It has been the subject of review and advocacy by many including the House of Commons Select Committee for Environmental Audit and this year the Committee was advised by Lord Adair Turner of the UK Climate Change Committee that Contraction and Convergence does in fact form the basis of the UK Climate Bill.

The remarkable impact of Contraction and Convergence reflects the fact that the argument is firmly rooted in the science of climate change. It marries the limit to future human emissions to the idea of equal shares in the use of the atmosphere. It is a rational, flexible and transparent concept that is now the most widely cited and probably the most widely supported proposal.

All this is consistent with the wide uptake of the Contraction and Convergence concept globally. However, Aubrey has achieved this impact with very little funding. I am therefore asking that financial support is given to this campaign particularly at this time as this year - 2009 - leads to a UN event in Copenhagen in December at which it is intended that the global plan to avoid dangerous rates of climate change is agreed and established for the long-term.

I believe that Contraction and Convergence must be the basis of the global deal on climate change. I also believe that it makes sense for Contraction and Convergence to be formally endorsed as the basis of the global deal by the UNFCCC. We are now closer than ever to achieving that. With financial support for this campaign this will be achieved soon and I ask you to support this strongly.

A handwritten signature in black ink that reads "Tom Blundell". The signature is written in a cursive style with a long, sweeping underline.

Sir Tom Blundell

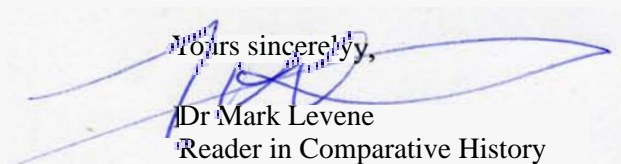
26th February 2009

TO WHOM IT MAY CONCERN

For time and motion reasons this has to be very brief. So let me state it succinctly. If I have repeatedly stated to those that do not know him or his work that Aubrey Meyer is probably the most important person on the planet, I am not being flippant.

Contraction and Convergence represents the joining of science and ethics, prescience and social justice. It is fundamentally about the reconciliation of the human condition set against the background of ever accelerating anthropogenic climate change. If this may sound high-falutin' the reality is that C and C is not only utterly grounded in the reality of the science and economics of the here and now but is in its essence graspable by everybody. While governments and their advisors seek complex ways of avoiding what is at stake, Aubrey has got to the heart of the matter. This is thus why his argument is also the central pillar and chapter of Cromwell and Levene eds. *Surviving Climate Change, The Struggle to Avert Global Catastrophe* (Pluto Press, 2007).

In short, I commend Aubrey and his work which has been pursued remarkably, tenaciously, singularly for the best of two decades. And essentially with little or no financial support. It is time that the 'value' of Aubrey's efforts were properly recognised. Esme Fairbairn would be doing more than Aubrey a great service by offering its support to GCI.

Yours sincerely,
Dr Mark Levene
Reader in Comparative History

'Zest for Enlightenment'

Z/Yen Group Limited

5-7 St Helen's Place

London

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Email: michael_mainelli@zyen.com

To Whom It May Concern

Dear Sir

LETTER OF SUPPORT - CONTRACTION & CONVERGENCE - AUBREY MEYER

Aubrey Meyer has asked me to write a letter of support. I run a leading commercial think-tank in the City of London, Z/Yen Group, and have been the creator and Principal Advisor to the London Accord, the largest financial and economic initiative into climate change – www.london-accord.co.uk – Z/Yen's *pro bono* work on climate change.

Over the last twenty years, Aubrey Meyer's sustained work through the Global Commons Institute on 'Contraction and Convergence' - C&C - is widely recognized as one of the most focused and significant contributions to the global debate on what to do avoid dangerous rates of climate change. C&C marries population to the economic, financial and equity issues of future human emissions. It is a rational, flexible and transparent concept that is now the most widely cited and arguably the most widely supported proposal in the process as a whole. Therefore, it is challenging.

Aubrey began his campaign to establish C&C in the UK in 1989 and by 2000 C&C was being formally advocated to the UK Government by the Royal Commission on Environmental Pollution. Since then C&C has proved to be a defining concept in the work of many in the UK and beyond. It has been the subject of review and advocacy by many including the House of Commons Select Committee for Environmental Audit. This year the Committee was advised by Lord Adair Turner of the UK Climate Change Committee that C&C does in fact form the basis of the UK Climate Bill. Last year members of the UK All-Party Parliamentary Group on Climate Change, nominated Aubrey Meyer for the Nobel Peace Prize in honour of the concept and the campaign.

Aubrey's success is all the more remarkable as all this has been achieved with very little funding. So I am writing to commend that financial support is given to this campaign, particularly at this time, when we have the UN event in Copenhagen in December at which it is intended that the global plan to avoid dangerous rates of climate change is agreed.

I am one of the many people who believe that C&C, or something close, must be the basis for a global deal on climate change. I appeal to you to support C&C.

Yours faithfully

Professor Michael Mainelli
cc Dr Mayer Hillman

Durlock House
Durlock Rd
Ash,
Kent,
CT3 2HU.
25.2.09

Dear Sir,

I am writing to you in respect of potential new funding for Aubrey Meyer of The Global Commons Institute.

I have known Aubrey since 1992, when we first met by phone. I was a Research Associate in the Dept. Peace Studies, University of Bradford. Instantly I clicked with Aubrey and his then audacious vision of Contraction & Convergence. Upon seeing the first graphics come out of the fax machine I was hooked and convinced that one day the concept of C&C would be utilized by the UN in some form as the basis for a future climate deal. What I and Aubrey didn't know at the time is that it would be virtually 20yrs of hard work on his part until he finally gets recognition for his ground-breaking ideas.

To say that Aubrey is/was ahead of his time is an understatement. He has

incredible vision in tandem with phenomenal drive and determination. He will not rest until this concept is adopted internationally. In to the bargain he is incredibly honest and modest.

I thus urge you as a Trust to back his efforts financially, as you will not get better return on your investment, especially in these troubled times.

yours sincerely,

Julian E. Salt.

Dr. Julian. E. Salt PhD, DIC, MSc, BSc (Hons)

- ex-advisor to UNEP-FI (Climate Change Group)
- ex-Loss Prevention Council (Natural Perils Advisor)
- ex-BRE Consultant (Climate Change Impact).
- ex-Research Fellow (Bradford University)
- ex-Honorary Research Fellow (Benfield Grey Hazard Centre, London).



26th February 2009

To Whom It May Concern

Financial Support for Global Commons Trust and Contraction and Convergence

Climate change is recognised almost universally now as the greatest threat facing our civilisation. As an institute whose worldwide membership is daily engaged in the design of the built environment that contributes around half of global carbon emissions, one of the RIBA's key policy positions is action to avert catastrophic climates change. The first element of this policy is endorsement of a science based, equitable and practical principle to underpin a global climate treaty. namely 'Contraction and Convergence'. At this important moment when world governments are meeting in Copenhagen to hammer out a Climate Treaty, I am writing to ask you to support the Global Commons Institute [GCI] which has developed this brilliant and simple concept over twenty years on a shoestring.

Over the last twenty years, GCI's work, under Aubrey Meyer's leadership of the Contraction and Convergence - or C&C - concept and campaign, has created a global standard that is now widely recognized as the most focused and significant contribution to the global debate on what to do avoid dangerous rates of climate change. It is a rational, flexible and transparent concept that is now the most widely cited and arguably the most widely supported proposal in the process as a whole.

Meyer began his campaign to establish C&C in the UK in 1989 and by 2000 C&C was being formally advocated to the UK Government by the Royal Commission on Environmental Pollution. Since then C&C has proved to be a defining concept in the work of many in the UK and beyond. It has been the subject of review and advocacy by many including the House of Commons Select Committee for Environmental Audit and this year the Committee was advised by Lord Adair Turner of the UK Climate Change Committee that C&C does in fact form the basis of the UK Climate Bill.



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VAT Registration Number 232 351 891

Several voices in the international insurance industry have acknowledged that C&C is a rigorously rational concept and also that it has been communicated globally with what they describe as nothing short of genius and over the years Aubrey has received many honours for this work. Last year members of the UK All-Party Parliamentary Group on Climate Change, nominated Aubrey Meyer for the Nobel Peace Prize in honour of the concept and the campaign.

GCI's and Meyer's work is all the more remarkable as it has been carried out with very little funding. Unfortunately at this important juncture there is a real chance of the work stalling through lack of funds. So I am asking that financial support is given to the Global Commons Trust, the charity that supports the GCI.

I am one of the many people who believe that C&C must be the basis of the global deal on climate change. I have also argued that, given the scale of the need for education and for people around the world to understand the scale of the challenge, it makes sense for C&C to be formally endorsed as the basis of the global deal by the United Nations Framework Convention on Climate Change [UNFCCC]. I believe that we are now closer than ever to achieving that. With financial support there will be a greater likelihood of achieving an effective treaty at Copenhagen and I appeal to you to give what financial support you can to the Global Commons Trust.

Yours sincerely

A handwritten signature in black ink that reads "Sunand Prasad". The signature is written in a cursive, flowing style with a horizontal line under the first 'n' in "Sunand".

Sunand Prasad
President

Our ref PRH/UMK

Date 26 February 2009

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TO WHOM IT MAY CONCERN

Dear Sir/Madam

AUBREY MEYER

ARUP

I have recently been presenting a lecture around the world for the Institution of Civil Engineers showing research into how the world could move to a sustainable way of living by 2050 which addresses climate change and ecological footprint reduction. In my paper and lecture I refer to policies including Contract and Convergence as critical to achieving this outcome and stress the urgency of action. The work of Stern and Garnault have shown that action is now urgent and will not damage economic performance, indeed can help us out of recession.

Over the last twenty years, Aubrey Meyer's sustained work through the Global Commons Institute [GCI] with the "Contraction and Convergence" - or C&C - concept and campaign, has created a global standard that is now widely recognized as the most focused and significant contribution to the global debate on what to do avoid dangerous rates of climate change.

This is remarkable and reflects the integrity of the argument where C&C is mathematically rooted in the science of climate change and marries the limit to future human emissions that avoids dangerous rates of climate change to the polity of equal shares in the use of the atmosphere subject to that limit. It is a rational, flexible and transparent concept that is now the most widely cited and arguably the most widely supported proposal in the process as a whole.

Aubrey began his campaign to establish C&C in the UK in 1989 and by 2000 C&C was being formally advocated to the UK Government by the Royal Commission on Environmental Pollution.

Since then C&C has proved to be a defining concept in the work of many in the UK and beyond. It has been the subject of review and advocacy by many including the House of Commons Select Committee for Environmental Audit and this year the Committee was advised by Lord Adair Turner of the UK Climate Change Committee that C&C does in fact form the basis of the UK Climate Bill.

Several voices in the International Insurance Industry have acknowledged that C&C is a rigorously rational concept and also that it has been communicated globally with what they describe as nothing short of genius and over the years Aubrey has received many honours for this work. Last year members of the UK All-Party Parliamentary Group on Climate Change, nominated Aubrey Meyer for the Nobel Peace Prize in honour of the concept and the campaign.

All this is consistent with the wide uptake of the C&C concept globally. However, Aubrey's success is all the more remarkable as all this has been achieved with very little funding. So I am asking that financial support is given to this campaign particularly at this time as this year - 2009 - leads to a UN event in Copenhagen in December at which it is intended that the global plan to avoid dangerous rates of climate change is agreed and established for the long-term.

I am one of the many people who believe that C&C must be the basis of the global deal on climate change. I also argued that, given the scale of the need for education and for the whole planet really to understand the scale of the challenge, it makes sense for C&C to be formally endorsed as the basis of the global deal by the UNFCCC. I believe that we are now closer than ever to achieving that. With financial support for this campaign this will be achieved soon and I appeal to you to support this vigorously.

Yours faithfully



PETER HEAD OBE FREng FRSA
Director, Arup
Head of Global Planning

cc Dr Mayer Hillman, Chairman
Global Commons Trust

Robert Goodland - ex World Bank

From Robert Goodland
RbtGoodland@aol.com;
Thursday, 26 February, 2009

Subject: Contraction and Convergence

To Whom It May Concern

I urge you and your Trust to do all in your powers to support the Global Commons Trust so that Contraction and Convergence is in a position to reduce the awful risks of climate change just as soon as humanly possible. We are in dire straits with few tools at the world's disposal to save at least some semblance of our beautiful world for our children.

The Contraction and Convergence tool devised by GCT and Aubrey Meyer is arguably THE single most powerful tool for helping to prevent truly disastrous climate change, but only if it pushed fully into place and used asap.

This is a very considered statement as i have been doing what little lays within my ambit for some years now. Im convinced that C & C is the major part of the climate change solution. I served as the UN/World Bank Group's Environmental adviser for 23 years until my 62-year retirement in 2001. Since then i have been doing what i can to prevent the worst damage from climate change.

You have seen that a major and increasing number of -- importantly Southern -- national gvernments support C & C. In addition, the UN Climate Convention Secretariat, Fmr. Environmental Minister Michael Meacher, Sir John Houghton, Sir Crispin Tickell and many other luminries energetically support C & C.

You will have seen that UK's All-Party Parliamentary Climate Change Group nominated Aubrey Meyer for the Nobel Peace Prize in order to accelerate the use of C & C.

I want to make this recommendation just as strong as possible for yr purposes. Please therefore dont hesitate to contact me 24/7. Im not exaggerating when i lable this issue one of life and death

Warm personal regards
Dr Robert Goodland

Geoff Lean - Independent on Sunday

To Whom It May Concern

I am writing to lend my support to the application for funding from the Global Commons Trust.

I have the greatest respect for Aubrey Meyer, whose 20 year long tireless advocacy of contraction and convergence has single-handly brought it to the forefront of international attempts to tackle climate change. He has achieved the apparantly impossible in taking his remarkable concept to the point where it is widely regarded as the key to any long term arrangement to move to a low carbon world, and where it has been adopted as policy by many governments and endorsed by many leading authorities worldwide.

This achievement is all the more remarkable because Aubrey has done all this with virtually no funding. He deserves to be resourced properly, and I hope you will consider helping him.

Yours sincerely,

Geoffrey Lean,
Environment Editor,
Independent on Sunday.



Joan Walley

Member of Parliament for Stoke-on-Trent North
House of Commons, London, SW1A 0AA
Tel: 020 7219 4524/6985 Fax: 020 7219 4397

Our Ref: s/ESME01001/01090195

26th February 2009

To Whom It May Concern

I am writing to provide a letter of support to a funding application which I understand Aubrey Meyer is making on behalf of the Global Commons Institute to your organisation.

I write in a personal capacity but as an MP of almost 22 years standing who has had long involvement with environment issues first as a councillor in Lambeth, and more recently as the vice chair of the House of Commons Environmental Audit Select Committee. It is very clear to me that the public awareness and international engagement with the issue of climate change is not commensurate with the scale of the challenge that faces the planet in trying to urgently reduce carbon emissions.

Aubrey's work on Contraction and Convergence makes a key contribution by marrying the limit to future carbon emissions to avoid dangerous levels of climate change with the polity of equal shares in emissions subject to that limit. The theory is rooted in the science of climate change and I believe it should form the basis of a global deal on climate change.

It is vital that Aubrey is able to continue his work and it is for this reason that I am hopeful you will fund Aubrey's proposal.

Yours sincerely

Joan Walley MP
Stoke-on-Trent North

Cc Dr Mayer Hillman Global Commons Trust

CC: Dr AUBREY MAYER

Constituency Office:

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3rd March 2009

To Whom It May Concern:

Over the last twenty years, Aubrey Meyer's sustained work through the Global Commons Institute [GCI] with the "Contraction and Convergence" - or C&C - concept and campaign, has created a global standard that is now widely recognized as an outstanding and essential contribution to the global debate on what to do avoid dangerous rates of climate change.

This is remarkable and reflects the integrity of the argument where C&C is mathematically rooted in the science of climate change and marries the limit to future human emissions that avoids dangerous rates of climate change to the politically compelling requirement of equal shares in the use of the atmosphere subject to that limit. It embodies the economic political reality, that adjustment to equal per capita emissions entitlements will take time. It is a rational, flexible and transparent concept that holds out the best hope of all urgent proposals that might form a basis of an environmentally and economically rational global agreement on climate change mitigation. The contraction and convergence idea was at the core of the proposals for international agreement that are part of the Garnaut Climate Change Review, commissioned by and presented to the Australian Prime Minister and all State Premiers (R. Garnaut, 2008, The Garnaut Climate Change Review, Cambridge University Press; www.garnautreview.org.au).

Aubrey's success has been achieved with very little funding. So I am asking that financial support is given to this campaign particularly at this time as this year - 2009 - leads to a UN event in Copenhagen in December at which it is intended that the global plan to avoid dangerous rates of climate change is agreed and established for the long-term.

Regards,

Ross Garnaut

"Early Bank"
17 Craigie Place
Perth PH2 0BB
25 February 2009

To Whom It May Concern

Over the last twenty years, Aubrey Meyer's sustained work through the Global Commons Institute [GCI] with the "Contraction and Convergence" - or C&C - concept and campaign, has created a global standard that is now widely recognized as the most focused and significant contribution to the global debate on what to do avoid dangerous rates of climate change.

This is remarkable and reflects the integrity of the argument where C&C is mathematically rooted in the science of climate change and marries the limit to future human emissions that avoids dangerous rates of climate change to the polity of equal shares in the use of the atmosphere subject to that limit. It is a rational, flexible and transparent concept that is now the most widely cited and arguably the most widely supported proposal in the process as a whole.

Aubrey began his campaign to establish C&C in the UK in 1989 and by 2000 C&C was being formally advocated to the UK Government by the Royal Commission on Environmental Pollution. Since then C&C has proved to be a defining concept in the work of many in the UK and beyond. It has been the subject of review and advocacy by many including the House of Commons Select Committee for Environmental Audit and this year the Committee was advised by Lord Adair Turner of the UK Climate Change Committee that C&C does in fact form the basis of the UK Climate Bill. Last year members of the UK All-Party Parliamentary Group on Climate Change, nominated Aubrey Meyer for the Nobel Peace Prize in honour of the concept and the campaign.

Several voices in the International Insurance Industry have acknowledged that C&C is a rigorously rational concept and also that it has been communicated globally with what they describe as nothing short of genius. In 2007 Aubrey was awarded the prize for achievement on environment and finance by the UNEP Finance Initiative. On February 23rd 2009, the Chartered Insurance Institute, in its third report on climate change and insurance, recommended C&C as the basis for a solution to the mitigation of climate change

All this is consistent with the wide uptake of the C&C concept globally. However, Aubrey's success is all the more remarkable as all this has been achieved with very little funding. So I am asking that financial support is given to this campaign particularly at this time as this year - 2009 - leads to a UN event in Copenhagen in December at which it is intended that the global plan to avoid dangerous rates of climate change is agreed and established for the long-term.

I am one of the many people who believe that C&C must be the basis of the global deal on climate change. I have also argued that, given the scale of the need for education and for the whole planet really to understand the scale of the challenge, the crystal clarity of C&C makes it the obvious policy to be formally endorsed as the basis of the global deal by the UNFCCC. I believe that we are now closer than ever to achieving that. With financial support for this campaign this will be achieved soon and I appeal to you to support this vigorously.

Yours faithfully

Dr Andrew Dlugolecki,
Nobel Prize-sharing lead author of the IPCC
Advisory Board Member, Carbon Disclosure Project
Senior Advisor on Climate Change to the UNEP Finance Initiative

Prof Brendan Mackey

Director, The ANU *WildCountry* Research & Policy Hub
The Fenner School of Environment & Society, College of Science
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04 March 2009

Financial support for Global Commons Trust and Contraction & Convergence

I am writing to support the application by GCT for financial support from your Trust.

It is now axiomatic that human-induced climate change is the gravest threat to global security and the future and survival of humanity on Earth. However, the world community has struggled to reach consensus on the framework for an international agreement that will lead to a satisfactory coordinated response. Rather, negotiations are constantly derailed by short-term concerns, vested interests, and conventional thinking.

GCT supports Aubrey Meyer who, through his work with GCI, has developed a framework for international cooperation that addresses the fundamental impediments to successful negotiation of a new climate change agreement. This approach is called Contraction & Convergence (C&C), and it remains a singular beacon of sanity in the madness of climate change treaty negotiations and is humanity's best hope for a global deal that is the real deal – one that will solve the problem.

The sustained effort of GCI over 20 years is a testimony to Aubrey's integrity, commitment, and resolve. The logic and calculus of C&C is inescapable once an objective analysis is undertaken. For years, it was foolishly dismissed as impractical! Somewhat ironically, those who now view the problem with a clear head are increasingly accepting that C&C presents the only politically acceptable solution to the foundational question of how the permissible emissions can be distributed amongst the people of Earth.

As with all great ideas, C&C is deceptively simple, addresses the root causes of the problem, and is recognized as a grave threat to those vested interests who fear the climate change problem's successful resolution because of the fundamental changes it will wrought on our economic status quo.

This is the crucial year for climate change as it culminates in the Copenhagen conference and hopefully the generation of a new agreement for the next commitment period. It is absolutely critical that C&C's message is heard loud and clear throughout the year in the lead up to Copenhagen, as well as during the conference. Also, it is likely that Copenhagen will not deliver the definitive answer the global situation demands and that key issues will continue to be negotiated in the coming years – therefore requiring continuation of the C&C campaign.

I encourage and urge the Trust to invest in GCI during the coming year and beyond. I am convinced that GCI's time will come, and that Aubrey Meyer's contribution will prove to be of historic significance.

Yours sincerely,



To Whom It May Concern

**Support for the funding application of
Aubrey Meyer and the GCT**

I write to support enthusiastically, Aubrey Meyer's application for funding to underpin the activities of the Global Commons Trust. In the run-up to the UN Climate Change Conference in Copenhagen this coming December, we find ourselves at a pivotal moment in human history. If we are to have any chance of avoiding climate catastrophe, it is imperative that a greenhouse gas emissions reduction mechanism is presented to the conference that is both equitable and realistic, and which can bring the required level of emissions cuts over the timeframe that climate science demands.

That mechanism is Contraction & Convergence [C&C] the extraordinarily innovative brainchild of Aubrey Meyer, which has been taken forward in recent years through the Global Commons Institute with the support of the Global Commons Trust.

C & C already has many supporters in government and industry circles around the world. In the months left before Copenhagen, however, it is imperative that the mechanism is promulgated as widely as possible as the only option available to bring the climate change beast to heel. To help accomplish this, I urge you as strongly as I possibly can to support Aubrey and the GCT – for all our sakes and those of our children and grand children.

Yours sincerely

Bill McGuire
Professor of Geophysical & Climate Hazards
Director, Aon Benfield UCL Hazard Research Centre



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From: Sir Crispin Tickell's Office <ct@crispintickell.net>

Subject: Aubrey Meyer: Contraction and Convergence, the Global Commons Trust

Friday, 27 February, 2009

To Whom It May Concern

I write to commend a candidate for financial support from your Foundation. Aubrey Meyer is appealing for support for the Global Commons Trust (GCT) which for many years has sustained work on Contraction and Convergence.

Contraction and Convergence is more than a slogan, and over the years has set a global standard that is now widely recognized as a significant contribution to the many issues, including equity, underlying the global debate on mitigating and adapting to climate change. I won't go over the practical details which you know already, but I am sure that you, like me, must be impressed by the degree of support that Contraction and Convergence has received, most recently by Lord Turner, of the Climate Change Committee who told the House of Commons Select Committee for Environmental Audit, that Contraction and Convergence lay at the basis of the work of the Committee.

Aubrey Meyer has received many honours for his work. Last year members of the All Party Parliamentary Group on Climate Change, nominated him for the Nobel Peace Prize. Contraction and Convergence has also entered the literature and is used by many, without always recognition of its author, as the basis for the work leading up to the Copenhagen Conference on Climate Change next December. As a member of the Copenhagen Climate Council preparing for this event, I am well aware of what Aubrey Meyer has achieved.

His success is remarkable as it has been done with very little funding. With the Copenhagen Conference now ahead of us it is all the more important that everyone, from the global community to national governments, local communities and individuals, should understand what is at stake and work for a successful and practical outcome. That is why the Global Commons Trust and through it the Global Commons Institute needs your support. I very much hope that you can and will help.

With all good wishes
Crispin Tickell

Sue Lee

Secretary to Sir Crispin Tickell, Director

Policy Foresight Programme

James Martin 21st Century School

University of Oxford

<http://www.21school.ox.ac.uk/outreach/policy-foresight/>

http://www.21school.ox.ac.uk/news_and_events/news/archive.cfm/2008/pfp-hub

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CC Dr Mayer Hillman

Chairman

Global commons Trust

Tim Smit - EDEN

March 2nd, 2009

To whom it may concern,

I am writing as both an admirer of the work of the Trust and of Aubrey Meyer and his work in developing the concept of Contraction and Convergence. The detail of the work of the Global Commons Trust and the scientific basis are well documented elsewhere. The reason for my letter is that we work with around 30,000 schoolchildren a year at Eden out of a total audience of around 1.1m a year. The current generation of schoolchildren is massively concerned about climate change and they feel impotent in the face of it. What comes out time and time again is the realisation that the lifestyle commentary about changing light-bulbs, insulating houses and driving less feel woefully inadequate to them. They know the issue is more serious than any of these suggested measures could possibly address.

When Governments acknowledge we have forty years or less to radically reduce our carbon emissions the case is won, but the solution seems to remain in thrall to the same politics that have anchored us in stasis for so many years.

Every group of children I speak to about C&C understands its simplicity and potential instinctively. Its basis in equity is hugely important.

So...please allow me to express to you my belief that what is being suggested here may in years to come be seen as marking a moment as important as the dawning of the Renaissance. I know we live in a world of hyperbole, but in this case I believe it to be true. The lives of countless people could be improved and indeed secured were this work to get the support it needs.

May I ask you to look upon this application kindly?

Yours sincerely,

Tim Smit

Chief Executive

The EDEN Project

Frank Jotzo - Australia National University

"Over the last twenty years, Aubrey Meyer's sustained work through the Global Commons Institute [GCI] with the "Contraction and Convergence" - or C&C - concept and campaign, has created a global standard that is now widely recognized as an outstanding and essential contribution to the global debate on what to do to avoid dangerous rates of climate change.

The C&C concept embodies the economic political reality, that adjustment to equal per capita emissions entitlements will take time. It is a rational, flexible and transparent concept that holds out hope to form a basis of an environmentally and economically rational global agreement on climate change mitigation. The contraction and convergence idea was at the core of the proposals for international agreement that are part of Australia's Garnaut Climate Change Review (R. Garnaut, 2008, The Garnaut Climate Change Review, Cambridge University Press; www.garnautreview.org.au). I worked as economic advisor on the relevant parts of the Review.

Aubrey's success has been achieved with very little funding. So I am asking that financial support is given to this campaign particularly at this time as this year - 2009 - leads to a UN event in Copenhagen in December at which it is intended that the global plan to avoid dangerous rates of climate change is agreed and established for the long-term."

Dr Frank Jotzo

The Australian National University

Research Fellow, College of Asia and the Pacific

Deputy Director, ANU Climate Change Institute

Theme leader climate change, Environmental Economics Research Hub

SOME COMMENTS ABOUT AUBREY MEYER AND C&C:

2002 Michael Meacher, the UK Environment Minister

"If ever there was an initiative that deserved recognition & support, it is the brilliant and relentless campaign waged by this fiercely independent, creative and apparently tireless individual."

2003 The UN Climate Convention Secretariat

"Achieving the goal of the treaty, inevitably requires contraction and convergence".

2003 The Archbishop of Canterbury

"C&C appears utopian only if we refuse to contemplate the alternatives honestly."

2003 Sir John Houghton, Royal Commission Environmental Pollution

"Since the formulation of 'Contraction and Convergence', Aubrey Meyer has tirelessly and selflessly argued for and promoted it with great energy and tenacity in scientific, economic and political fora. Admiration is frequently expressed regarding its elegance and simple logic and it has been widely accepted by policy makers and by NGOs as a basis that should underlie the next stage of policy formulation. There is no other proposal in play that meets so many of the required principles and criteria or that has any real chance of succeeding. It is bound to be strongly influential in the crucial round of international negotiations in the FCCC that is about to begin. The personal dedication of Aubrey Meyer, born of a deep concern for global humanity and its future, is what has brought the Contraction and Convergence proposal to the influential position it holds today."

2007 Sir Crispin Tickell Pres. Green College Oxford & UN Ambassador

"Aubrey Meyer has done an amazing job and shown extraordinary persistence and ingenuity in working out a scheme of this kind. I very much admire him for it. Above all he's laid out an intellectual and legal framework which is needed if you're going to set global arrangements in place."

2005 Independent on Sunday, a UK broadsheet

"Meyer is one of the three most important people in the world."

2005 The New Statesman, a UK Journal

"Meyer is one of the 10 people in the world most likely to change it." (Obama another)

2007 Dr. Julian Salt Director of Climate Solutions

"Aubrey Meyer is the most courageous and brilliant climate researcher I have ever met. He is willing to say what other's merely think. He is quite fearless of any audience and the most eloquent of speaker's because he knows that ultimately the concept of Contraction and Convergence [C&C] is indestructible and will in the fullness of time be adopted in some form by the UNFCCC. He has developed his arguments over twenty years with a minimum of funding and has refused to compromise his position in any way for financial gain or glory. He is tireless in his research and quest to understand every nuance of the climate debate. It has been an honour for me to have known and worked with such a brilliant mind and such an honest person as Aubrey.

He has much support from very well placed and respectable people and deserves global recognition for his work. He is quite simply a modern-day genius who will one day be respected for his vision and beliefs. He should be considered for the Nobel Peace prize as his efforts ultimately will save the planet from the ravages of man-induced climate change."

2008 UNITAR Seminar

"Meyer is arguably the world's leading carbon strategist" and "the Mandela of Climate Change" for demonstrating the end of global apartheid.

2008 The Guardian, a UK broadsheet

"Meyer is one of fifty heroes of the planet."

AWARDS

Andrew Lees Memorial Award - 1998

"Aubrey Meyer, almost single-handedly and with minimal resources, has made an extraordinary impact on the negotiations on the Climate Change Treaty, one of the most important of our time, through his campaign for a goal of equal per capita emissions, which is now official negotiating position of many governments, and is gaining acceptance in developed and developing countries alike."

The Schumacher Award - 2000

"Aubrey Meyer set up his Global Commons Institute (GCI) in 1990, with minimal resources, to campaign to bring the threat of global warming to the attention of the public and to policy makers. For over ten years, with great determination and meticulous attention to scientific detail, he has presented his case counteracting the arguments put forward by corporate interests. Of special significance is his formulation of 'contraction and convergence', a strategy for fairly sharing the rights to emit carbon dioxide worldwide. This is increasingly recognised as the most logical and effective way of preventing climatic catastrophe while promoting justice and equity. It has made an extraordinary impact on the Climate Change Treaty negotiations."

A Findhorn Fellowship - 2004

"Aubrey Meyer is a professional violinist who largely bracketed his career to address the global challenge of climate change. He attended the first UN meetings on climate in the early 90's and he has since fully engaged with the issue and developed the C&C model as an antidote to it. He created and directs GCI as a vehicle to advance C&C to virtually all who will listen and presented it at the Restore the Earth conference in 2002. Its genius lies in its capacity prospectively to reduce greenhouse emissions by the amount the UN IPCC say is required to minimise the likely devastating effects of global warming. His views are increasingly endorsed by prominent members of the British establishment. I hope you join me in welcoming Aubrey to the Fellowship and in supporting his remarkable, indeed heroic, initiative. Aubrey Meyer is arguably the world's foremost carbon strategist and to global warming what Michael Moore is to the US electoral saga - a delightful maverick who just might 'save the day'."

City of London Life-Time's Achievement Award - 2005

"From the worlds of business, academia, politics and activism, Aubrey Meyer has made the greatest contribution to the understanding and combating of climate change having led strategic debate or policy formation. In recognition of an outstanding personal contribution to combating climate change at an international level through his efforts to enhance the understanding and adoption of the principle of Contraction and Convergence."

Honorary Fellow of Royal Institute of British Architects - 2007

"For his challenging and inspirational promotion of environmental issues, in particular his development of the concept of Contraction and Convergence. Architects adopted C&C at RIBA Council in 2006 and asked Aubrey to present C&C at their annual conference in October. There, RIBA's Chairman declared climate change as the dominant agenda for the 21st Century, called for C&C targets and committed RIBA to campaigning for C&C. He was an inspirational speaker at the RIBA's 2006 Annual Conference in Venice and reported the event as follows: "Meyer, formerly a professional musician, started with a virtuoso performance that was simultaneously moving, terrifying and informative. He played the violin theme to Schindler's List to images of the environmental holocaust he went on to argue that we face."

Eurosolar Award - 2006

"For inspiring renewable energy projects, in the 'Media' category, the Eurosolar Award 2006 goes to Aubrey Meyer for Contraction and Convergence communications."

The UNEP FI Global Roundtable Financial Leadership Award - 2007

"UNEP FI for the first time recognized executives within the financial services who have contributed in a significant manner to the development of financial ideas, innovative products, institutional change and or the carbon markets themselves through the UNEP FI Carbon Leadership Award. Four executive awards were given for each category of financial services: Banking, Insurance/ Reinsurance, Asset Management/Private Banking and Pension Funds. In addition, an award was given for a representative from civil society who had worked towards the same end. Award winners were selected from a large number of entries by a small group of UNEP FI's long term climate change advisors. The civil society category award for the most impressive commitment and innovative thinking around climate change and the financial sector with the UNEP FI Carbon Leadership Award went to Aubrey Meyer of the Global Commons Institute."

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Oxford Environmental Change Unit 14 January 2008

C&C in Trialling Personal Carbon Allowances [PCA]

"PCA has the potential to reduce carbon emissions in an equitable, efficient and effective way. It is based on the same principle of equity the international carbon reduction proposal 'contraction and convergence' (Meyer 2000), i.e. that everyone has an equal right to emit carbon."

<http://www.eci.ox.ac.uk/research/energy/downloads/fawcett-pca07.pdf>

Steering towards emissions equity The Guardian January 11, 2008

Leo Hickman on whether India's 'People's Car' should be a cause for celebration

"In a world of 'contraction and convergence', as put forward by Aubrey Meyer and others, the goal would be just that: that the world's citizens would agree a middle ground in terms of per capita emissions that, if achieved, would lead to an overall reduction in global greenhouse gas emissions. This would, at least in part, address the obvious inequity of a situation whereby everyone across the planet starts cutting their emissions before billions of people have even achieved the most basic of advances long enjoyed by those in developed countries."

http://blogs.guardian.co.uk/climatechange/2008/01/steering_towards_emissions_equ.html

C&C in the Canberra Times – Australia 15 January 2008

Gwynne Dyer Chiefs say too many Indians on hypocrisy highway

"Contraction and Convergence" [C&C] is the phrase they need to learn. It was coined almost 20 years ago by South African-born activist and founder of the Global Commons Institute Aubrey Meyer, and it is still the only plausible way that we might get global agreement on curbing greenhouse gas emissions worldwide. The notion is simply that we must agree on a figure for total global emissions that cannot be exceeded, rather as we set fishing quotas to preserve fish stocks. Then we divide that amount by 6.5 billion (the total population of the planet), and that gives us the per capita emission limit for everyone on Earth."

Gwynne Dyer is a London-based independent journalist whose articles are published in 45 countries.

<http://canberra.yourguide.com.au/news/opinion/opinion/chiefs-say-too-many-indians-on-hypocrisy-highway/1162221.html>

Repeated in Daily News and Analysis Around the world e.g. Mumbai India

<http://www.dnaindia.com/report.asp?newsid=1145186&pageid=2>

Gordon Brown and Indian Government on C&C

"India and the UK recognise the need to find effective and practical solutions to address concerns regarding climate change and its implications for human kind. These would include mitigation and adaptation strategies in a manner that supports further economic and social development in particular of developing countries. Long-term convergence of per capita emission rates is an important and equitable principle that should be seriously considered in the context of international climate change negotiations."

http://groups.google.com/group/india-ej/browse_thread/thread/a1bada63343b88da?hl=en

Archbishop of Canterbury returns to C&C debate

"The whole issue of how we approach carbon trading, the set of issues around contraction and convergence and agendas like that; these are issues that have to be thought through very carefully in terms of how the results of policies seeking to control climate change can at the same time work for the good, for the benefit for the neediest of our societies."

<http://www.anglicancommunion.org/acns/digest/index.cfm/2007/12/20/Archbishop-of-Canterbury--climate-change-action-a-moral-imperative-for-justice>

Presentation at Imperial College London 17 01 08

Aubrey Meyer is this week's speaker. An outstanding voice from the world of industry, risk analysis and policy making, and considered by many as arguably the world's foremost climate strategist gives a presentation followed by questions. His message concerns Contraction and Convergence or 'C&C', which is a logical universal rights-based proposal to respond in a proportionate manner to climate change. Rooted in the science, it is a full response to the objective of the UN Climate.

C&C was introduced at the UN in 1990 by the Global Commons Institute [GCI] a group co-founded by Meyer that year. Since then it has become widely cited around the world as the fundamental basis of avoiding dangerous climate change.

An Honorary Fellow of the Royal Institute of British Architects and winner City of a City of London Life-Time's Achievement Award in 2005, Meyer was awarded the UNEP Financial Initiative Leadership Award in 2007. Meyer is a musician and the presentation includes audio-visual materials and music.

http://www.gci.org.uk/events/Imperial_College.pdf

C&C - "the phrase on the lips of negotiators"

The Hot Topic Gabrielle Walker and David King

<http://www.bloomsbury.com/BookCatalog/ProductItem.asp?S=1&sku=22044434>

"Contraction and convergence is the buzz phrase on many negotiators' lips. The 'convergence' part of the phrase refers to a certain low target of greenhouse emissions per head of population, which every country agrees to converge on by, say, 2050. This target would depend on how low overall we were trying to go, as set out in the first part of the agreement. For instance, a global target of 450 ppm of greenhouse gases would mean convergence in 2050 at around 2 tonnes of CO₂eq per head, where 550 ppm would be closer to 3 tonnes per head. This figure would necessarily be much lower than the current emissions per head of the richest countries, and probably higher than the current figure for most developing countries. Thus, the industrialised world would need to 'contract' its emissions to meet the target, whereas developing countries would be allowed to increase their emissions and develop their economies before everyone eventually converges on to the same spot.

According to this approach, the emissions paths for some developing countries might rise above the eventual target, before falling as their economies became stronger. There is even a provision for the lowest emitting (and least developed) countries to receive more emissions allowances than they would need. They could then sell the excess 'hot air' to get international funding for their development efforts. Contraction and convergence has the benefits that every nation is involved from the beginning, that it's a transparent, straightforward concept and that it produces a definite final concentration of greenhouse gases."

Source GCI: - www.gci.org.uk/briefings/ICE.pdf

Thursday 17th January
Imperial College
Center for Environmental Policy
Contraction & Convergence

The Center for Environmental Policy at Imperial College hosts a weekly policy seminar that all MSc students attend.

Aubrey Meyer is this week's speaker.

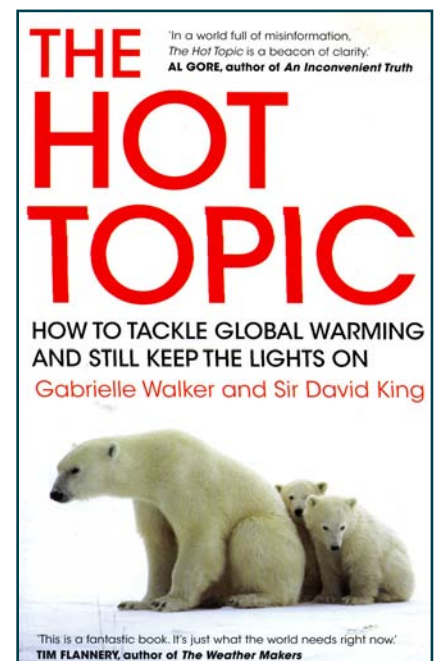
An outstanding voice from the world of industry, risk analysis and policy making, and considered by many as arguably the world's foremost climate strategist gives a presentation followed by questions.

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Malta Conference

Climate Diplomacy: C&C at Malta Conference: -

http://www.gci.org.uk/events/Malta_Programme.pdf

What is different about Climate Change Diplomacy?

10.30 Mr. Aubrey Meyer, Global Commons Institute

"Contraction and Convergence - The Proportionate Response to Climate Change"

Live coverage: -

<http://www.sustainabilitank.info/2008/02/05/malta-february-7-8-2008-conference-on-climate-change-diplomacy-that-will-be-broadcast-also-for-virtual-purpose/>

NHS - Climate change seminar – 10th January 2008 St Pancras Hospital

"Thank you to everyone for supporting the climate change seminar that took place last Thursday. The event was attended by over 50 people, including Professor David Taylor/Chair and Wendy Wallace/Chief Executive. It was introduced by Hari Sewell/Director of Health & Social Care Improvement and was intended as an introduction to climate change, which has been described as the most important issue of our time. If you were unable to attend you can view the presentations of the key speakers or visit their websites."

The speakers were: -

Mario Petrucci

www.mariopetrucci.com/ISR93587.pdf

Aubrey Meyer

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

Dr. Robin Stott

www.climateandhealth.org

Comments received on the event are below:

- *What a brilliant meeting, well done you guys for organising! I do think the Trust should do more on this, and would be willing to get involved.*
- *I particularly liked the poetry readings at the Climate Event. As a Quaker, I found the event really familiar and stimulating. I have been brought up to regard the greater good rather than the self and it all has to start somewhere when it comes to climate change. It is all a leap of faith and what is required is a collective consciousness that supports that leap, which can only come about when people stop thinking about their selfish needs.*
- *Thanks very much for all your work. It was EXCELLENT*
- *Very powerful and effective presentations from all three: loved the violin.*
- *Just to say yesterday was really excellent. Your man and his team is very inspirational*
- *It was a wonderful event. Very inspiring and thought-provoking and I have heard nothing but positive things from everyone who attended. Well done!*
- *Just a quick note to say thank you for the event yesterday. I thought it went off extremely well and so did others I spoke to afterwards. One of the things we discussed was how these sort of things raise more questions and that only by becoming more involved could we find out the answers. I thought it was a pity that it could not be a combined Trusts event as I felt Dr. Robin Stott's comments concerning management planning particularly pertinent. Especially as the plans for the St Pancras site are so much in the forefront over the coming years.*
- *It was a brilliant event. Congratulations on getting it organised - It was fantastic.*

Lunchtime Seminar

on Climate Change

12.30 - 13.30, Thursday the 10th of January 2008

The Conference Hall
St Pancras Hospital

The Care Trust is delighted that three well known speakers have agreed to give a talk on climate change at St.Pancras from 12.30 - 13.30 pm on 10th of January.

Refreshments will be available from 12.00. The presentations will start at 12.30 and include a short film, violin music and poetry.

The session will be introduced by: -

Mario Petrucci - Poet, Physicist, Royal Literary Fund Fellow and Ecologist
Aubrey Meyer - renowned climate campaigner and musician
Dr Robin Stott - a veteran of IPPNW and MEDACT

who will tell us how climate change will impact on our lives, particularly with regard to our energy production and consumption and how we can all act to make a difference.

In the interim, if you have any questions about this or want to help organise the event then please contact: -

Lynda McDonald on 020 7530 5347
or lynda.mcdonald@candi.nhs.uk.

Comment from speakers after the event:

"We were delighted to receive the invitation to this event because of the high regard with which we hold the NHS. We are also now very pleased with the positive response to the event because we are certain that on this urgent matter, leadership from the community of health professionals will be increasingly influential."

Climate Network Africa. Bali Report - C&C Feb 05, 2008: -

http://www.gci.org.uk/events/BALI_Africa_Report.pdf

"There are two key components to reducing Green House Gas emissions: -

a) Concentration levels that are safe and b) How to distribute responsibility?

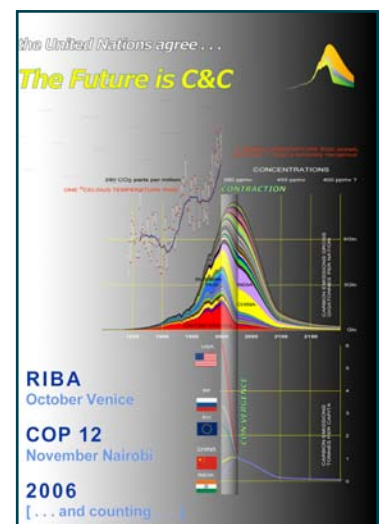
Contraction and Convergence (C&C) is the only obvious answer, working on a per capita basis. The United Kingdom bill is based on C&C although the government refuses to admit. Any bill to deal with C&C is a global bill. You need to have knowledge that you are addressing your share of the problem. The 40% is coming from a figure based on historical data. The science of climate change has much progressed since then and in addition, we now have to account for carbon sink failures, desertification, etc, and not only anthropogenic emissions. We could in fact be having a runaway problem in our hands. The only model that can accommodate the changes in the facts (emissions and populations) is the C&C model. The Stern Review commissioned by the United Kingdom Government revealed that 1% of GDP would help us reduce emissions by 20%. 1% of the United Kingdom GDP is about £10 Billion, and the United Kingdom Government is not spending that yet."

RIBA reaffirm 'Carbon Countdown' the campaign for C&C

www.architecture.com/Awards/RIBAHonoraryFellowships/HonoraryFellowships2008.aspx

Aubrey Meyer - For his challenging and inspirational promotion of environmental issues, in particular his development of the concept of Contraction and Convergence. He is Director of the think-tank Global Commons Institute (GCI), focusing on policy solutions addressing climate change. He is the chief architect of a policy framework called 'Contraction and Convergence' which is based on the idea that everyone has an equal right to emit CO₂. This means rich countries must cut back on their emissions, allowing poorer countries slowly to increase theirs. He has made an extraordinary impact on international negotiations surrounding climate change, campaigning at UN negotiations to win acceptance for the management of global greenhouse gas emissions through the framework of Contraction & Convergence. In 1998 Meyer won the Andrew Lees Memorial Award, in 2000 the Schumacher Award, and in 2005 a City of London Lifetime's Achievement award. C&C is now cited as one of the most important principles governing international relations. Meyer, in a recent edition of the New Statesman, was listed as one of the ten people in the world most likely to affect climate change. In 2008 the Guardian named him as one of the 50 people who could save the planet. He was an inspirational speaker at the RIBA's 2006 Annual Conference in Venice.

www.architecture.com/WhatsOn/AwardsCeremonies/Events/2008/RGMFellowshipsDinner08.aspx



Manchester City Council Adopt C&C

http://www.manchester.gov.uk/downloads/8a_Climate_change_1_.pdf

http://www.gci.org.uk/briefings/Manchester_City_Council.pdf

American Institute of Architects follow RIBA lead on C&C

www.aia.org/SiteObjects/files/Mtg_mins_07_ipf.pdf

Platform share with Mohamud Yunus

St James Piccadilly 16 02 2008

www.gci.org.uk/events/Yunus.pdf

www.gci.org.uk/events/C&C_Yunus_St_James.pdf

US Republican; C&C makes sense, Normal Decent Sensible

<http://nolimamax.blogspot.com/>

Imagine Everyone Was Equal, in Emissions

By Andrew C. Revkin New York Times

<http://dotearth.blogs.nytimes.com/2008/02/15/imagine-everyone-was-equal-in-emissions/index.html?hp>

Business Green outline C&C

www.whatpc.co.uk/business-green/analysis/2209752/cheat-sheet-contraction

RSA debates C&C "People left behind by progress"

www.rsacarbonlimited.org/article.aspx?pageid=883

Caroline Lucas and Ian Roderick discuss support for those least able to cope with changing climate. In the first Carbon [Un]limited debate we examined how language and branding can be used to encourage citizens to participate in personal carbon trading (PCT). PCT has been conceived as a UK-wide system. Arguably it shares the same principles as set out in the Global Commons Institute's Contraction and Convergence model (C&C). However before using PCT to transform the UK into a low-carbon economy, or C&C into a global solution, policy-makers must consider how citizens will be affected. What can be done to minimise the number of what environmental activist Stephen Plowden has called 'people left behind by progress?' And who will they be?

www.rsacarbonlimited.org/article.aspx?pageid=883

Ross Garnaut renews C&C in Oz Feb 21, 2008

Climate urgency is in the air. Garnaut Interim Report [02-08] gets behind C&C

Seems the UK House of Commons Environmental Audit Committee visit to Australia in February this year was a happy meeting with the Ross Garnaut Review.

http://www.gci.org.uk/briefings/Interim_Report_Feb_2008.pdf

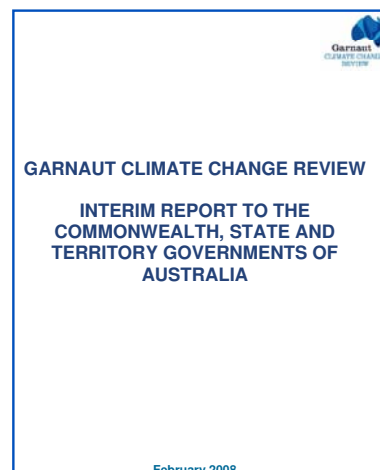
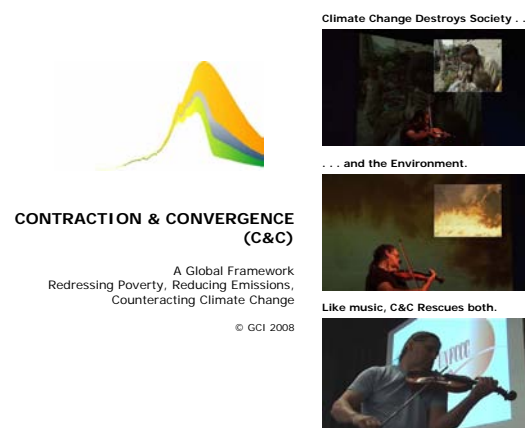
. . . . but now the Australian Government is reeling.

<http://greensblog.org/2008/02/21/garnaut-leaving-the-government-behind/>

Garnaut Climate Change Review - Interim Report – Feb 2008

Contraction and Convergence

"It is clear already that per capita allocation will have to play a strong role in principles for national budgets. Indeed, it appears inevitable that if global per capita emissions fall to the level required by stabilisation scenarios, then the current stark divergences in national per capita emissions rights will inevitably diminish— though variation in national emissions levels will be possible through the trading of emissions rights."



One approach worth considering, consistent with giving weight to population and with the need to allow time for adjustment, would be the “contraction and convergence” approach that was developed by the Global Commons Institute in the early 1990s, and has been discussed favourably in Germany and the United Kingdom in recent times (WGBU, 2003; RCEP, 2000).”

<http://greensblog.org/2008/02/21/garnaut-leaving-the-government-behind/>

It's true that the issue is now centre stage. But, the amount of emissions, adding to the stock already in the atmosphere, continues to rise, 30% of that rise still coming from the developed world.

So though it now occupies its rightful place at the top of the agenda and though there is acute awareness, from political leaders and the public, that it is time to act, the unavoidable fact is that the problem continues to get worse.

What is more, when we examine future trends, the reality of the scale of change necessary to bring about a reversal of the rise and deal with the problem, becomes uncomfortably obvious.

Per capita GHG emissions are over 20 tonnes per year in the USA; in Europe and Japan over 10 tonnes; in China close to 5 tonnes. Some estimate they will need to be around 2-2.5 tonnes as a world average by 2050 to allow the necessary reduction of 50% in the global total. But since the poorer nations will see their emissions rise as they industrialize and since the world population may well grow from 6 to 9 billion, the emissions in the richer nations will have to fall close to zero and those in the poorer countries, will have overtime to fall as they industrialize.

Put it like that and you can see the vast nature of the challenge. In fact, I would go further; the scale of what is needed is so great that the purpose of any global action is not to ameliorate or to make better our carbon dependence; it is to transform the nature of economies and societies in terms of carbon consumption and emissions. If the average person in the US is say, to emit per capita, one tenth of what they do today and those in the UK or Japan one fifth, we're not talking of adjustment, we're talking about a revolution.

Which brings me to this inescapable conclusion. To transform the way the world grows, is unlikely to be done by measures, however well meaning, taken by individual people, companies and countries. I'm not saying these things are worthless. Far from it. They create innovation. They create awareness of the options. And taken together, have a real impact on the problem. And in theory, each nation, acting unilaterally could take action that together amounted to the necessary change. But in practice that is unlikely. In practice, without collective action, collectively agreed, at a global level, the revolution is unlikely to occur.

Hence the need for a global deal. The purpose is to set an overall global target for the world; and to establish a framework for its implementation, one that is effective, efficient and equitable."

<http://tonyblairoffice.org/2008/03/tony-blair-speech-to-gleneagle.html>

The Actuary Announces C&C Campaign Mar 28, 2008

"In the crucial run-up to Copenhagen, the Global Commons Institute is seeking support from business and industry via its Carbon Countdown campaign. I would urge every company in the insurance sector to sign up now and use its enviable clout and reputation to ensure that C&C is adopted."

<http://www.the-actuary.org.uk/746696>

"Carbon Countdown" The Campaign for C&C

Download the Carbon Countdown prospectus at: -

www.gci.org.uk/kite/Carbon_Countdown.pdf

DECLARATION for Contraction & Convergence ®

1. The United Nations Framework Convention on Climate Change (UNFCCC) has the objective of safe and stable greenhouse gas concentrations in the atmosphere based on the principles of precaution and equity.
2. Contraction & Convergence® (C&C) is the rights-based, global climate mitigation framework, proposed to the United Nations by the Global Commons Institute (GCI) to achieve that objective.
3. It enables greenhouse gas scenarios for a safe climate to be calculated and universally shared by negotiation, enabling policies and measures to be organised internationally at rates that avoid dangerous global climate change.
4. Rates of contraction and convergence may be revised periodically as scientific understanding of the relationship between rising concentrations and their impacts on our world develops.



5. C&C proposes: -
 - (a) 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 by the UNFCCC
 - (b) The international sharing of this budget as a pre-distribution of entitlements that result from a negotiable rate of linear convergence to equal shares per person globally by an agreed date.
6. These entitlements will be internationally tradable.
7. We, the undersigned, endorse the above and encourage members of the international community to do likewise so that adoption of the Contraction & Convergence® strategic framework is achieved as soon as possible.

C&C & the BMA Apr 03, 2008

In an extensive statement "Caring for the National Health at 60" [1948-2008], the British Medical Association [BMA] has addressed the question: -

"How can the impact of climate change be reduced?"

www.bma.org.uk/ap.nsf/Content/climatechange~climatechangeimpactreduced

With over 138,000 members, representing practising doctors in the UK and overseas and medical students, the British Medical Association is the voice of the profession and students.

With commentary on a range of issues including mitigation and reducing emissions and carbon footprints, the BMA notes that there are a number of measures (of varying scale) that can be used to reduce the amount of CO₂ that is being emitted, these include: -

Contraction and convergence conceived by the Global Commons Institute (GCI) in the early 1990s, consists of reducing overall emissions of GHGs to a safe level, 'Contraction', where the global emissions are reduced because every country brings emissions per capita to a level which is equal for all countries, 'Convergence'.

For more information on Contraction and Convergence please see

www.gci.org.uk/contconv/cc.html

Contraction & Convergence; A healthy response to climate change.

www.bmj.com/cgi/content/full/332/7554/1385?ehom



Oxford ECI front PCA/C&C Apr 04, 2008

"Trialling Personal Carbon Allowances" [PCA]

A report produced by Oxford University's

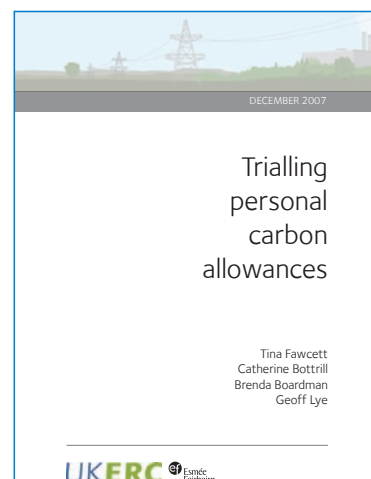
ENVIRONMENTAL CHANGE INSTITUTE with SUSTAINABILITY - For the Demand Reduction

UKERC Report No.: UKERC/RR/DR/2007/002 - ISBN: 1 874370 44 3

<http://www.eci.ox.ac.uk/research/energy/downloads/fawcett-pca07.pdf>

"PCA has the potential to reduce carbon emissions in an equitable, efficient and effective way. It is based on the same principle of equity as that underpinning the international carbon reduction proposal 'contraction and convergence' (Meyer 2000), i.e. that everyone has an equal right to emit carbon. By allowing trading, the idea is that people who live low carbon lives can sell their spare allowances to those with higher emissions.

A market price for carbon will emerge and higher carbon lifestyles will cost more than they currently do. The equal shares will not require that everyone emits equally – instead people will have choice and can adapt to a lower carbon society at a slower pace by buying additional allowances. This allocation system should be economically efficient as it will encourage lower cost carbon savings to be made first (although this is only wholly true if a 'perfect market' exists, which is not the case in reality). Because PCA will have a firm cap, national carbon emissions from these sectors of the economy cannot be exceeded."



The research for this report was conducted under the auspices of the UK Energy Research Centre which is funded by the Natural Environment Research Council, the Engineering and Physical Sciences Research Council and the Economic and Research Council.

This report was written by:

Dr Tina Fawcett, Environmental Change Institute; Catherine Bottrill, Environmental Change Institute; Dr Brenda Boardman, Environmental Change Institute; Geoff Lye, SustainAbility

"C&C - the Most Merit" - David King Apr 07, 2008

Professor Sir David King now declares about the Climate Change dilemma, that "*Contraction and Convergence (C&C) is the approach with the most merits.*"

Dr King recently stated he had been gagged by Government when he was their Chief Scientist. Now, on the anniversary of the assassination of his famous name-sake Dr Martin Luther King, Dr David King has communicated this news by letter to GCI through the legal counsel representing the publishers of his latest book on climate change, "*The Hot Topic*".

I am not surprised. The first thing that Michael Meacher MP did when he stepped down as Minister at DEFRA was to reveal that he had been gagged from openly supporting and advocating C&C. FOI enquiries also reveal that DEFRA have used the 'National Interest' arguments to suppress and redact reports of C&C advocacy by African Governments at UNFCCC meetings. However, King's stance will be welcomed by Colin Challen MP and other members of the All Party Group on Climate Change, and to member of the House of Commons Environmental Audit Committee that has taken more equivocal evidence from Dr King in the past.

While Newspaper Editors confess despair amongst climate professionals at Government avoidance, Government continues a campaign of equivocation and avoidance.

In response to a recent Parliamentary Question on C&C actually quoting the words of Gordon Brown PM used on his recent visit to India, from Colin Challen [Quote]: -

*"To ask the Secretary of State for Environment, Food and Rural Affairs what steps have been taken in pursuance of the statement of the UK/India summit on 21 January *that long-term convergence of per capita emission rates is an important and equitable principle that should be seriously considered in the context of international climate change negotiations*."* [Asterisked are Gordon Brown's own words].

Mr. Woolas: [from DEFRA Quote]

"Officials from the British high commission have had initial discussions with their counterparts in the Indian government with a view to developing collaborative work on the practical implications of this principle. In May 2007 we published research, 'Factors Underpinning Future Action', which includes an assessment of long-term convergence of per capita emission rates. This is available on DEFRA's website. We have also developed a model which uses existing work to explore the costs and financial flows associated with different methods of sharing out the global greenhouse gas mitigation effort, including convergence of per capita emissions. The UK described the model at a side-event at the United Nations climate change negotiations in Bali in December 2007. This is also published on the UNFCCC website. We hope to collaborate with other governments and institutions to improve the credibility and robustness of the results by exploring the implications of different data sets and other scenarios." This is avoidance. It is an internally inconsistent and frail reply. Where is sense of the need to come to order dictated by the urgency?

e.g. "Wigley in Nature

<http://www.nature.com/nature/journal/v452/n7187/full/452531a.html>

"IPCC has seriously underestimated the risks"

e.g. Hansen in the Guardian

www.guardian.co.uk/environment/2008/apr/07/climatechange.carbonemissions

"The target we have all been aiming for is a disaster - a guaranteed disaster."

THE RULES ARE: -

ONE - Success requires that we solve the problem of climate change faster than we create it [the battle of the rates]. TWO - This requires that we provide the accounting methodology for demonstrating rule one [meeting the battle of the rates].

These are a specific sequence of iron rules and cannot be avoided. Both these points were obvious at the outset twenty years ago. The reason that Dr King now openly supports C&C must be because it uniquely satisfies Rule One and Two.



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Aubrey Meyer
Global Commons Institute (GCI)
37 Ravenswood Road
London
E17 9LY

14th April 2008

Dear Mr. Meyer,

Re: The Stern Review published by Cambridge University Press

Thank you for your letter of 28th November 2007.

We are not entirely sure of the exact nature of your claim against Cambridge University Press, but from the wording of your letter we believe you are making threats of trade mark infringement proceedings against the Press as publisher of the Stern Report. Our response is drafted on this basis, but if this assumption is incorrect please let me know.

We have made some investigations into the claims that you have made, and we do not share your concerns for a number of reasons:

- 1) The expression "convergence and contraction" consists of ordinary English words and is used incidentally within the Stern Report purely in a descriptive sense. In this context it has no trade mark significance, and is allowable use under Article 12(b) of Council Regulation (EC) No. 40/94 on the Community Trade Mark (the "CTM Regulation").
- 2) The Stern Report does not use the expression "convergence and contraction" in "the course of trade" as required by Article 9(1)(b) of the CTM Regulation. It is descriptive use within the context of a general academic review, and cannot realistically be felt to be use in the course of trade.
- 3) We are not aware of any incidents of confusion arising as a result of use of the expression "convergence and contraction" within the Stern Report over the last 18 months, and as a result cannot see any realistic chance of a claim being successful under Article 9(1)(b) of the CTM Regulation.

As a responsible publisher we take seriously all complaints regarding breaches of our own, or another party's, intellectual property and we can appreciate that you feel the need

to protect your trade mark registration in this manner. However we cannot at this time see any merit to your claim, and we will resist any attempts by you to enforce your trade mark registration against the Press.

If you wish to expand upon your complaint and explain in greater detail the basis for your concerns then we will take your further comments into consideration, but for the time being we consider this matter closed.

Yours sincerely,

Melissa Macbeth
Intellectual Property Controller
mmacbeth@cambridge.org

Contraction and Convergence:

THE PROPORTIONATE RESPONSE TO CLIMATE CHANGE

© Deb Kusha/Still Pictures

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CARBON RATIONING



AUBREY MEYER
DIRECTOR,
GLOBAL COMMONS INSTITUTE

The United Nations Framework Convention on Climate Change (UNFCCC) was agreed in 1992 with the objective to halt the rising concentration of greenhouse gas (GHG) in the atmosphere. In 2007, efforts to this end remain insufficient and the danger of 'runaway' rates of global climate change taking hold is increasing. The science-based, global climate policy framework of Contraction and Convergence (C&C) offers an equitable solution to cutting carbon emissions in the hope that global collective efforts to reduce emissions can be successful. Three elements are at the core of the C&C campaign: the constitutional concept of Contraction and Convergence (C&C); the techniques and processes developed to focus the debate on rates of C&C that are relevant; the sustained effort to present C&C as the basis of the proportionate response to climate change.

THE BASIS OF C&C

Technically, the C&C model is a coherent and mathematically-stable framework. It holds the science-policy content together as a unity; science-based on the contraction side of the argument and rights-based or 'constitutional' on the 'political' side of the argument. C&C is in effect a bill of rights; it simply plots a full term event for achieving equal *per capita* emissions rights globally (Convergence) but governed by the overall emissions limit over time that stabilises the atmosphere concentration of GHG at a 'safe' value (Contraction).

“ It becomes possible to go beyond the merely aspirational character of the current debate around the UNFCCC, to communicating the rationale and constitutional calculus of C&C. ”

The UNFCCC makes C&C generically true, but C&C specifically embraces a calculus built on this truth that strategically focuses the negotiations at the Climate Convention on two necessarily finite, global assumptions:

- ▶ A trajectory to a safe and stable atmospheric GHG concentration limit, allowing for a range of calculations of the global emissions contraction limit to carbon consumption consistent with that.
- ▶ The calculation of equal rights to the global total of emissions permits to the global total of people consuming within that limit, again allowing for different rates of convergence and even a population base-year to be considered. This is in preference to the irresolvable complexity of assuming any inequality of rights.

With this calculus, C&C captures the goal focus of the UNFCCC process in a structure of reconciliation. It is a universal first order numeraire. From this it

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becomes possible to go beyond the merely aspirational character of the current debate around the UNFCCC, to communicating the rationale and constitutional calculus of C&C.

THE LONG TERM PAST

Figure 1 shows data from ice cores for half a million years before industrialisation. Throughout this period, with natural sinks for CO₂, such as the oceans and the forests in balance with the natural sources, the level of atmospheric CO₂ concentration varied between 180 and 280 parts per million by volume (ppmv) averaging at 230 ppmv.

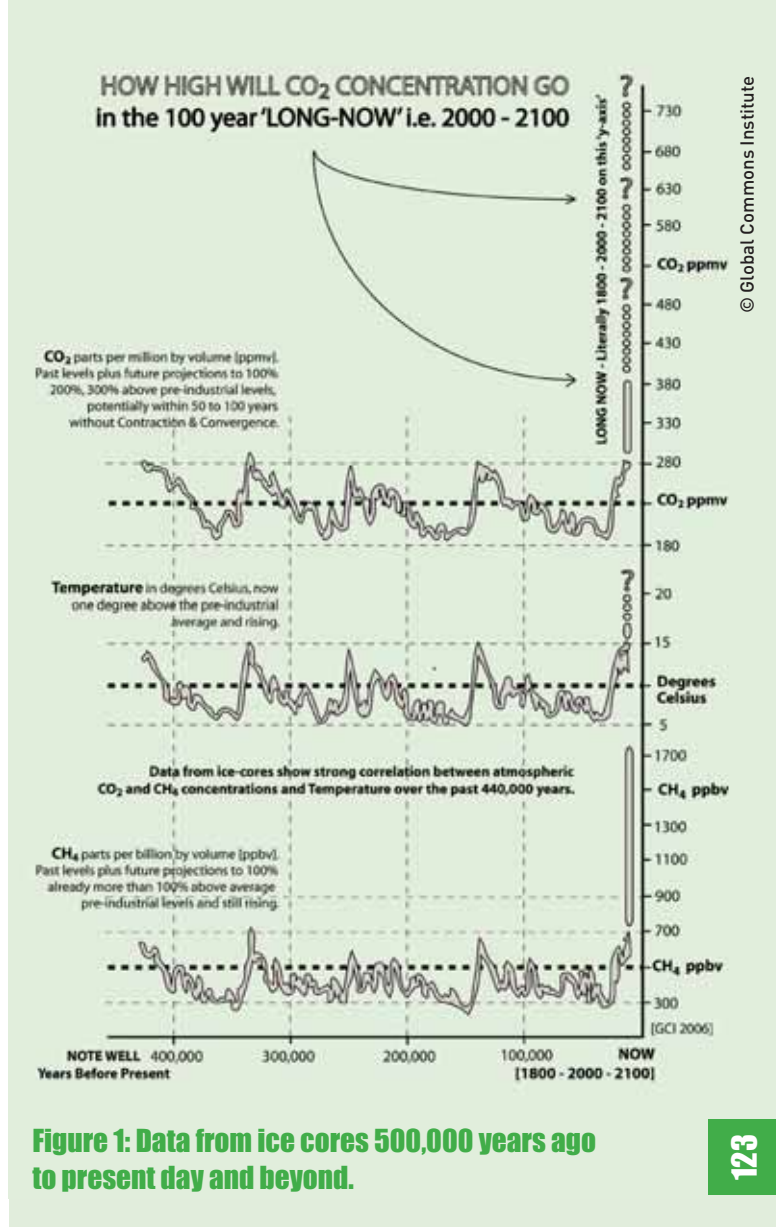
Since 1800 with the onset of industrialisation and fossil fuel burning, human emissions have caused the concentration of CO₂ to increase by over 40 per cent to 380 ppmv. The rise in ppmv CO₂ is higher and faster than anywhere in the historical record. This rise is because CO₂ emissions from human sources, particularly CO₂ from fossil fuel burning, are going to the atmosphere and accumulating. Furthermore, for the past 200 years, on average 50 per cent of any year's human emissions has remained in the atmosphere while the remaining 50 per cent has returned to the natural sinks.

⌋⌋ Instead of 100 years, we now realise that to reduce human CO₂ emissions and other GHGs in the atmosphere to zero globally, we have only the next 50 years. ⌋⌋

A slowly increasing fraction of these emissions in the atmosphere remain there, accelerating the rise in concentrations even more. Column one in Figure 2 (see overleaf) demonstrates that the average retention over the past decade has increased from 50 per cent to 60 per cent. This recognises that the capacity of the natural sinks for CO₂ capture is now gradually declining. If this continues unchecked as the graphics suggest, the rise in the concentration of atmosphere GHG will accelerate towards the level at which dangerous rates of rise translate to a climate change crisis that becomes unavoidable. To be UNFCCC-compliant, we need to enact C&C now to prevent the chaos that is otherwise inevitable.

THE SHORT TERM PAST AND FULL TERM FUTURE LIMITS

The UNFCCC objective is to avoid dangerous rates of climate change by stabilising concentrations and we are all both circumstantially and legally bound by this. Compliance is governed by the need for a finite answer to the questions: 'what is a safe GHG concentration value for the atmosphere?' and 'what is the scale of the full term emissions contraction event required to achieve it'?



Without answers, traditional evaluation of the economics of abatement and the social consequences is not possible. Because of weakening sinks, analysis now shows that to stabilise GHG concentration in the atmosphere below the level that prevents dangerous rates of climate change taking hold, requires a rate of overall emissions control that is faster than was previously assessed. Instead of 100 years, we now realise that to reduce human CO₂ emissions and other GHGs in the atmosphere to zero globally, we have only the next 50 years [IPCC AR4 and Hadley Centre, 2007].

As activities under the Kyoto Protocol show, unless we are visibly organising globally by a shared commitment not to exceed that safe concentration number, the probability increases that our collective efforts to avoid dangerous rates of climate change will be too little too late.

Already under Kyoto, the slight gain of CO₂ emissions avoided has been more than negated by more carbon accumulating in the atmosphere at an accelerating rate as the result of changes in the climate system as a whole. Consequently, a global arrangement for emissions control in future that is sufficient in the light of this is *sine qua non* for success. As the original authors of the UNFCCC understood at the outset, embracing this primary question of the sufficient, and indeed the proportionate response, is fundamental to the whole global engagement.

United Nations Framework Convention on climate change
OBJECTIVE
Contraction & Concentrations

PRINCIPLES Precaution & Equity
Contraction & Convergence

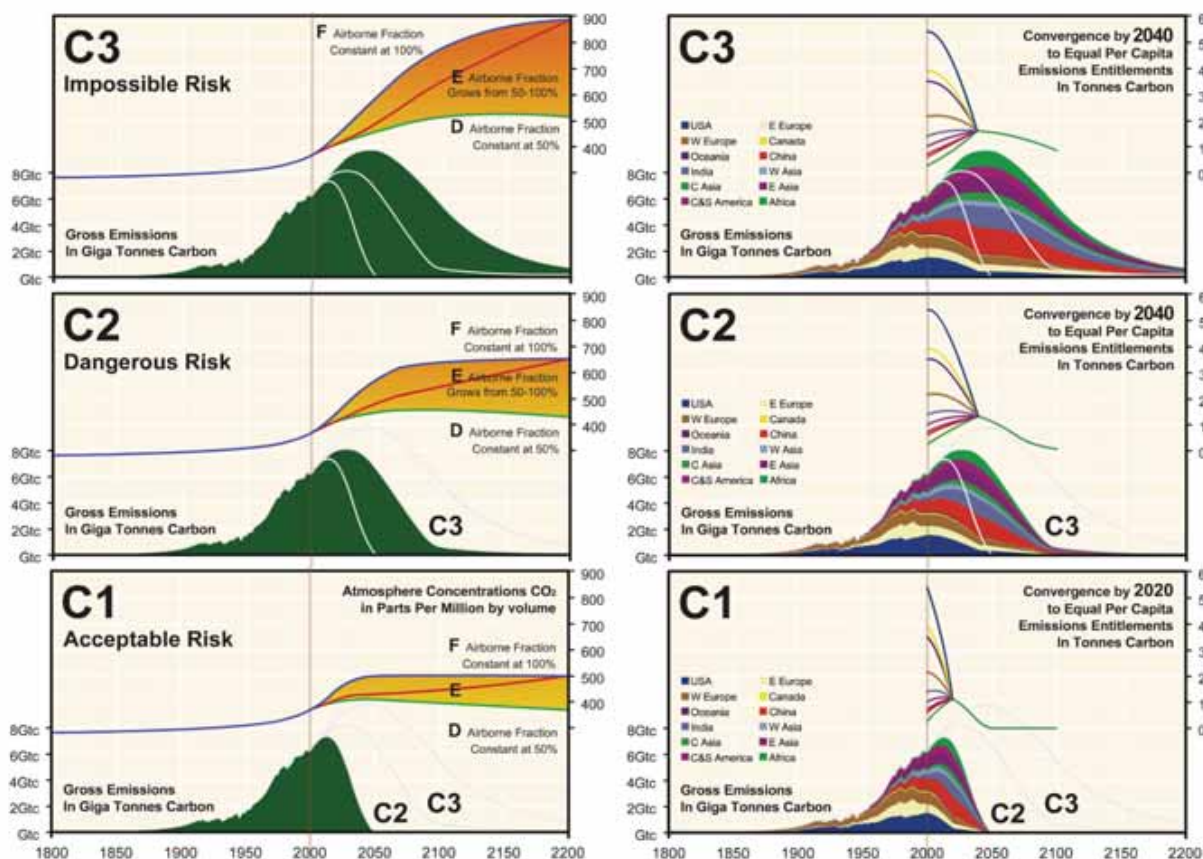


Figure 2: Charting the UNFCCC Objective & Principles, the Development Benefits of Growth versus the growth of Climate Change Related Damage Costs. (http://www.gci.org.uk/images/Proportionate_Response.pdf)

Columns one and two address the objective and principles of the UNFCCC. Columns three and four compare the development benefit of growth with the growth of climate damage and costs. The left hand side of each graph shows:

- ▶ Expanding fossil fuel emissions of CO₂, measured in billions of tonnes of carbon between 1800 – 2000.
- ▶ Rising concentration of atmospheric CO₂ as parts per million by volume (ppmv) between 1800 – 2000.

The key questions for integration are in four columns:

Column 1: Contraction and Concentration: what is a safe level of concentrations and, in the light of sink failure, how rapid must contraction be to avoid GHG concentration going too high in future?

Column 2: Contraction and Convergence: what is the internationally equitable agreement necessary to ensure this level is not exceeded?

Column 3: Contraction and conversion: what is the rate at which we must convert the economy away from fossil fuel dependency?

Column 4: Damage costs and insecurity: what is the environmental and economic damages trend associated with this analysis?

Each Row has a different level of Risk projected across the four columns:

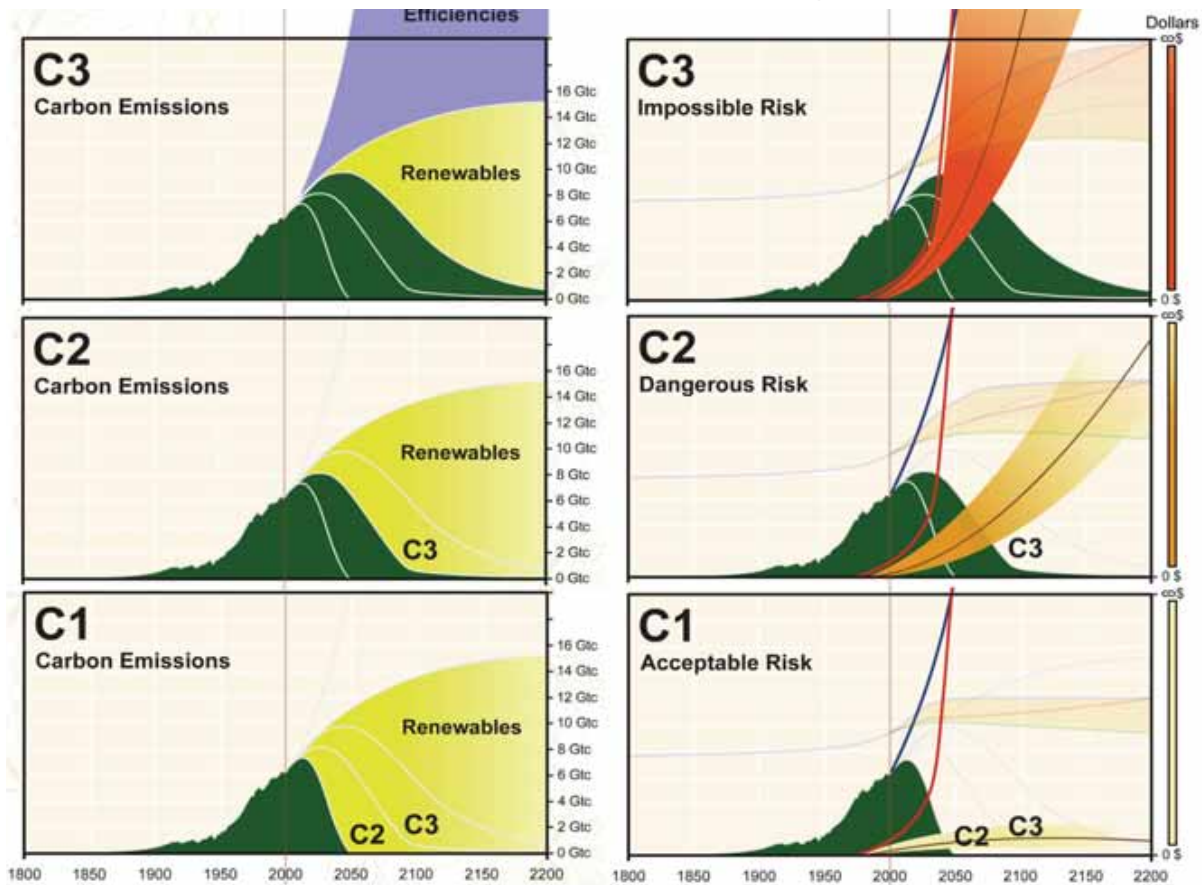
- ▶ **C1 (bottom row) Acceptable risk:** global GHG emissions contraction complete by 2050 so concentrations end up around 400/450 ppmv with damages potentially still under control.
- ▶ **C2 (middle row) Dangerous risk:** global GHG emissions contraction complete by 2100 so concentrations keep going up through 550/750 ppmv with the illusion of progress maintained, while damages are going out of control.
- ▶ **C3 (top row) Impossible risk:** global GHG emissions contraction complete by 2200 so concentrations keep going up through 550/950 ppmv while the illusion of progress is being destroyed, damages costs are destroying the benefits of growth very quickly and all efforts at mitigating emissions become futile.

In each graph, different futures are projected on the right-hand side as scenarios or rates of change that are linked to the objective of the UNFCCC where three levels of risk for stabilising the rising concentration of CO₂ are understood in the light of the rising fraction of emissions that stays airborne.

Global damage costs/development benefits of climate change

DANGEROUS CLIMATE CHANGE
Contraction & Conversion

UN/SUSTAINABLE DEVELOPMENT
Damage Costs & Insecurity



DAMAGES

We are still locked into causing global climate change much faster than we are mitigating it. Treating climate change as a global emergency is now long overdue and responding proportionately is vital. Unless the risk analysis is focused by this understanding, our best efforts will be in vain.

According to the reinsurers, the weather-related damages trend is growing at twice the rate of the global economy, see Figure 2, column four. To prevent this damage trend from running out of control, emissions need to contract to zero globally by 2050 if it is to be fast enough to stabilise atmosphere GHG concentrations at a level that prevents change accelerating uncontrollably. This is corroborated by the latest coupled climate modelling results from the UK Government's Hadley Centre, published in the IPCC Fourth Assessment. While the notion of global emissions control is certainly heroic, the only vector of the problem over which we can still posit direct control, is our GHG emissions and thereby the level to which GHG concentrations will rise in the future.

With this integrated approach we can more clearly visualise the challenge within a finite calculus of collective responsibility, and so keep focused on the imperative of solving the problem faster than we are creating it. Communicating and implementing this remains the primary challenge.

A FRAMEWORK-BASED MARKET

With the C&C operational framework, we can compare how much must be achieved globally to avoid dangerous climate change, with the widening margins of error in which we are becoming trapped.

“ Treating climate change as a global emergency is now long overdue and responding proportionately is vital. ”

There are more complicated 'alternatives to' and 'derivatives from' C&C. While defending the evolutionary nature of the politics, these have also attempted to be non-chaotic. They include for example the Kyoto Protocol, which seeks to interpose a partial and random market-based framework in support of the Convention. But such an evolutionary response to its objective and principles is guesswork by definition, and there is no evidence



Credit: NASA/Jeff Schmaltz, MODIS Land Rapid Response Team

Satellite image of Hurricane Katrina, which has cost the south-eastern US billions of dollars. Damages from extreme weather events are increasing with climate change.

- ▶ The social equity as the equal per person claim on the same 100 per cent throughout that event but softened by convergence.
- ▶ The commercial equity is the shares pre-distributed this way sum to the same 100 per cent and are tradable so as to accelerate the positive sum game for the emissions-free economy that must emerge if we are to prosper in the future.

In a nutshell, this integration puts rational principle ahead of stochastic practice in order that the former guides the latter. In practice this arrangement is flexible and will create a lucrative framework-based market for the zero emissions industries within a future structure that corrects and compensates for the asymmetric consumption patterns of the past while saving us all from dangerous rates of climate change.

In this context C&C overcomes the stand-off where a one sided agreement is not an agreement and where half an argument is not, nor will ever become, a whole solution. It recognises that separate development is not sustainable development.

In September 2007, the German Government recognised this when mediating between supporters and opponents of the Kyoto Protocol with C&C as the basis of the post-Kyoto agreement. Their urgent call for a whole and proportionate solution should be supported vigorously.

supporting claims that merely incremental activity at the margins will collectively generate a sufficient response fast enough to be effective. Until recently, the unguided inertia of evolutionary process under the Kyoto Protocol has been projected as *ne plus ultra*.

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CARBON RATIONING

“ C&C overcomes the stand-off where a one sided agreement is not an agreement and where half an argument is not, nor will ever become, a whole solution. It recognises that separate development is not sustainable development. ”

The fact is that this is a lottery where everybody loses. This approach has obscured the global objective of safe and stable concentrations and the obviously urgent need for a trajectory to this objective by design.

C&C starts with an integral response to the Convention's objective and allowing a full term framework-based market to result, where:

- ▶ Equity as collateral is the 100 per cent entirety of the emissions contraction event necessary for concentration stability.

Author

Aubrey Meyer is the Director of the Global Commons Institute [GCI] responsible for the formulation of Contraction and Convergence [C&C] framework. For his work he has won several prestigious awards including the Andrew Lees Memorial Award, 1998, the Schumacher Award in 2000, the Findhorn Fellowship in 2004, a City of London Lifetime's Achievement award in 2005 and was made an Honorary Fellow of the Royal Institute of British Architects in 2007. In a recent edition of the *New Statesman*, he was listed as one of the 10 people in the world most likely to affect climate change.

Organisation

The Global Commons Institute [GCI] is an independent body based in the UK, concerned with the protection of the global commons. GCI was founded after the UN's Second World Climate Conference in 1990 and since then has contributed to the work of the United Nations Framework Convention of Climate Change and the Intergovernmental Panel on Climate Change.

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Website: www.gci.org.uk

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C&C now advocated by Nicholas Stern.

In his much vaunted report of 2006, he [or more probably his ghost-writers in Whitehall] singled C&C out for ridicule. Since then he has raised the game. Only a few weeks back he railed against C&C as a '*spectacularly weak form of equity*'. But now, in a paper delivered over the weekend to Heads of Government', he describes it as '*an international agreement based on a pragmatic principle of equity.*'

A progressive global deal on climate change

A paper by Nicholas Stern (LSE) and Laurence Tubiana (Iddri/SciencesPo)

<http://documents.scribd.com/docs/mo91frl3sskk5a2q7i9.pdf>

Executive Summary

*Climate change represents the greatest market failure the world has seen. For the first time in history every country and every region faces a common threat that has no solution without broad collective action. **An international agreement is essential. It must be based on the criteria of effectiveness, efficiency and equity. Effectiveness demands a long-term global goal capping global emissions and providing a long-term trajectory for investment in low carbon technologies. This should be at least a halving of global emissions by 2050. A pragmatic principle of equity would require an equalisation of per capita emissions by then.***

International Herald Tribune on C&C & UK Gov Apr 09, 2008

A way for the world to save face on climate change?

Posted by James Kanter

International Herald Tribune 09 04 2008

<http://blogs.ihrt.com/tribtalk/business/green/?p=151>

"Talks on reaching a global climate change deal resume next week under the aegis of the United States as leaders from around the world gather in Paris for the third so-called Major Economies Meeting. Large emerging economies like China still argue that no restrictions should be placed on their emissions to give them room to grow; meanwhile developed nations like the United States say that's not fair because any deal that is not truly global would be ineffective in addressing climate change and would harm the American economy. In other words — don't expect any sudden breakthroughs in the talks.

Yet there are signs that medium-sized polluting nations including Britain and Germany are beginning to favour one possible solution to this impasse that would allow the rich world to cut back on its pollution gently, and allow the developing world to increase polluting until it reaches improved levels of prosperity.

In Britain this idea is known as Contraction & Convergence, so-called because the process would aim to equalize the levels of emissions — measured on a per capita basis — between rich and poor nations. The British government may not have explicitly endorsed the idea but it has posted an academic paper advocating "an equalization of per capita emissions" by 2050 on the website of Prime Minister Gordon Brown.

Aubrey Meyer, the pony-tailed former concert viola player who developed much of the thinking behind C&C, said that one of the keys to making such a system work is the maturing trade in emissions credits. "The exchange of money in this guided market will be substantial," he told me today in an email exchange. But such a system would help to stop climate change and poverty, so that "everybody saves face and everybody wins," Meyer said."

C&C - India Africa Summit [Delhi] Apr 09, 2008

INDIA-AFRICA FORUM SUMMIT 2008 DELHI DECLARATION New Delhi, 8-9 April 2008

"We recognize that climate change is a global challenge but one that will be particularly severe for developing countries given their vulnerabilities, inadequate means and limited capacities to adapt to its effects. Full statement at: -

<http://mea.gov.in/indafrica2008/09dc01.htm>

GCI confronts UK Climate Bill as Too Little Too Late

For the first time ever in the twenty year history of the Intergovernmental Panel on Climate Change [IPCC], this year's Fourth Assessment Reports [AR4] includes 'coupled' modelling for emissions control scenarios alongside the uncoupled modelling that has been shown since 1994.

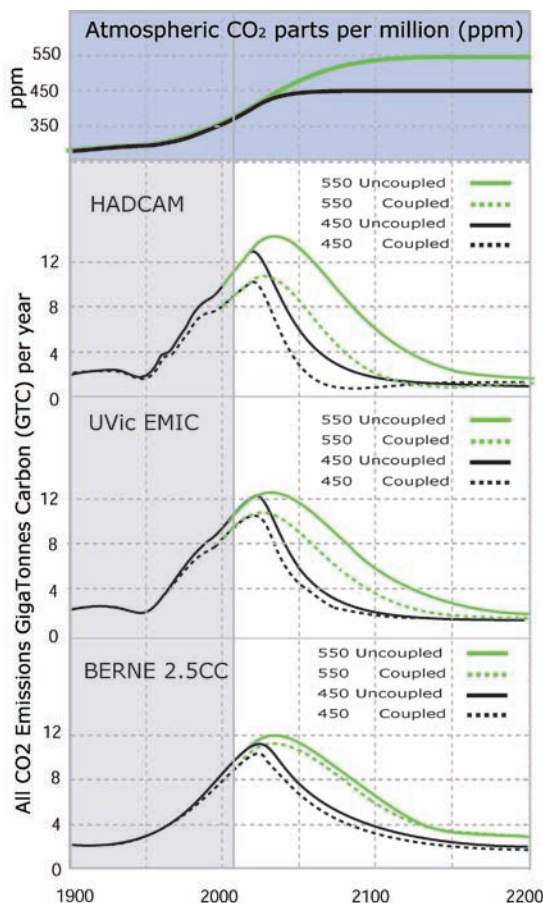
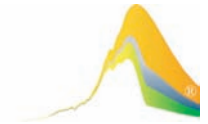
This new evidence puts the UK Government's climate bill and its emissions control figure in a new light. While the new evidence points to the need for zero emissions globally by 2050, the Government claims to lead the world with a statute that will require the UK to reduce its emissions by only 60% by 2050.

Coupled-modelling means the effects of some of the positive feedbacks from vegetation are now included in mathematically modelled assessments of how much and how quickly all human emissions need to be reduced to avoid 'runaway' rates of climate change. This evidence shows that sharper rates of emissions reductions are needed for any given atmosphere ghg concentration.

This new evidence in the IPCC AR4 originates with the Government's own source of scientific expertise at the UK Hadley Centre. It was first published at the UK Government's Hadley conference in 2005 - "Avoiding Dangerous Climate Change". That the IPCC now repeats this in the AR4 conveys the hard truth that near zero net emissions globally by 2050 are required to keep below 450 ppmv atmospheric CO₂ concentration which is in turn the most frequently cited maximum within which it may be possible to arrest the rise in global temperature to no more than one further degree rise.

This corroborates and corresponds with the risk-analysis carried out by the Global Commons Institute for the UK All-Party Parliamentary Group on Climate Change [APPGCC]. APPGCC published it this year in DVD format for all UK MPs with the endorsement of industry experts and 50,000 copies have been distributed worldwide since then.

Atmospheric CO₂ concentration is presently 384 ppm and now well over 100 ppm above the pre-industrial value of 280 ppm. The rate of rise now averages between 1.5 to 2.5 ppm each year and is accelerating in response both to the increase in human emissions and the relative decline in global sink capacity. This acceleration is what the coupled models bring out. On present trends we could exceed the 450 ppm 'ceiling' within 20 years and with it what many now regard as the upper ppm limit for keeping under the maximum global temperature increase of 2 degrees above pre-industrial beyond which lies runaway. The only way to avoid this is deeper emissions cuts globally.



What is shown in this diagram are coupled and uncoupled model runs from the Hadley Centre's model [and two older models] for 450 ppmv and the so-called CO₂ doubling of 550 ppmv. The Hadley coupled model for 450 ppmv shows clearly the need to reduce emissions globally to nearly net-zero by 2050. The unrealistically high values [1000 and 750 ppmv] are omitted here but were retained in the IPCC diagrams. They are omitted here as they not relevant to keeping at or below the maximum global temperature threshold of not more than 2 degrees above pre-industrial.

The presentation of this evidence is disturbingly buried deeply in the AR4 and also presented in a dense manner making access and interpretation difficult. However, the Hadley Centre's crucial work on this was laid out fair and square and published at the Government's Conference in 2005.

Apparently blind to this, the climate bill was drafted this year [2007] with no reference to this at all. It is simply centred on the CO₂ emissions control figure of minus 60% for the UK by 2050 that is inherited from work originally done in the IPCC in 1994. In other words it is seriously out of date and inadequate. It has no indication of the global CO₂ concentration level it is working under or consequently any methodology for the sharing what are tradable global emission rights. The figure in the bill obviously doesn't correspond with Hadley Centre or the 2 degrees ceiling to which Government claim with the European Community to be committed.

It is even more misleading where the climate bill states that the 60% contro figure came from the Stern Review of 2006. In that report it is clear that the figure came from the Government's White Paper of 2003, where in turn it is recorded that the figure came from the Royal Commission on Environmental Pollution Report [RCEP 2000]. But even this is not a whole truth: the RCEP report clearly shows however that the 60% figure came from an 'uncoupled' 550 ppm scenario from the IPCC of 1994.

But what especially this trail doesn't reveal is what is in the RCEP 2000. At the request of the RCEP this 550 ppm scenario was expressed as a 'Contraction and Convergence' (C&C) scenario with a global convergence date by 2050 done for them by GCI. The result of this rationale was that the UK share was -60% by

2050. The RCEP and many others since then have forcefully advocated C&C as a whole, as this provided a rational science-based method whereby the UK could credibly engage its international partners in the global framework solution linked to the ppm limit needed to avoid runaway climate change. However, the UK the government cherry-picked the UK number alone from the RCEP, and then into the White Paper, then Stern and then finally into the bill. This went from the frying pan into the fire as this isolates it from the C&C methodology but also the past and the revised Hadley modelling now in the IPCC.

The RCEP acknowledged in their 2000 report that GCI had advised a maximum of 450 ppm when the scenarios were submitted to RCEP in 2000. Since then a great number of institutions have called for C&C based negotiations on 450 ppm. The Greater London Authority has just called for contraction to meet a maximum of 450 ppmv with global convergence to equal per person sharing by 2030. Similarly Al Gore's, the Government's new climate guru, now calls for halving global emissions within thirty years while developed countries cut by 90%. It's time for the government to do this or even better.

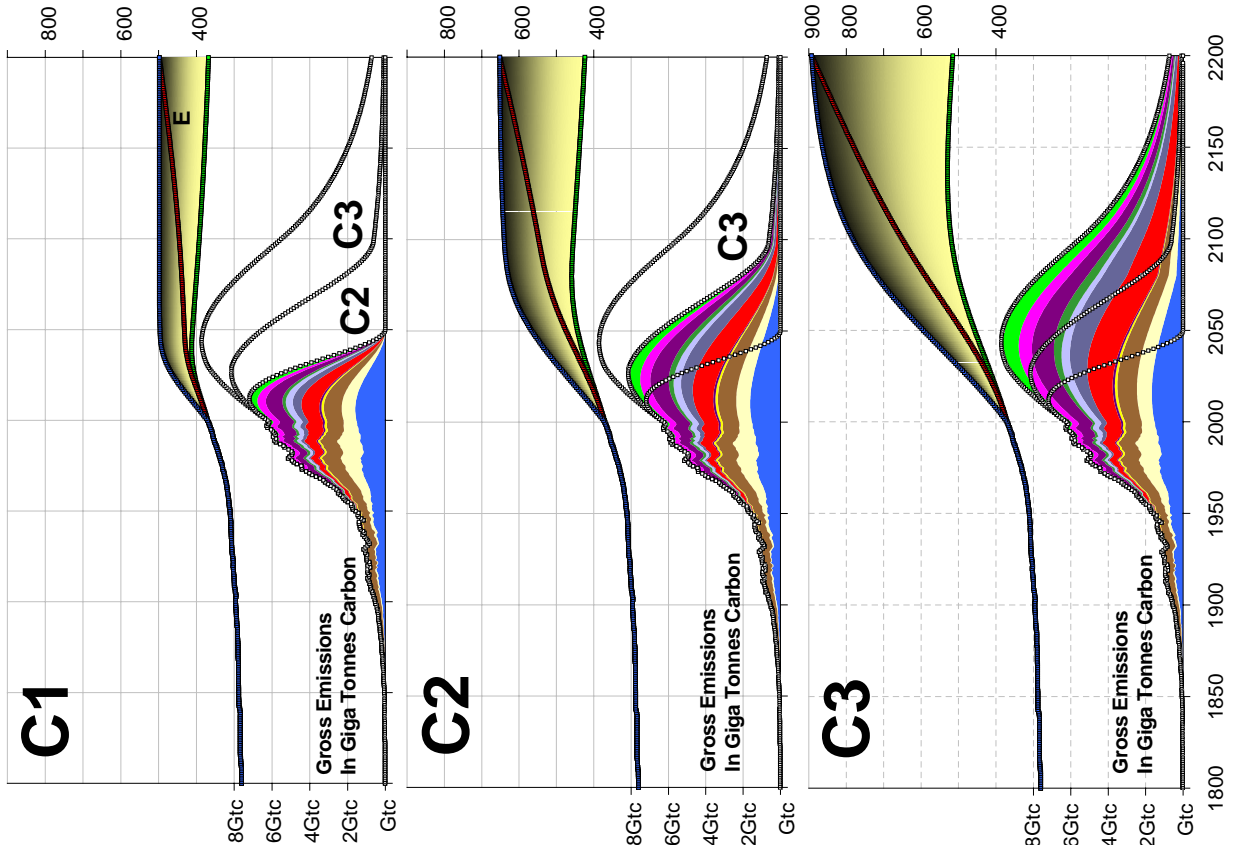
RISK LEVEL Contraction & Concentrations

C1 Acceptable

C2 Dangerous

C3 Impossible

Contraction & Concentrations



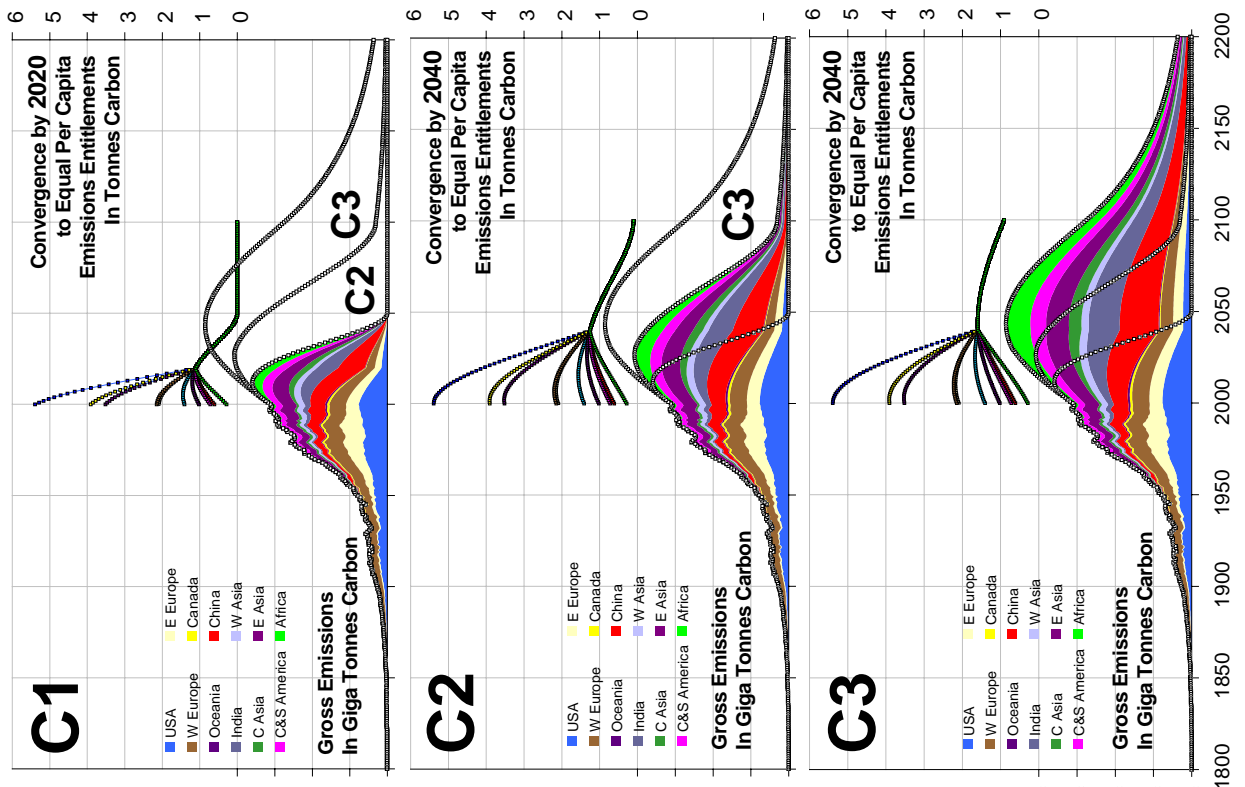
Contraction & Accelerated Convergence

RISK LEVEL Contraction & Accelerated Convergence

C1 [2020]

C2 [2040]

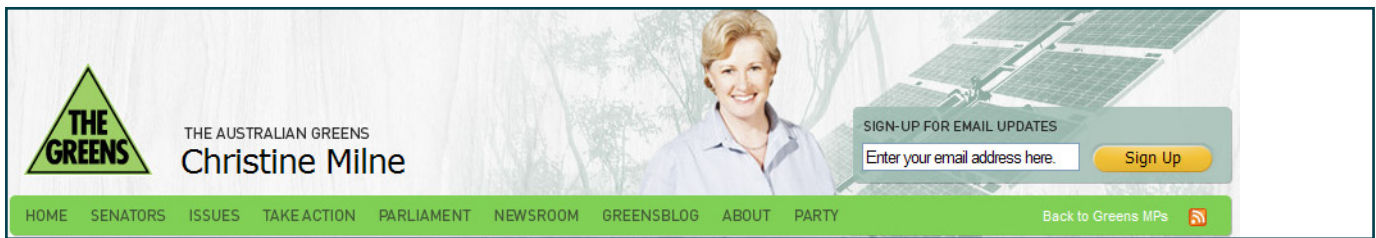
C3 [2040]



CUP Respond on C&C attribution in Stern Review Apr 14, 2008

<http://www.gci.org.uk/correspondence/CUP.pdf>

C&C in debate in Senate-Australia Apr 11, 2008



Wednesday, 19 March 2008 SENATE 17 CHAMBER

Senator MILNE (Tasmania) (11.10 am)

<http://www.aph.gov.au/HANSARD/senate/dailys/ds190308.pdf>

"People who are thinking about climate change all the time are now reaching the position that we should be moving to contraction and convergence, whereby we contract our emissions so that developing countries have some leeway to develop—albeit by decoupling economic growth from energy use."

"I thank the senator for the opportunity to respond to that question. I was perhaps premature in suggesting that he had changed his position in relation to climate change. I had regarded him as a sceptic until today and I was about to change my position, but I now see that the sceptic has returned. The first point to make is that Australia is impacted by climate change probably more than a lot of other places in the world. We are a desert country and, if you go anywhere in rural Australia, people will tell you immediately how we are already being impacted by climate change. If the implication is that Australia should carry on with business as usual with our emissions but expect the rest of the world to reduce theirs so that there is a reduced impact on Australia, that is a 'Pull up the ladder, Jack; we're all right' kind of process.

Australia has agreed that there is a moral obligation for every country in the world to reduce its greenhouse gas emissions. We have ratified the United Nations Framework Convention on Climate Change and we have now also ratified the Kyoto protocol and made a commitment to reducing our emissions and to joining the rest of the world as part of a global commitment to reducing climate change because we understand that the impacts of climate change do not stop at national borders and that we are impacted the same as everybody else and have an obligation the same as everybody else to reduce our emissions. Per capita, we are one of the worst, most selfish people in the world when it comes to greenhouse gas emissions. We have a huge obligation to reduce our own emissions.

People who are thinking about climate change all the time are now reaching the position that we should be moving to contraction and convergence, whereby we contract our emissions so that developing countries have some leeway to develop—albeit by decoupling economic growth from energy use. That is our main challenge and that is the way in which Australia could not only do it but assist other countries to do it. I am certainly a supporter of contraction and convergence and of deep cuts, and I certainly understand the impact of climate change on Australia. To suggest that, because Australia's emissions are a small percentage of total global emissions, we should therefore not worry about it so much and should not look at our transport emissions is an unethical and immoral position."

Business Media get with call for C&C Apr 11, 2008

Contraction and Convergence calls for corporate support - C&C needs you

James Murray, BusinessGreen, 11 Apr 2008

www.businessgreen.com/business-green/news/2214112/contraction-convergence-calls

The Global Commons Institute, the group campaigning for the adoption of the Contraction and Convergence methodology for curbing global carbon emissions, will next month launch a logo-based accreditation scheme that will allow firms to signal their support for the concept.

Developed in the early 1990s, C&C has been widely praised as potentially one of the most effective and equitable means of cutting carbon emissions. The methodology proposes setting a global carbon budget based on the concentration of greenhouse gases in the atmosphere that scientists deem safe and a date by which we have to reach that level.

That budget includes a figure for the amount the world can safely emit to achieve that stabilisation goal and that figure is divided by the expected population in the target year to get a per capita emission entitlement. Each country can then work out its national allocation based on the size of its population. Countries would then be able to trade carbon credits based on their allocations as each country's emissions converge towards a common per person target.

The proposal has secured widespread support from a number of political groups, including the African Group of Nations and the Indian government, and now the GCI is seeking corporate support for the idea as it seeks to get the model adopted as part of the post-Kyoto agreement currently being negotiated by the UN.

Under its new Carbon Countdown initiative, firms will be able to sign a declaration of support for C&C and in return will be licensed to exhibit the C&C logo as an endorsement of their position and a means of encouraging members of the international community similarly support the model.

Speaking to BusinessGreen.com, Aubrey Meyer, the founder of the GCI and the man behind C&C, said the logo would provide firms with a means of demonstrating that they are serious about tackling climate change. *"CSR can be seen as a bit of a toothless lion,"* he said. *"But this is a way for the commercial sector to demonstrate a commitment to collective corporate responsibility and indicate that they realise we can't go on picking [carbon reduction target] numbers out of a hat and need a serious science-based approach [to cutting emissions]."* He added that the scheme had already secured support from the Eden Project, the Findhorn ecovillage development, the All Party Group on Climate Change and the Royal Institute of British Architects. He also revealed that the GCI was currently in talks with a number of "big institutions" in the building and brokerage industries.

The accreditation scheme comes as signs are beginning to emerge that C&C is being taken increasingly seriously by the UK government as a means of managing emission reductions. Whitehall has been hostile to the idea in the past with figures such as the author of the Stern report, Sir Nicholas Stern, dismissing the idea, but according to Meyer there are signs its position is shifting. While the government is still not publicly endorsing, a recent paper by Stern outlined plans for "an equalisation of per capita emissions" by 2050 that Meyer insists represents C&C in all but name.

"We are beginning to see a significantly increased focus on the idea from policymakers," he said.

http://www.gci.org.uk/kite/Carbon_Countdown.pdf

UNDP Boss advocates C&C to Head of Governments Apr 15, 2008

Kemal Dervis - Chief Administrator, UNDP

Advocates Contraction and Convergence on Climate Change

At "Progressive Governance" Conference

Hosted By Gordon Brown

For Heads of Government 5th April 2008

<http://progov.pm.gov.uk/discuss/climate-change/>

<http://documents.scribd.com/docs/mo91frl3sskk5a2q7i9.pdf>

" . . . there is an emerging proposal here which I think is important and helpful, and that is a broad long-term commitment to equal per capita emissions. It's a tough proposal and I think one needs to discuss it, but I do believe that if we take it as part of the progressive agenda to move to that in the second part of the twenty first century, it will be helpful in bringing the world together particularly also as it brings the developing countries as part of this effort with an ethical and political commitment, not immediate, but towards convergence in terms of per capita emissions." This formulation is a follow-on to the surprise and welcome turn-around in favour of C&C by Nicholas Stern and Laurence Tubiana, whose paper commissioned for the conference stated: - *"An international agreement is essential. It must be based on the criteria of effectiveness, efficiency and equity. Effectiveness demands a long-term global goal capping global emissions and providing a long-term trajectory for investment in low carbon technologies. This should be at least a halving of global emissions by 2050."*

In his presentation to this conference, Nicholas Stern and Ms Tubiana then state: -

"A pragmatic principle of equity would require an equalisation of per capita emissions by then." This is a complete turn-around for Stern from two years ago. He goes on : -

"This will require developed countries to cut by around 80%. But it will still also require significant reductions over business as usual trajectories from emerging economies to allow space for the least developed to grow. Developing country commitments could include energy intensity or sectoral targets, and will need to be graduated according to the stage of economic development." It is a turn-around because in his world-promoted report of 2006 Nicholas Stern [or was it the invisible hands in Whitehall] dismissed C&C as 'an assertion not an argument' as follows: -

"The notions of the right to climate protection or climate security of future generations and of shared responsibilities in a common world can be combined to assert that, collectively, we have the right only to emit some very small amount of GHGs, equal for all, and that no-one has the right to emit beyond that level without incurring the duty to compensate. We are therefore obliged to pay for the right to emit above that common level. This can be seen as one argument in favour of the 'contract and converge' proposition, whereby 'large emitters' should contract emissions and all individuals in the world should either converge to a common (low) level or pay for the excess (and those below that level could sell rights).

There are problems with this approach, however. One is that this right, whilst it might seem natural to some, is essentially asserted. It is not clear why a common humanity in a shared world automatically implies that there are equal rights to emit GHGs (however low). Equality of rights, for example to basic education and health, or to common treatment in voting, can be related to notions of capabilities, empowerment, or the ability to participate in a society. Further, they have very powerful consequences in terms of law, policy and structures of society. How does the 'right to emit' stand in relation to these rights? Rights are of great importance in ethics but they should be argued rather than merely asserted."

The UNDP have written to GCI apologizing for the 'inadvertent' failure to acknowledge GCI as the source of the Contraction and Convergence (C&C) argument the presented in the UNDP Climate Change and Human Solidarity Report: -

http://hdr.undp.org/en/media/hdr_20072008_en_complete.pdf

with a commitment to correct this forthwith.

http://www.gci.org.uk/correspondence/Watkins_UNDP_Apology.pdf

This is still rather frail as the actual UNDP Report, on the one hand called their approach Contraction and Convergence (C&C)[without source reference to GCI], while on the other it actually quoted Stern's 2006 arguments rejecting C&C [which Stern has now reversed in favour of 'pragmatism' and which Kemal Dervis has now acknowledged as *"the emerging consensus"*] as follows: - *"We acknowledge that many other emissions' pathways are possible. One school of thought argues that every person in the world ought to enjoy an equivalent right to emit greenhouse gases, with countries that exceed their quota compensating those that underutilize their entitlement. Although proposals in this framework are often couched in terms of rights and equity, it is not clear that they have a rights-based foundation: the presumed 'right to emit' is clearly something different than the right to vote, the right to receive an education or the right to enjoy basic civil liberties. At a practical level, attempts to negotiate a 'pollution rights' approach is unlikely to gain broad support. Our pathway is rooted in a commitment to achieve a practical goal: namely, the avoidance of dangerous climate change. **The route taken requires a process of overall contraction in greenhouse gas flows and convergence in per capita emissions."***

Stern and the UNDP have yet to acknowledge the turn-around to C&C in the name of 'pragmatism' and 'consensus'. At the same time, while Dr David King has written to attest C&C as *"the approach with the most merits"*, he has also now acknowledge GCI's provenance with C&C [which his book failed to do] with his publishers arguing that he was too busy to read the correspondence that he exchanged with GCI when he was government chief scientist.

Here is a response from GCI welcoming his views but asking if that was the case, was he also too busy to read key government documentation and commitments regarding the origin, methodology and application of the C&C argument: -

http://www.gci.org.uk/correspondence/king_red_file_size.pdf

The position of Potsdam and Schelnhuber in all of this is pretty limp as well. They provided the hand-drawn 'C&C imagery' for the UNDP report, and probably don't even realize they have now been countermanded by Stern and Kemal Dervis.

The point isn't that the odds are difficult playing David to Goliath.

The point is that none of the people in these institutions have taken on board that the rates of C&C needed to keep within their 2 degree/450 ppmv upper temperature/concentration limit are consistent with what the *IPCC-AR4 reported* coupled climate models are saying, which is you need to complete C&C in half the time you have arranged for yourselves . . . done for and then ignored by DEFRA.

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

"C&C or stuffed" - Australia's Crikey.com Apr 16, 2008

"If the global response to climate change is not fair, it won't happen. If it doesn't happen, we're all stuffed. And for it to be fair, those of us who live in countries pumping more than our share of greenhouse gases into the atmosphere are going to have to accept the principle of "contraction and convergence" -- i.e. equal per capita emissions, which means that a 60% cut in emissions by 2050 translates to a 90% cut for Australia.

This will require more significant changes than have been promised to date. It means economic reform of the scale seen in the 1980s or greater -- designing markets, taxation, and regulation to make it cheaper to do business sustainably than unsustainably."

Miriam Lyons, Director of the Centre for Policy Development, takes a look at remaking Australian culture, for want of a smaller topic: -

<http://www.crikey.com.au/Politics/20071130-Remaking-Australia-part-four-Miriam-Lyons.html?CurrentDate=15%20/%2004%20/%202008>



World Bank on C&C Apr 16, 2008

"Contraction and Convergence is a science-based global framework whereby total global emissions are reduced (i.e., contraction) to meet a specific agreed target, and the per capita emissions of industrialized and the developing countries converge over a suitably long time period, with the rate and magnitude of contraction and convergence being determined through the UNFCCC negotiating process. It applies principles of precaution and equity; principles identified as important in the UNFCCC but not defined."

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/0,,contentMDK:20357008~menuPK:242151~pagePK:64020865~piPK:149114~theSitePK:244381,00.html>

Climate Change, Environment and Development

C. Equitable Responsibilities - *If the focus of negotiations is shifted from national emission allowances to a long-term greenhouse gas stabilization target, then the sum of the emissions from all countries, developed and developing, must be consistent with the agreed emissions pathway. A key issue that will have to be addressed with long-term targets is the equitable allocation of emissions rights. The principle of 'common but differentiated responsibilities' is well established in the UNFCCC. Hence, international debate will need to focus on how to achieve an equitable distribution of responsibilities over the coming decades. This includes the responsibilities for paying for the additional costs of low carbon development pathways and for adaptation to the climate change that we are already committed to through past actions.*

In deciding what is equitable, a number of factors need to be considered: (i) responsibility – should those that caused the problem be responsible for mitigating the problem? (ii) entitlements – should all humans enjoy equal entitlements to a global public good? (iii) capacity – should those that have a greater capacity to act bear a greater burden? (iv) basic needs – should strong nations assist poor nations meet their basic needs? (v) comparability of effort – should the ease/difficulty of meeting a target be taken into account? and (vi) future generations – what is the responsibility of the current generation for future generations?

There are a series of allocation options, each with their own political difficulties, including: (i) in proportion to current emissions (otherwise known as “grandfathering”) – unlikely to be acceptable to developing countries because of their low current per capita emissions, and in many cases low total emissions; (ii) in proportion to current GDP – again unlikely to be acceptable to developing countries given their current low GDPs; (iii) current per-capita emissions rights – unlikely to be acceptable to developed countries given their current high per capita emissions; (iv) transition from grandfathering to per capita emissions – numerous transition schemes have been proposed, e.g., contraction and convergence; (v) allocations taking into account historic emissions, e.g., the Brazilian Proposal; (vi) allocations taking into account basic needs; and (vii) allocations taking into account national circumstances, e.g., ability to pay. Deciding which allocation scheme, or combination of these options, is appropriate will have to result from negotiations involving all countries. It is important that developing countries have the resources and opportunity to play a full part in these negotiations.

Two approaches that are receiving significant attention are Contraction and Convergence and the “Brazilian” Proposal. Contraction and Convergence is a science-based global framework whereby total global emissions are reduced (i.e., contraction) to meet a specific agreed target, and the per capita emissions of industrialized and the developing countries converge over a suitably long time period, with the rate and magnitude of contraction and convergence being determined through the UNFCCC negotiating process. It applies principles of precaution and equity; principles identified as important in the UNFCCC but not defined. The proposal by Brazil, which is based on cumulative historical emissions and their impact on the increase in global mean surface temperature, aims at sharing equally the burden of mitigation among all countries, industrialized and developing.

Equity issues also extend to the costs of adaptation. Countries vary enormously in their exposure to potential damage from climate change and this exposure is usually unrelated to their contribution to the problem, by whatever means the contribution is measured. The most obvious example is that of low-lying, small island states whose physical existence is threatened by sea-level rise even though their contribution the greenhouse gas emissions has been negligible.

It is generally agreed that wealthier nations have a responsibility to assist highly affected developing nations carry out adaptive measures. There is an urgent need for a deeper debate about the meaning of “common but differentiated responsibilities”. Developed countries have both the means and the responsibility, through past and current emissions, to bear a substantial portion of the costs of mitigating and adapting to climate change. Developing countries should facilitate low emission development pathways by adopting policies and measures that are appropriate not only to current conditions - social, economic and climatic – but also to future conditions.

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Mondaq [Oz] fronts C&C Apr 17, 2008

Australia: Floating The Carbon Dollar

Part 1: The Garnaut Climate Change Review Interim Report

Article by Brendan Bateman - Key Point

“Garnaut’s Interim Report contends that it is in Australia’s interest to agree to a per capita emission rights [or] contraction and convergence - that is, setting budgets initially equal to each country’s current emissions and then, moving over time, to equal per capita emission budgets while at the same time driving down the overall global emissions budget. This is intended to address both the necessity to start from the status quo with recognition of developing countries’ claims to equitable allocation of rights to the atmosphere.”

<http://www.mondaq.com/article.asp?articleid=59346>

Mondaq, launched in August 1994, is one of the most comprehensive electronic resources of professionals' knowledge and expertise. We provide legal, regulatory and financial commentary and information supplied directly by hundreds of the world's leading professional advisors, covering over 70 countries.

http://www.mondaq.com/about.asp?section_id=5&product_id=14

Pope aide advocates C&C Apr 17, 2008

Pope's Man at the Worldwatch Institute publishes

"Inspiring Progress: Religions' Contribution to Sustainable Development"

Gary Gardner (Author)

http://www.amazon.com/Inspiring-Progress-Contributions-Sustainable-Development/dp/0393328325/ref=si3_rdr_bb_product

Ethics in Action – Page 152; Promoting C&C

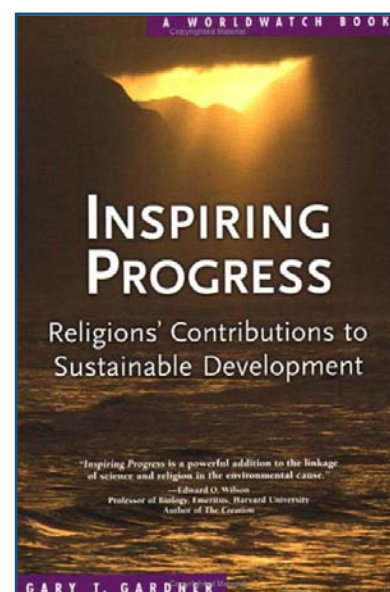
"The Global Ethic could also have widespread impact because its ancient precepts are meant to be applied to the great issues of our day, and not just to interpersonal relations. As public awareness of the global sustainability crisis grows and given the relatively broad base of collaboration in developing the Earth Charter and the Global Ethic, it is plausible to imagine that these initiatives could begin to influence the human community's approach to global problems. Consider, for example, how climate change might look from the perspective of the Global Ethic. At the heart of the climate issue is a fundamental injustice: some of the countries most responsible for creating the problem are the least committed to solving it—hardly a model of the "do unto others" standard set out by the Global Ethic. Applying the Global Ethic to climate change would highlight this misuse in terms meaningful to a broad swath of humanity. And solutions to the challenge that treat countries according to the values of the Global Ethic might receive a needed boost.

The so-called "Contraction and Convergence" (C&C) initiative of the Global Commons Institute in the United Kingdom, for example, might be attractive from the perspective of the Global Ethic.

C&C seeks to reduce carbon emissions in industrial countries (contraction) while distributing future credits for carbon emissions on an equalized per person basis globally (convergence).¹⁷ Its core principle is equity; the right to pollute should be capped, then spread equally across the human family—essentially treating everyone the way each of us might want to be treated if our place on the planet were randomly assigned. In addition, because the C&C plan would tax nations that exceed their emissions quotas and use the proceeds to help meet the Millennium Development Goals and other vital development objectives, the C&C would support the second principle of the Global Ethic, that all people are endowed with inherent dignity. The initiative has gained the support of religious leaders, including a powerful statement by the Archbishop of Canterbury, leader of the world's Anglicans and Episcopalians, in July 2004.

The C&C initiative, he said, "appears Utopian only if we refuse to contemplate the alternatives honestly!" But imagine if religious leaders globally were to articulate a link between the Global Ethic and climate change. Then the Archbishop might be joined by the leaders of a wide range of religious traditions, all speaking from a common and broadly understood ethical foundation. The pressure on political leaders to seek a more equitable solution to the climate challenge could be intense."

17, Global Commons Institute. "Contraction and Convergence" gci.org.uk viewed May 2006



Pope to make climate action a moral obligation

<http://www.independent.co.uk/news/europe/pope-to-make-climate-action-a-moral-obligation-403120.html>

Pope Benedict: Laying the Groundwork for a Sustainable Civilization?

Gary Gardner - April 15, 2008

<http://www.worldwatch.org/node/5707>

IIASA Conference asks about C&C Apr 19, 2008

IIASA Star-Studded cast ask . . . *"Is the 'contraction and convergence' model the only approach? Some, including Angela Merkel, suggest the world should aim for international parity in per capita emissions of greenhouse gases. How could this be done? What would it look like?"*

http://www.gci.org.uk/briefings/IIASA_C&C.pdf

C&C: - "Simplicity of the Argument" May 03, 2008

Nicholas' Stern now advocates the C&C principle.

In his proposal he says, *"the simplicity of the argument is that everything flows from the figures where everyone converges of two tonnes of pollution per head per year."*

<http://www.theage.com.au/news/environment/stern-gets-sterner-on-emissions/2008/05/01/1209235059204.html>

http://www.britainusa.com/sections/articles_show_nt1.asp?a=48132&i=41065&L1=41012&L2=41065&d=-1

http://www.lse.ac.uk/collections/climateNetwork/publications/KeyElementsOfAGlobalDeal_30Apr08.pdf

Is the same Nicholas Stern? What happened on the road from attrition to contrition? On publication of his original report two years ago he told LSE students that, *"C&C is too difficult to get your head around,"* spreading confusion and dismay. GCI's Director of Corporate Affairs Terry O'Connell said, *"This is a tipping point in the debate and is welcome. Having struggled for the last eighteen years, we now have only the next eighteen months in which to embed the C&C principle on which an effective post-Kyoto Global Climate Deal so urgently depends."*

http://www.gci.org.uk/briefings/Stern_Cleanup.pdf

C&C criticisms 'flawed' . . . May 06, 2008

'Contraction and convergence criticisms flawed'

http://www.cedaily.com.au/nl06_news_selected.php?act=2&selkey=36550

The founder of the 'contraction and convergence' campaign for allocating emission entitlements among nations, Aubrey Meyer, has told Australia's "Carbon Environment Daily" claims by a conference speaker that the approach is inadequate are unfounded. Contraction and convergence would involve reducing overall emissions of greenhouse gases and allocating equal per capita entitlements to every country. Professor Garnaut has said the concept of equal per capita entitlements is likely to be a cornerstone of an effective international agreement: -

www.cedaily.com.au/nl06_news_selected.php?act=2&stream=1&selkey=35938

. . . as has climate economist Sir Nicholas Stern: -

www.cedaily.com.au/nl06_news_selected.php?act=2&stream=1&selkey=36514

However, the Minerals Council (see related article) and the Australian Industry Greenhouse Network have expressed concern that such an approach would overlook important and relevant national differences and the Australian Conservation Foundation has said an equal per capita approach "does not address all equity issues": -

www.cedaily.com.au/nl06_news_selected.php?act=2&stream=1&selkey=36454



Last week, CE Daily reported comments by Sivan Kartha of the Stockholm Environment Institute that it won't be sufficient to ensure we avoid dangerous climate change "in the midst of a development crisis". Kartha instead proposed a "greenhouse development rights" approach which would define national obligations on the basis of per capita income and cumulative historical emissions. Kartha's comments prompted a response to CE Daily from Meyer, director of the UK-based Global Commons Institute, who said the Greenhouse Development Rights approach advocated by Kartha, *"projects error. On the one hand it stresses [correctly] the 'urgency' of climate change and on the other the need for un-quantified access to energy/emissions of the poor."* *"This primarily verbal formulation is presented as 'more than' contraction and convergence as contraction is 'not enough'. This assertion has acquired 'mantra' status though what the rates of contraction and convergence is not addressed."*

Meyer's comment - now linked to CE Daily's CANA conference article

www.cedaily.com.au/nl06_news_selected.php?act=2&stream=1&selkey=36499

includes an animation of different rates of contraction and convergence: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

Top Aussie urges C&C in UK HoC May 07, 2008

Eminent Australian visits House of Commons to urge Brits to C&C.

"Maybe to overcome their traditional cultural reserve, the British public needs to know there is a solution and that all hope is not lost. If so, the best global deal in town is called 'Contraction & Convergence'; a global deal which is the real deal. Here is an idea the UK could get behind and take to the world."

Brendan Mackey is a professor of environmental science and policy at the Australian National University. He is currently on sabbatical at the Center for Humans & Nature, New York, USA.

<http://www.gci.org.uk/articles/MACKEY.pdf>

This article appears in the current edition of Carbon2Share, the newsletter of the All Party Parliamentary Group on Climate Change (APPGCC) Chaired by Colin Challen MP.

BENN to support C&C? May 08, 2008

Colin Challen MP chairs the UK's All Party Group Parliamentary Group on Climate Change [APPGCC]. The group advocates C&C. The current APPGCC news letter goes to the whole of the UK parliament with this timely and critical challenge: - **C'mon Hillary - now's the time to take the lead* "Now is the time for Environment Secretary Hillary Benn to cut the binding ties of precedent, and firmly back Contraction and Convergence."* Rumours have it that he privately admires the framework. Many will confess to that privately. It's time to come out or miss the boat."

http://gci.org.uk/articles/C-MON_Hillary.pdf

C&C grows with UK Local Government May 16, 2008

Some progress with C&C at the Local Government level. This list is not complete. Please send missing info to aub-@gci.org.uk

CONTRACTION & CONVERGENCE AND UK LOCAL GOVERNMENT

LOCAL GOVERNMENT INFORMATION UNIT

The LGIU supports moves towards a contraction and convergence approach to reducing global carbon emissions. Contraction and convergence proposes a global agreement on amounts of carbon emission permits to be allocated to countries on an annual basis. The overall quantity of permits would contract from one year to the next — hence the term contraction. Permits would be allocated on a per-capita basis and their volume would reflect a trend towards the average per capita emission that is consistent with arresting runaway climate change.

The system will favour developing countries whose per capita carbon use is low, and support low-emission routes to development. The allocation of carbon permits between nations starts from the unequal distribution of the status quo. However it converges to an equal per capita distribution over an agreed timescale. Converging access to these increasingly valuable permits supports a convergence in levels of development.

The idea of contraction and convergence is particularly persuasive as it addresses two key threats to humanity — climate change and unequal development — in one framework.

Carbon Trading Councils could foreshadow a contraction and convergence model by agreeing voluntary twinning with localities in the developing world. For example, a town in the UK could twin with a town in — say — Tanzania and support its low-carbon development. The aim would be to create a visual, personal picture of what climate change means globally and to encourage people to think outside their immediate needs and focus.

The Fairtrade movement has achieved a similar success in showing UK consumers that even very small changes in their behaviour can have a notable impact on lives of people who are growing foods or making goods in developing countries.

<http://www.lgiu.gov.uk/images/uploaded/Pospectus.pdf>

http://www.gci.org.uk/Councils/LGIU_C&C_Prospectus.pdf

CAMBRIDGE

In order for global action to tackle climate change to be fair, a sustainable level of carbon dioxide emissions should be shared amongst every person equally. This principle of apportioning carbon dioxide emissions to countries based on their population is called 'contraction and convergence', which was developed by the Global Commons Institute and supported by Cambridge City Council at its Annual Meeting in May 2007²⁷. It refers to the need for global greenhouse gas emissions to 'contract' towards an equal share per person at some specified future 'convergence' date.

http://www.cambridge.gov.uk/ccm/cms-service/download/asset/?asset_id=9811070

HAMPSHIRE

Thinking Globally, Acting Locally 1: Contraction and Convergence

6. At an international level the broad concept of 'Contraction and Convergence', referred to by the Council for the Protection for Rural England in its March 2005 response to a consultation paper by HM Government (submitted as part of the evidence to the County Council's Climate Change Commission's first session), is the most equitable approach to tackling climate change and poverty around the globe.

The concept, which has had the support of the Government in international arenas, embodies reducing global emissions to environmentally sustainable measures, based on consumption per head of population. The 'Contraction and Convergence' approach allows for some per capita increases in GHG emissions in the developing countries in Asia, Africa and Latin America. But the essential corollary is that there must be steady and deep cuts in emissions from the wealthier countries.

Under the title An Incontestable Truth the All Party Parliamentary Climate Change Group has recently issued a DVD explaining the principles of Contraction and Convergence and demonstrating that it has serious support. It is to be hoped that the County Council Climate Change Commission will have an opportunity to view the 'Contraction and Convergence' DVD, a copy of which can be supplied on request.

http://www.gci.org.uk/Councils/Hampshire_County_Council_robert_hutchison.pdf

MANCHESTER

Inequalities in wealth between different parts of the world determine the different standards of living enjoyed by their residents, and the levels of carbon emissions. For this reason, it would be unreasonable to apply the same reduction targets to say, Bangladesh as to Europe or the USA, and we therefore support the principle of "contraction and convergence".

This means that Manchester City Council would support an allocation or carbon budget based on the total carbon reductions required on a country by country per capita basis. This would allow the poorest countries to initially grow their emissions whilst the richest countries reduced theirs. Allowing the poorest countries to initially grow their emissions would enable them to adapt for the effects of climate change.

http://www.gci.org.uk/Councils/Manchester_8a_Climate_change_1_.pdf

NORWICH

Councillor Read to move:- 10. Motion – Contraction and Convergence

‘Council notes:

- a) that carbon emissions (using Government figures) have risen by 2.5% in the first half of 2005 to 162.4 Megatonnes per annum, and that the UK is now in very real danger of missing its target under the Kyoto Protocol, which requires emissions to be 12.5% below 1990 levels by 2012;
- b) that the Intergovernmental Panel on climate change has warned that climate change could have potentially catastrophic effects worldwide - including in the UK - and that the Government's Chief Scientific Advisor has described climate change as 'a greater threat than global terrorism';
- c) that Norwich City Council is committed, through its support for the CRed (Carbon Reduction) initiative, to taking and supporting action to reduce carbon emissions in Norwich, and hence to reduce climate change.

Council believes:

- a) that climate change is a very serious threat, both globally and to the Norwich community, as demonstrated by the risk of flooding in Norwich and other parts of Norfolk. Under current conditions, according to environment agency data, flooding can be 'expected' more than once a century in some houses in Mancroft, Thorpe Hamlet, Lakenham and Wensum Wards as well as Carrow Road football ground. There is also a flood risk in Mile Cross, Eaton, University and Bowthorpe. This risk, according to most climate scientists, has potential to increase dramatically;
- b) that the Government must commit itself to a method which allows the international community to reduce carbon emissions in a socially just way;
- c) that the Contraction and Convergence Framework, promoted by the Global Commons Institute and supported by many MPs from across the Party spectrum, the all-party House of Commons Environmental Audit Committee and some local councils such as Oxford and Camden, is the best way of doing this.

Council therefore resolves: -

- 1) to call on Norwich's MPs to support the Climate Change (Contraction and Convergence) Bill, that has just been introduced into the House of Commons by Colin Challen MP, as the best overall framework and vehicle available for achieving the CRed targets that Norwich City Council has committed itself.
- 2) to write to the Secretary of State for the Environment to ask the Government to commit the UK to supporting Contraction and Convergence and to write to the Global Commons Institute, declaring that Norwich City Council supports Contraction and Convergence.

http://www.gci.org.uk/Councils/Norwich_AGD_Council_2005_11_29.pdf

BRIGHTON & HOVE CITY COUNCIL

NOTICE OF MOTION - CONTRACTION & CONVERGENCE

"This Council notes:

The Government's recent announcements recognising the serious threat posed to all life on this planet by climate change as a result of increasing greenhouse gas emissions.

That despite last month's enactment of the Kyoto Protocol on Climate Change, scientific consensus now agrees that greater global reductions in carbon emission are urgent and vital.

Early Day Motion 538 has been tabled in the House of Commons, recognising the need for a new global policy to tackle climate change beyond Kyoto.

EDM 538 advocates a policy of contraction and convergence, where all nations seek to reduce their levels of greenhouse gas emissions, and converge emissions levels towards a point where all citizens of the world are entitled to emit equal amounts of pollutants.

That continued and increasing extreme weather events promoted by Climate Change will cause significant harm to the city and its inhabitants. Being a coastal community we are particularly vulnerable to increases in sea level.

In furtherance of this Council's duty to care for the environmental, social and economic wellbeing of the city, we therefore resolve:

- 1. To instruct the Chief Executive to request the support of the city's Members of Parliament for this Early Day Motion, and to report back on progress in this regard.

2. For this Council to pursue urgent consideration of how city carbon emissions may be reduced.”

Proposed by: Councillor Georgia Wrighton Seconded by: Councillor Sue Paskins

[http://www.gci.org.uk/Councils/Brighton_and_Hove_\(ClimateChange-GreenGrp\).pdf](http://www.gci.org.uk/Councils/Brighton_and_Hove_(ClimateChange-GreenGrp).pdf)

Encouraging action through a regional carbon budget

In March 2007, with support from the Partnership and Innovation fund, Sustainability South West launched Fair Shares, Fair Choice, a major new project aimed at promoting positive action on climate change from individuals and organisations. The initiative aims to help residents of the South West live and work within a ‘fair carbon share’ and organisations and businesses to develop carbon action plans.

Fair Shares, Fair Choice is underpinned by the contraction and convergence carbon reduction model and as part of the initiative Sustainability South West has produced a ten-year carbon budget for the region. This calculates personal carbon budgets for everyone in the South West and an overall budget for the region as a whole. The figures show that in broad terms the region’s current CO₂ emissions are approximately 10 per cent above its Fair Share carbon budget for 2007 and that carbon emissions would need to be reduced by approximately 30 per cent on today’s levels by 2016.

<http://www.gci.org.uk/Councils/DEF-SDU-RegSupp-20pp.pdf>

SSW also notes in Section 1 Background and Goals, the proposed development of an agreed set of regional accounts and accounting systems. As per our previous discussion and correspondence with Assembly representatives, SSW has already developed an overarching regional carbon budget that could be used to form the basis of these carbon accounts.

Annex 1 contains further details of the methodology and the United Nations endorsed Contraction and Convergence model, on which the data sets are based. As previously outlined SSW supports this internally recognised global framework for reducing CO₂ emissions to safe levels in a socially just way.

We recommend these data sets are applied in the development of the regional climate change action plan and are used to form the carbon accounts and targets developed. It is essential that as part of the regional carbon accounts, climate change mitigation targets are developed alongside those concentrating on adaptation activity.

http://www.gci.org.uk/Councils/ssw_response_to_ccap_document.pdf

Tradable Energy Quotas (TEQs), Domestic tradable quotas (DTQs) or Personal carbon allowances (PCAs) These are all systems that have been proposed for rationing fuel/carbon under the ‘Contraction and Convergence’ regime.

They would include everyone – individuals, industry and the Government – and would enable users to sell any rations they do not use. They would bring citizens, industry and Government together in a single scheme and supply the incentive needed to transform the way energy/carbon is taken into account in everyday life. See <http://www.teqs.net/>

http://www.gci.org.uk/Councils/Westminster_Carbon_Counting_Manual.pdf

Climate Change, C&C and Africa May 16, 2008

Climate Change, C&C and Africa

Paul Collier Director, Centre for the Study of African Economies, Oxford University

Gordon Conway Imperial College London and Chief Scientist, UK DFID

Tony Venables Oxford University and Chief Economist, UK DFID

Under an idealised cap and trade emissions trading scheme each citizen would be endowed with a right to emit a specified quantity of CO₂e (or each country endowed with the corresponding national total) and would be able to sell rights in excess of own emissions.

Were emissions monitorable at the level of the individual citizen or country, such a scheme would provide incentives for reductions in CO₂e. Depending upon the allocation of emissions rights it might also create a distinct channel for resource flows to low emission countries. In the hypothetical extreme in which each person was endowed with the same emission rights, the financial flows to Africa resulting from sales of carbon rights might be of comparable size to its current aid receipts of around \$40bn pa. In effect, the allocation of carbon rights to Africa would become its aid programme. The abrupt creation of such valuable rights without reference to existing patterns of usage is, of course, entirely implausible.

Somewhat more realistically, 'contraction and convergence' schemes propose national emissions quotas that would start from current levels and very slowly converge – over several decades -- to being proportional to population. Since, over this time frame international economic convergence would substantially reduce disparities in usage, the redistributive aspect of carbon trading would be correspondingly reduced.

<http://users.ox.ac.uk/~econpco/research/pdfs/ClimateChangeandAfrica.pdf>

<http://www.gci.org.uk/briefings/ClimateChangeandAfrica.pdf>

APPGCC calls PM to Climate Summit May 23, 2008

Early Day Motion EDM 1636

CROSS-PARTY CONSENSUS ON CLIMATE CHANGE 22.05.2008

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=35918&SESSION=891>

"That this House notes the seriousness and urgency of climate change; calls upon the Prime Minister to convene a conference of the leaders of all parties represented in the UK Parliament, the Scottish Parliament and the Welsh Assembly to examine the formation of a cross-party consensus on climate change policy; and believes that all participants in such a conference should assent to there being no pre-conditions on their attendance."

Colin Challen MP - Chair All Party Parliamentary Group on Climate Change

Strong Hi-Profile Media pro-C&C May 23, 2008

Two strong campaigning articles in favour of C&C in high profile media: -

[1] In the Europe-wide edition of LEXUS magazine in all European languages -

"Its a war on Error": -

<http://www.gci.org.uk/articles/LEXUS.pdf>

Born in Britain but raised and schooled in apartheid-era South Africa, Meyer is acutely aware of the perils of inequality and of the need for a global agreement to be truly global. *'By definition you can't possibly resolve this situation on a separated basis,' he says. 'Separate development is not sustainable development. Global apartheid doesn't work.'*

[2] In the UK Cooperative Movement's newly formatted magazine REACT, which goes to 2 million readers in the UK: -

<http://www.gci.org.uk/articles/React.pdf>

'It's interesting,' he tells Re:act. 'There are very definitely parallels between playing a violin and what I'm doing with C&C. When you play the violin, how do you know where to put your fingers on the fingerboard? You can't see anything that tells you where to go.'

You can provide a teasing answer by saying, well, how long is a piece of string? To a violinist it's exactly twice half its length. There's a very real structure inside that length of string that gives you all of the notes and the proportionality, where things are found and placed – and you play with that. You can only play because of it. Contraction and convergence is sort of a 100-year-long fingerboard."

Mackey Defends C&C May 27, 2008

Here is a strong defence of 'the three questions that C&C raises and answers' from Prof Brendan Mackey [ANU]. It is in response to an invitation from NCDO to support the Tallberg Foundation [TF] call and search for 'Plan C' – a Global Deal on Climate Change.

'Plan C' this is prompted by James Hansen's new call for 350 ppmv. TF has launched as 'an international appeal' to support this call for a return atmospheric CO₂ concentration to 350 ppmv

As Mackey points out the 3 questions that C&C deals with, and that Plan C doesn't yet, are:

[1] what is the atmospheric ppmv value for CO₂ we're aiming at

[2] what is the path-integral of emissions consistent with that value, and

[3] what rate of convergence to equal per capita sharing of that integral is achievable.

The maths are as follows: -

350 ppmv 746 GTC 1988 200? [Hansen]

353 ppmv 752 GTC 1990

359 ppmv 765 GTC 1994

385 ppmv 820 GTC 2007

450 ppmv 959 GTC 200?

[1] in 1990 atmospheric CO₂ in ppmv were 354 [i.e. 752 gigatonnes carbon]; IPCC then said that immediate 60-80% cuts in CO₂ emissions globally were needed to get there.

[2] in 1994 ppmv were 359 [i.e. 765 gigatonnes carbon]; IPCC then said zero emissions globally by 2050 with negative emissions thereafter were needed to get there; [this was deemed 'impossible' by IPCC and the scenario was thereafter dropped];

[3] in 2007 ppmv were 385 [i.e. 820 gigatonnes carbon]; IPCC said that – with feedbacks better understood – zero emissions globally by c. 2050 would keep us at and below 450 ppmv

So Jim Hansen's call for 350 ppmv asap is a truly big-ask as he now recognises [correctly] that the sinks are starting to pack up. Combined with a 350 goal, this means negative emissions globally as near immediately as possible which rather side-steps, or was it avoids, the global development deficit and the politics of the existing infra-structure and also rather explains why he is calling for the coal-fired power stations to be bulldozed [that's one whole lot of bull-dozers but I guess its fine if he can get them and get it done . . .] All the numeric modelling of this on which Mackey's stand is based is at: - http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

Dear Alide,

While I fully support the intent of the 350 campaign, I have deep concerns about its shortcomings. There are two other critical questions that must be answered if we are to arrive at a global deal that solves the climate change problem (i.e. a global deal that is the "real deal"):

When will aim to have stabilised atmospheric carbon dioxide levels to 350ppm?

How will we distribute the permissible carbon dioxide emissions amongst the world's nations?

In terms of successfully negotiating a global deal that will solve the climate change problem, #3 actually presents the most difficult challenges as it cannot be answered by reference to scientific knowledge alone (unlike questions #1 [the target] and to some extent #2 [the timetable].

This is because the physical processes that regulate Earth's climate system are blind to the source of emissions as it is the aggregate affect that is important. Question #2 is also important because the longer we wait the more potential hard to humans and nature but on the other hand the more time we have to undertake the necessary social, economic and technological transformations.

As Song Li and I noted in our paper, the Contraction & Convergence framework developed by the Global Commons Institute in the UK has been arguing for 20 years that we need a global deal that answers these three key questions: (1) What is a safe level?; (2) By when?; and (3) How do we distributed the permissible emissions?

Regarding question 3, C&C argues this must be done on a per capita basis as everyone has an equal right to the Earth's system's capacity to assimilate GHGs. This position remains contested as some commentators argue a per capita distribution is not fair enough given past inequities, while others are dismissive on the basis it will never be accepted by the USA.

In any case, I think there is a risk in a campaign that only provides an answer to the first questions; what is a safe level of atmospheric GHG. The campaign would be far more helpful if it addressed all three questions, e.g. '350 by 2050 on a per capita basis'.

They could still use '350' as their "tag line", but it would then be short-hand for the more comprehensive story.

Kind regards,
Brendan

ILFSD [& others] Introduce C&C Jun 01, 2008

SUSTAIN LABOUR - the International Labour Foundation for Sustainable Development [ILFSD] introduce C&C.

http://www.unep.org/labour_environment/PDFs/TOT-Introduction-Climate-Change.ppt#1

Great New Movie - The Age of Stupid - introduces C&C.

<http://www.crudemovie.net/>

RED AND GREEN IN SCOTLAND 30 May, 2008

Filed under: green party, Scotland — Andy Newman

The latest edition of Scottish Left Review has three separate articles by members of the Scottish Green Party. The Scottish party has arguably not been as left wing as the Greens in England and Wales, and this is referred to in an article by Peter McColl, who writes: *"While the politics of reformist environmentalism has some traction, the need for Scottish Greens to focus on social justice and the green economics has become clear with the 2007 Scottish Parliament election failure, and the relative success of Greens in London standing on a clear left platform."*

But in particular the following article by Tim Gee explores the changing relationships between socialists and greens in Scotland, suggesting a logical progression from contraction and convergence towards the ultimate goal of co-operation.

<http://www.socialistunity.com/?p=2391>

Cars Are DOOMED

RED ORBIT

Australia - Posted on: Tuesday, 27 May 2008, 03:00 CDT

[ed/index.html+%22Contraction+and+Convergence%22&hl=en&ct=clnk&cd=8&gl=uk](http://www.socialistunity.com/?p=2391)

By Moriarty, Patrick Honnery, Damon

"Under the "contraction and convergence" proposal, all countries would eventually move to the same per capita emissions, which would mean a 30-fold reduction in Australian emissions by 2050. By 2030, we might perhaps need to reduce this level by half- a 15-fold reduction. Of course, low-emitting developing countries would be allowed some increase, but they too must ultimately limit their emissions."

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Urgency - "C&C emerging . . . ?" Jun 03, 2008

As the US Senate debates the Lieberman Climate Security Act;

www.gci.org.uk/briefings/Climate_Security_Act.pdf

<http://www.sfgate.com/cgi-in/article.cgi?f=/c/a/2008/06/03/MNPU111UGU.DTL>

U.S. Scientists and Economists' Call for Swift and Deep Cuts in Greenhouse Gas Emissions, and the White House Releases a Global Warming Report classified as "highly influential".

In some implied global deal, these scientists and economists call for 80% emissions cuts in the US while the Act appears to call for c. 70%. These numbers appear to be roughly consistent with what the UNDP [+ Gore King Stern et al] called the globally 'emerging proposal' for C&C.

However, against the call for a return to 350 ppmv atmospheric CO₂ from Hansen et al, this implied rate of C&C is much too slow. He says, "Present policies, with continued construction of coal-fired power plants without CO₂ capture, suggest that decision-makers do not appreciate the gravity of the situation. We must begin to move now toward the era beyond fossil fuels. Continued growth of greenhouse gas emissions, for just another decade, practically eliminates the possibility of near-term return of atmospheric composition beneath the tipping level for catastrophic effects. The most difficult task, phase-out over the next 20-25 years of coal use that does not capture CO₂, is Herculean. Yet this is feasible when compared with the efforts that went into World War II. The stakes, for all life on the planet, surpass those of any previous crisis. The greatest danger is continued ignorance and denial, which could make tragic consequences unavoidable."

www.gci.org.uk/briefings/0804.1126.pdf

It is difficult to disagree with Hansen's sense of urgency. However, as legislators in the US and here in the UK, get down to business, the same old problem – picking numbers out of a hat – is still pervasive and needs to be rationalised. It is for this reason, the UK All Party Parliamentary Group on Climate Change are calling on the UK Government to reveal the global *methodology* behind the numbers.

Now that Nicholas Stern has joined with the *pragmatism* of C&C, will the Government finally follow suit? The numerical analysis is here: -

www.gci.org.uk/Animations/BENN_C&C_Animation.exe

A MAN FOR ALL SEASONS

FROM HIS LONDON LOUNGE ROOM, CLIMATE CAMPAIGNER AUBREY MEYER MAY JUST SAVE THE WORLD WITH HIS PLAN FOR PER CAPITA GLOBAL CARBON EMISSIONS TARGETS

BY DAVID ADAM | ILLUSTRATION BY PADDY MILLS | PHOTOGRAPHY BY PETER DENCH

THE GLOBAL COMMONS INSTITUTE SOUNDS AS THOUGH IT should be a grand organisation with a fine headquarters. The institute is at the forefront of the fight against the growing threat of global warming and lobbies scientists, the media and politicians to listen to its ideas. It publishes glossy brochures, distributes them at all the key climate events, and its ideas are backed by an impressive roll call of supporters, including presidents and prime ministers.

In fact, the Global Commons Institute is a small association led by one man, working from a plain house in northeast London. That man is Aubrey Meyer, and from his home he has devised the answer to the world's biggest problem. Meyer is not a physicist, economist or green technology guru. He is a musician – a very good one – and his idea to address global warming, called 'Contraction and Convergence' (C&C) is striking a chord across the globe. Britain's *Guardian* newspaper recently named him one of the 50 heroes of the planet and *New Statesman* magazine placed him among the 10 people most likely to change the world.

As awareness of climate change has risen, so has interest in C&C. It sets out a framework to control each country's gas emissions based on the principle that, subject to the overall amount that stabilises the rising concentration of greenhouse gases in the atmosphere (contraction), each person has the right to produce the same quantity each year, wherever they live (convergence).

And as nations struggle to agree a new global treaty to limit carbon emissions that fits all of their respective domestic agendas, Meyer's

idea is increasingly being talked about as the way we should go. Last year, German chancellor Angela Merkel became the latest big-name politician to throw their weight behind a version of it. And the Archbishop of Canterbury said those who thought it Utopian simply hadn't looked honestly at the alternatives.

For the 60-year-old Meyer, such moves vindicate a determined campaign spanning nearly two decades. It's a crusade that began in earnest in 1990 when his then four-year-old daughter turned to him from her cot and asked: 'Daddy, is the planet really dying?' Meyer's response – 'no, don't you worry, we'll sort it out' – illustrates his no-nonsense attitude to the issue. Meyer cares not for political compromises: for him, the existing Kyoto Protocol is a largely ineffective, global deal to regulate carbon pollution, requiring that only rich countries make cuts.

Born in Britain but raised and schooled in apartheid-era South Africa, Meyer is acutely aware of the perils of inequality and of the need for a global agreement to be truly global. 'By definition you can't possibly resolve this situation on a separated basis,' he says. 'Separate development is not sustainable development. Global apartheid doesn't work.'

Instead, Meyer proposes a system of equal-per-capita emissions entitlements that places every citizen in a framework-based market under full-term global emissions control, and keeps below the greenhouse gas concentration target (see 'What is C&C?' on page 47).

Meyer's extraordinary calculating and communication skills have set a standard for the whole debate, although his dogged campaign >>





'IF YOU WANT EVERYBODY IN, THEN
YOU MUST INTEGRATE AND HAVE A
WAY OF ORGANISING IT. IT HAS TO BE
GLOBAL AND RIGHTS-BASED'

WHAT IS C&C?

Contraction and Convergence (C&C) starts with the UN objective that global atmospheric concentrations of greenhouse gas cannot be allowed to rise much above the present level. This means that the future total of greenhouse gas emissions to the atmosphere must now be significantly reduced at a rate determined by how quickly we need to stabilise greenhouse gas concentration and hence global temperatures. Working backwards like that gives us a shrinking amount of carbon we can emit overall between now and whenever we would exceed our limit, expressed as an annual, decreasing, carbon ration. This is contraction and it needs to be continually measured in light of the changing relationship between our sources and the declining natural sinks for the gases as revealed in the latest IPCC (Intergovernmental Panel on Climate Change) report.

Treating the atmosphere as a 'global common', C&C would then divide the remaining carbon output available under contraction among every person on the planet. Each would have an equal entitlement in the overall emissions output. Richer countries such as Britain and the US, with higher emissions per person and which emit more than their global share, would converge with poorer nations, such as China and India, who emit less. Subject to the contraction imperative, all nations would agree a future date for their entitlements to become the same per capita. This is the convergence.



Left: Meyer says everyone is integrally part of the environment. Above: C&C was on the agenda at the UN's climate conference in Bali late last year

During this process, as global entitlement decreases, poorer countries would be allowed to increase emissions, while richer nations would be required to reduce them.

Subject to the C&C framework, a market for emissions trading from poorer countries that do not use their full allowance could help richer nations meet their targets, providing revenue for the former. Meyer says: 'It's poetic justice. It corrects fatal poverty and fatal climate change in the same framework.'

has managed to annoy all sides of the green movement in the past. To politicians and economists of the UK and US, the idea had echoes of communism, while hardened eco-warriors disliked the carbon trading aspects of the scheme and thought it too complicated, prescriptive and thus politically unsellable.

Meyer says: 'As soon as you push a per capita argument, people call it communism and as soon as you allow trading, people call you a capitalist. These critics wanted a row and their attitude to me was "who let you in here? Go and get a hair cut." But their dichotomy was a false and discriminatory stitch-up with no understanding of the need for integration and accuracy.'

We talk sitting on the floor of the Global Commons Institute's living room, surrounded by papers that he shuffles through from time to time to illustrate a point, and interrupted by phone calls from his daughter (now 21 and a university student) as she plots her trip home for Christmas.

Has he kept his promise to her to sort out the world? 'We're as close as we ever have been to getting C&C adopted,' he says. 'In that sense, we're probably closer to finding a solution, but in another sense we're in so much deeper trouble now, and a lot of us are beginning to doubt that this problem is really going to be fixed.'

Climate change may have finally hit the mainstream recently, but the science has moved on as well. All the signs suggest we face a greater challenge to limit temperature rise to 2° Celsius than we realised, and that we have less time to slash carbon pollution than we thought. Meanwhile, the international political response drags along at a glacial pace, or perhaps a melting glacial pace.

At United Nations climate talks at the end of last year in Bali, countries pledged to find a way to replace the Kyoto Protocol by 2009. Many people predict that the change in government when George W Bush leaves the White House will smooth the path to such an agreement. But for Meyer, President Bush and the US are not the climate criminals they are often painted. 'Bush acknowledged the problem is real and serious and there are many serious people beyond him.'

'The global apartheid argument is made by the US, who have constantly said that unless China and India are part of the deal then it won't work. However much people want to >>



'THE KEY THING, ESPECIALLY WITH MUSIC AND STRING PLAYING, IS THAT REAL FEELING COMES FROM INTEGRATION AND ACCURACY. IT'S A WAR ON ERROR'

vilify the US for being a big, bad bully, in one critical respect [the US has] been right from the word go. The US saw C&C and the US Senate Byrd Hagel Resolution as the same thing and said so in Kyoto.'

And what about the European approach: that developed countries should make unilateral cuts, as specified under Kyoto? 'Kyoto was an attempt to get a process going, but it's essentially picking numbers out of a hat and saying because we're guilty Europeans, we'll reduce our emissions alone. The Americans say we don't care whether we're guilty or not, we want everybody in.'

This is where C&C appeals. 'If you want everybody in, then you must integrate and

have a way of organising it. It has to be global and rights-based. You need to specifically and formally agree to stabilise the atmosphere and agree to move towards equal emissions per capita by a given date.' That gives us a path shared globally where countries either limit or reduce their emissions according to whether their average per capita emissions are below or above the global average.

After studying music at university in South Africa, Meyer returned to Britain, played with the London Philharmonic Orchestra and became a successful composer. In 1988 he turned to environmental politics in a search for answers to questions raised while

researching a musical about Chico Mendes, the assassinated Brazilian rainforest campaigner. A friend, fed up with his newfound curiosity on the environment, suggested he join the Green Party. Two years later, following the question from his daughter that was to change his life, the Global Commons Institute was born.

'From that moment on I thought: this is the end of music,' Meyer says. 'I sold my scores, I sold my viola and used the money to buy a computer to start figuring out how to deal with this issue.'

Has a musical background allowed him to see the problem in a different way? 'The key thing, especially with music and string playing, is that real feeling comes from integration and accuracy.'

It's a war on error. You have to be sure when you're playing that it is the audience that's crying. If you're crying and your tears are all over the fingerboard then you're skidding around and you can't play a damn note. You've got to be ice cold and yet red hot to get it over.'

He adds: 'That's partly the false dichotomy that haunts this debate. There are people who speak this red-hot rhetoric about the defilement of the environment, and others who have this measured commerce approach. Without a really shared discourse, there's error and no possibility of a proportionate response.'

Meyer uses musical metaphors a lot. He compares the difficulty of cutting carbon pollution to learning to play the Sibelius violin concerto – 'It's a tough piece but you learn it; it doesn't learn you.' C&C, like all music, has the disciplined demand of structure: coordination and accuracy in harmony, rhythm and form. He sometimes appears frustrated that words fail to communicate his thoughts and feelings as elegantly as a musical score can.

'Nobody has a choice but to be an environmentalist,' he says. 'We're integrally part of it. It's just that your relationship is determined by how much you surrender to how beautiful [the world around you] is.'

Perhaps drawn by its logic, or driven by the failure of other approaches, Meyer's idea is steadily emerging as a serious political option. In Britain, the Royal Commission on Environmental Pollution and most political parties support Contraction and Convergence. It is the stated basis of policy in India, China and most African countries.

With political recognition has come a raised profile and awards for Meyer, including a City of London lifetime achievement award in 2005, and a UNEP (UN Environment Programme) financial leadership prize last year. Meyer says: 'I've received many awards now. Ten or 15 years ago I would have been proud as hell and worn them on my blazer, but what's most pleasing today is that for all the people in the corridors who have been saying for years that I'm an idiot and rude and have got this really stupid idea, there are now people saying hang on, this is quite a useful argument.' He pauses for a moment. 'But rude? I'll give them that.' □

Visit: www.gci.org.uk/briefings/ICE.pdf



THE NOBEL PEACE PRIZE

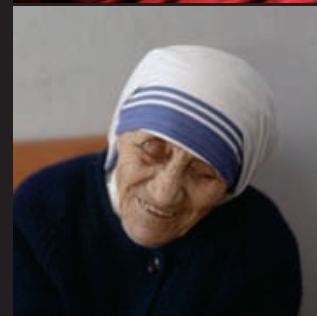
After last year's Nobel Peace Prize was awarded to Al Gore and the UN's Intergovernmental Panel on Climate Change for underlining the climate problem, many have said that Aubrey Meyer should be a future recipient of the award for having pioneered and established the solution to it.

But how is the winner decided? Uniquely among the Sweden-based Nobel awards, the Peace Prize is agreed by a Norwegian committee and awarded in Oslo. Alfred Nobel never explained why he wanted this unusual arrangement. The Norwegian parliament appoints a Nobel committee, which invites nominations each year from the great and good around the world, including members of national governments, international courts, university chancellors, leaders of peace institutes and foreign affairs institutes, former winners and

committee members, and professors of social science, history, philosophy, law and theology.

More than a hundred nominations can be received each year. These are supposed to be kept confidential. The committee asks for help from qualified experts in drawing up profiles of the nominees and then decides who, in Nobel's words, has 'done the most or the best work for fraternity between the nations, for the abolition or reduction of standing armies and the holding and promotion of peace congresses.'

Nelson Mandela and FW de Klerk received it for ending South African apartheid through justice without vengeance. With Contraction and Convergence, Meyer could receive it for establishing the template of reconciliation that avoids dangerous rates of climate change by ending 'global apartheid'.



Clockwise: (from above left) Alfred Nobel, who bequeathed funds to establish the eponymous awards; Nobel Peace Prize recipients Nelson Mandela, Al Gore, The Dalai Lama and Mother Theresa

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April 2008

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Re:act Talks

He is Superman

Recently voted by
The Observer as one of
50 people able to save the
planet, Aubrey Meyer is the
mastermind behind the theory
of contract and convergence.
We spoke to Aubrey about
how the world is finally coming
around to his way of thinking...

When you think of Superman, what do you think? You no doubt picture the old tights and cape, the dashing good looks, the square jaw and the image of him, on that first ever edition of Action Comics, holding the car in the air with one hand. It's quite likely you don't imagine a 60-year-old musician living in Willesden, North London – and yet, in this age of earthquakes and floods and alarming signs that the world is spinning ever closer to its end (at least if you read and believe everything James Lovelock has to say), it may well be that the world needs another kind of Superman, and maybe Aubrey Meyer, musician and activist, fits the bill.

Twenty years ago, Aubrey, who was at that time working as a musician, playing with the London Philharmonic among others, wrote a letter to The Guardian in which he sketched out the idea for what is now being called Contract & Convergence (C&C). The thrust of C&C is that not only does everyone on earth have an equal right to emit CO₂, but that all countries should agree to an annual per capita ration or quota of greenhouse gases.

Meyer proposed that each country move progressively to the same allocation per inhabitant by an agreed date. This meant that rich countries would have to steadily cut back their emissions (that's contraction), while poor ones would be allowed steadily to grow theirs, with everyone eventually meeting in the middle at a point where science said the global maximum level of emissions should be set (that's convergence). 'In the beginning,' Aubrey told Re:act, from the comfort of his living room, 'reactions to the idea were really hostile from a lot of people. The idea of equal per capita rights was denounced by the Right as communism and, because C&C doesn't say no to emissions trading, we were denounced by the fundamentalist greens. They said C&C was a capitalist plot. And then, in the '90s when the economists became involved, we became mired in pricing. The arguments weren't technological or social, everything was about price. What was the price of proceeding? The US had people who were debating whether to slow or not to slow – and they proved it was cheaper not to slow. They had this system where they tried to cost the price on the value of the damages including

mortality and then they said you have to scientifically prescribe monetary value to the lives of people who were going to die – which is roughly proportional to income, crudely 15 dead poor people equal one dead rich person. And I got very, very angry.' Aubrey chuckles to himself. 'Thankfully, though, the UN condemned their work in '95...'

The What

'The UN,' Aubrey explained, 'had a very clear objective, way back in 1992, and that objective was to stabilise the growing levels of CO₂ in the atmosphere at a value that's stable but also safe. By '94, it had been ratified by 180-odd

countries so it came into force. Immediately, however, the political debate focused on what you could call very haphazard detail. If there was any strategic sense behind the creation of the convention, it was completely waived aside in favour of tactical foreplay and the politics of blame. It was initially impossible to keep in play any sense of what we actually had to do, which was set a measure of agreed CO₂ emissions by a certain date.

'The key part of that was the relationship between our emissions from human society and the concentrations of these emissions as they accumulate in the atmosphere. It's actually a

really easy relationship to understand. The emissions are like a tap flowing into a bath, which is the atmosphere. Think of the plug as the natural sinkhole for the gases and the level of the bath is the interplay between the flow of water and the natural sinks. The problem we have is that the plughole isn't working as well as it once did, the sinks are draining less and less, and the taps are running faster and faster – and the absolutely simple and terrifying thing is: if you don't want the bath to overflow you've got to turn the taps right off. All the time you're trying to turn them off, or talking about turning them off, the water is still continuing to rise. So we've



'The emissions are like a tap flowing into a bath... if you don't want the bath to overflow you've got to turn the taps right off'



had people arguing about the effect on the economy, what I was saying before about what the Americans said, whether it's cheaper to slow or not to slow. You can fool around with the arguments all you like, but by the time the bath is ready to overflow it will hit your economy!'

The When

After years of lobbying the great and the good (and the not-so-great and the not-so-good), the tide is finally starting to turn for C&C and Aubrey is starting to be recognised for his foresight (with a book and a film, potentially, in the works). These days, he has some powerful backers, including, in Britain, the Royal Commission on Environmental Pollution. One hundred and eighty MPs have supported it in an early-day motion, and the Government, equivocal so far, is moving towards a version of it. It has become official policy in India, China and most African countries. Germany and India are also expected to run with it in UN meetings. Angela Merkel, the German Chancellor, has backed C&C publicly. Aubrey feels like things are changing. 'There's a much higher degree of awareness that the problem is there. There's also an increased awareness of the fact that if we're going to do anything about it, we have to do it soon.'

'The point about this debate is: it's on the clock. You must achieve so much by

such-and-such a time. You've got to stop the concentrations of CO₂ rising. To do that, you've got to take the emissions right down. That event is contraction. And that event as a whole has somehow got to be shared between all of the contending parties – so convergence was an attempt to equalise per capita, to say that the poorer lower emitters can rise to meet the richer over-emitters who will fall on this per capita standard. It's not that it's the best option, it's that it's the least worst option. If you're defending inequality, it becomes increasingly difficult to start, as these economists do, by saying "We're terribly sorry, but these people are going to die for the greater good. It's not really a loss, it's part of the net benefit of carrying on." I don't think so! I grew up in South Africa and a bunch of people tried that argument there. The issue wasn't really whether you were a racist or not, it was whether you were a realist or not – and it's the same now.'

The How

Before all of this started, Aubrey was first and foremost a musician – and being a musician has helped him whenever he felt discouraged. These days he still tries to play every day and he frequently uses his violin to soundtrack slides during C&C presentations around the world. ‘It’s interesting,’ he tells Re:act. ‘There are very definitely parallels between playing a violin and what I’m doing with C&C. When

you play the violin, how do you know where to put your fingers on the fingerboard? You can't see anything that tells you where to go. You can provide a teasing answer by saying, well, how long is a piece of string? To a violinist it's exactly twice half its length. There's a very real structure inside that length of string that gives you all of the notes and the proportionality, where things are found and placed – and you play with that. You can only play because of it. Contraction and convergence is sort of a 100-year-long fingerboard. There have been negotiations and insults and gossip and, at times, everyone involved has become totally divorced from the practicalities. We need to

step 100 years into the future and say “concentrations are stable here at a safe value because...” and then you work backwards through the argument (“emissions overall were taken down...”, “the political wrangle was solved according to this particular constitutional arrangement...”). Life as it’s lived then is probably beyond our imagining but you can project forward however many years you feel are necessary to sort this situation out and then import the idea backwards, filling in the signposts and milestones along the way.

‘And that’s what we need to do.’

What can you do?

Thinking locally in the battle against climate change is fundamental to slowing the flow from those taps. Colin Challen MP is Chair of the All Party Parliamentary Climate Change Group (APPPCCG). From its very inception in 2005 the group began a call to action, resulting in 60 MPs committing to cut their own emissions by 25% within five years.

Colin's own efforts have included reducing his annual mileage. 'It's now almost half what it was three years ago.

‘The first step people need to take is to determine their carbon footprint. There are lots of carbon calculators on

the web – just use the same one for consistency.

‘Other things people can do include the basics such as fitting loft insulation and draughtproofing, or not flying so much (or at all) on holiday. You could also join or start a local Carbon Reduction Action Group (www.carbonrationing.org.uk) to join with others locally for support.’

You can also support C&C by signing a declaration to cut your own emissions. Copies are available from Colin by email:

CHALLENC@parliament.uk

US Scientists and Economists [+ 60 pp endorsements] say:

[-www.gci.org.uk/briefings/Scientist Economists Call to Action fnl.pdf](http://www.gci.org.uk/briefings/Scientist_Economists_Call_to_Action_fnl.pdf)

" The UN Framework Convention on Climate Change recognizes that all nations have a responsibility to curb global warming, consistent with their respective contribution to emissions and capacity to act. Recent analyses indicate the United States—even with aggressive action by other nations—would need to reduce its emissions on the order of 80 percent below 2000 levels by 2050 to have a reasonable chance of limiting warming to 2°C. . . . There is no time to waste. The most risky thing we can do is nothing."

The White House report, says, "For purposes of compliance with Section 515, this report is an "interpreted product" as that term is used in NOAA guidelines and is classified as ** "highly influential." ** [though] . . . This document does not express any regulatory policies of the United States or any of its agencies or provide recommendations for regulatory action."

Here it is: - "Scientific Assessment of the Effects of Global Change on the United States" A Report of the Committee on Environment and Natural Resources National Science and Technology Council" *May 2008*

www.gci.org.uk/briefings/Scientific-AssessmentFINAL.pdf or

www.climate-science.gov/Library/scientific-assessment/Scientific-AssessmentFINAL.pdf

<http://usgovinfo.about.com/b/2008/05/31/white-house-releases-global-warming-report.htm>

"The Age of Stupid" C&C Jun 05, 2008 World Environment Day

Simply the best film on climate change ever made. The 'Age of Stupid' was previewed to a selected audience in London yesterday. This full-length climate docu-drama is certainly informative. It is also authentically hilarious yet gut-wrenching around the folly of our double standards on the global impacts of poverty and climate change - now and into the future.

The film's grim prognosis is seen 'retrospectively' by the actor Peter Postlethwaite. He reviews the descent into the hell-on-earth of runaway climate change from a specially created 'future-archive for a failed civilizations' in the Arctic Ocean. Picking up the words of a Katrina survivor he asks 'how could we have been so stupid?'

The film recognises that the only serious proposal between us and that prognosis-come-true is C&C. As serious critical journalism, this film ranks with Naomi Klein, Robert Fiske and a host of eminent others. But for relevance it outranks them all as it understand the reality in the recent words about climate change of James Hansen: - *"The stakes, for all life on the planet, surpass those of any previous crisis. The greatest danger is continued ignorance and denial, which could make tragic consequences unavoidable."*

An extraordinarily effective piece of work. If five-stars is tops this gets them all. The general release date has not yet been revealed.

<http://www.crudemovie.net/category/film>

All this goes straight to the All Party Parliamentary Group on Climate Change. The news from there is that the UK Climate Bill is back for 'debate' in the UK Parliament next week. Still without any coherent methodology behind its numbers for emissions control, it is said the Government want its 'Royal Assent' before summer recess [Mid July].

This UK 'uni-lateralism' is at odds with the debate beginning again in the US Senate where, the Lieberman 'Climate Act' notwithstanding, the demand for globality [this equals at least India and China on the accounts] hasn't gone away and the 'pragmatic' C&C answer to this stand-off has been upheld on both sides of that divide.

We are now beyond climate denial. So the severe and worsening problem for us is 'picking emissions control numbers out-of-a-hat' . . . that don't add up now to a coherently safe and stable ppmv outcome. With Hansen calling for 350 ppmv [!] all out best local efforts will be wasted in the large global failure that attends this absence. As the film upholds, there is a way to address this - its called C&C.

Fair Shares Fair Choice: -

<http://www.fairsharesfairchoice.com/>

A brilliant local campaign in the UK South West specifically based on C&C: -

http://www.fairsharesfairchoice.com/the_science.asp

. . . . has reached the support figure of 1,000 MPs and Councillors etc. Here is the press release from Sustainability South West: -

http://www.gci.org.uk/press/Fair_Shares_Press_Release.pdf

Nice new website for the indefatigable C&C champion Mayer Hillman: -

<http://www.mayerhillman.com/Articles/tabid/101/EntryID/51/Default.aspx>

A very funny and very clever critique of Foot-printing/C&C at 'Cheat Neutral'

<http://www.maxgladwell.com/2008/05/what-is-your-cheating-footprint/>

Some more C&C input to Government from: -

<http://www.berr.gov.uk/files/file30864.pdf> [Plaid Cymru]

<http://www.berr.gov.uk/files/file30744.pdf> [Brecon Beacons]

<http://www.berr.gov.uk/files/file31378.pdf> [Welsh Greens]

Derek Wall of the UK Green Party – "C&C is Progress"!

<http://another-green-world.blogspot.com/2008/06/permanent-revolution.html>

Garnaut: - "Humanity will lose to Climate" Jun 05, 2008

Prof Ross Garnaut

The Sixth H.W. Arndt Memorial Lecture

"Measuring the Immeasurable:

The Costs and Benefits of Climate Change Mitigation"

The Australian National University

5th June 2008

The Full Speech Text of this very pessimistic lecture is at: -

http://www.gci.org.uk/Garnaut/Measuring_the_Unmeasurable_050608.pdf

Economist Ross Garnaut thinks humanity will probably lose the fight against climate change. The architect of Australia's response to climate change says the issue is "too hard" and there is "just a chance" the world will face up to the problem before it's too late. Professor Garnaut issued the chilling prognosis in a speech in Canberra tonight.

"There is a chance - just a chance - that Australia and the world will manage to develop a position that strikes a good balance between the costs of dangerous climate change and the costs of mitigation," his prepared speech said.

"The consequences of the choice are large enough for it to be worth a large effort to take that chance, in the short period that remains before our options diminish fatefully."

Prof Garnaut was pessimistic about Australia's ability to tackle climate change. "An observation of daily debate and media discussion in Australia could lead one to the view that this issue is too hard for rational policy-making in Australia," he said. "The issues are too complex, the vested interests surrounding it too numerous and intense, the relevant time-frames too long. Climate change policy remains a diabolical problem."

The full, fateful and concluding extract runs as follows: -

"The future poor get no votes anywhere, and least of all in Wall Street, the City of London, and Puxi. My own inclination is towards the use of a low pure rate of time preference, alongside recognition that in dealing with the means of the probability distributions, future incomes should be valued at substantially less per dollar on inter-generational equity grounds.

The net result may justify the application of something like a market rate of interest for good sovereign debt to the discounting of outcomes near the middle of the distributions from the mainstream science. This outcome reflects coincidence of conflicting empirical influences, rather than the logic of debt markets. The Final Report will seek to show sensitivity of the policy conclusions to variations in the discount rate. A different calculus becomes necessary for consideration of the future values of the truly awful possibilities.

THE REVIEWS RECOMMENDATIONS IN A WORLD OF UNCERTAINTY AND IMPORTANT IMMEASUREABLE IMPACTS

The Review successively in the Draft Report, the Supplementary Draft Report and the Final Report will present quantitative measures where it can, and estimate the potentially measureable effects when the data are not available for elaborate modelling of the potentially measureable.

The Draft Report on July 4 and the Final Report will discuss the implications of taking into account the possibility of outcomes being much worse than is suggested by the means of the probability distributions. They will seek to bring to account the value of various non-market services that are valued by Australians and which would be substantially affected by realisation of outcomes predicted by mainstream science.

Doing all of these things in a transparent way will, I hope, reveal to the Governments to which I will be reporting, and to the Australian community, the implications of the climate change policy choices that will be made over the period ahead.

An observation of daily debate and media discussion in Australia could lead one to the view that this issue is too hard for rational policy-making in Australia. The issues are too complex, the vested interests surrounding it too numerous and intense, the relevant time-frames too long.

Following the Lee Lecture last year, Climate Change policy remains a diabolical problem. There is a chance - just a chance - that Australia and the world will manage to develop a position that strikes a good balance between the costs of dangerous climate change and the costs of mitigation. The consequences of the choice are large enough for it to be worth a large effort to take that chance, in the short period that remains before our options diminish fatefully."

Garnaut Climate Change - Interim Report – February 2008 31

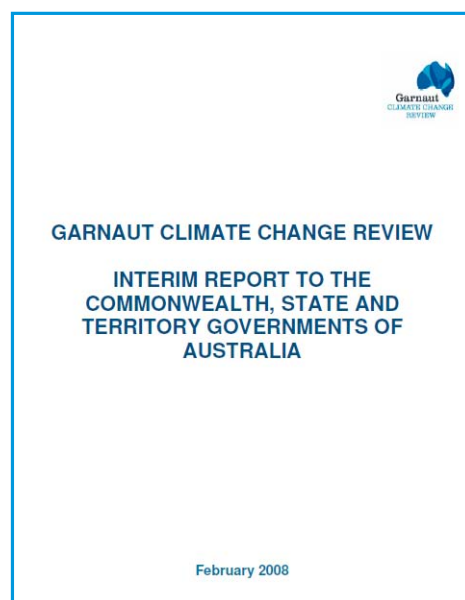
http://www.gci.org.uk/Garnaut/Interim_Report_Feb_2008.pdf

Contraction and convergence

It is clear already that per capita allocation will have to play a strong role in principles for national budgets. Indeed, it appears inevitable that if global per capita emissions fall to the level required by stabilisation scenarios, then the current stark divergences in national per capita emissions rights will inevitably diminish— though variation in national emissions levels will be possible through the trading of emissions rights.

Some argue that a population-based allocation encourages environmentally damaging global population growth. This is unlikely, as population growth is decided by far more fundamental economic and social determinants. This argument is not at all relevant to countries – mostly developed countries, and first of all Australia and Canada – where population is growing through immigration. As discussed later, a focus on per capita allocations is essential for equitable treatment across developed countries with and without high levels of immigration.

The more important point is that any allocative formula that does not emphasise population over current or past emissions levels as the basis for long-term emissions rights has no chance at all of being accepted by most developing countries.



One approach worth considering, consistent with giving weight to population and with the need to allow time for adjustment, would be the “contraction and convergence” approach that was developed by the Global Commons Institute in the early 1990s, and has been discussed favourably in Germany and the United Kingdom in recent times (WGBU, 2003; RCEP, 2000). Under this approach, emissions budgets start out equal to each country’s current emissions, moving over time to equal per capita emissions budgets, while ratcheting down the overall global emissions budget. “Contraction and Convergence” combines political realism about high emitters’ positions in starting from the status quo, with recognition of developing countries’ claims to equitable allocation of rights to the atmosphere.

A key equity lever is how fast to move from the status quo to per capita emissions rights: slower convergence favours higher per capita emitters, and vice versa. It would not make sense to allow convergence to equal per capita emissions at a date after stabilisation of global emissions concentrations had been reached. To make this approach acceptable and flexible enough to a broad majority of countries, including emerging major emitters, additional features would be needed. In particular, the world would need to provide headroom for emissions growth in rapidly growing developing countries, within a general principle of sharing the adjustment burden.

The headroom may take the form of challenging emissions intensity targets for developing countries growing too rapidly for it to be possible for them to hold to a budget tied mechanically to “contraction and convergence”. For example, the benchmark might be for emissions intensity of output to fall by half of the GDP growth rate, which in turn would increase annual permit allocations by half the rate of GDP growth for the countries that are being provided headroom. A limit would need to be placed on the provision of headroom for rapidly growing developing countries.

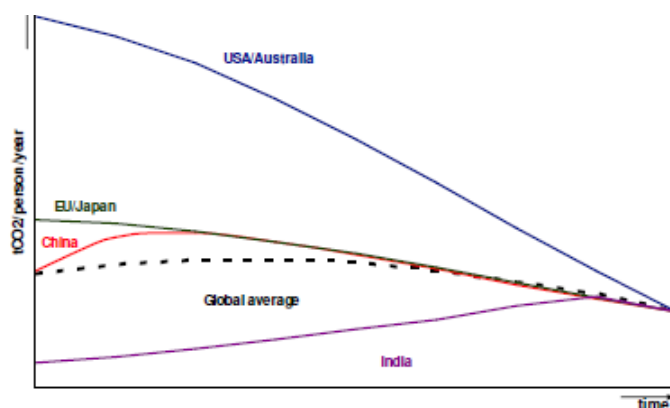
For example, if the “contraction and convergence” approach were to be accepted as the first organising idea, and an “emissions intensity” alternative introduced for rapidly growing developing countries, the “headroom” could be capped at the point where the developing country’s rising emissions per capita reach a benchmark trajectory in per capita emissions. This benchmark trajectory could be based on an average of the emissions profiles of moderately emitting developed countries (e.g. Europe, Japan, New Zealand), which would be expected to be much lower than at present at the point where the two trajectories intersect.

A stylised example of such a scheme is shown in Figure 7. Here, global average per capita emissions are held constant for some time, then reduced. For high per capita emitters such as the United States and Australia (currently around four times global average per capita CO₂ emissions), emissions rights are on a steeper convergence path than developed countries such as Europe and Japan. China, due to be on par with the global average about now, would get headroom for emissions rights above global average per capita levels, linked to GDP growth, until meeting the benchmark trajectory. Low-emitting countries on a per capita basis such as India would receive increasing per capita emissions rights for quite a few years. Assuming that emission rights can be traded internationally, the envisaged convergence can be in terms of national emission rights rather than national emissions. Countries will then be able to emit at above their convergence levels provided that they buy surplus credits from other countries.

To be politically acceptable in the developed countries, developing country participation in trade in permits, from ‘emissions savings’ below their contraction and convergence or emissions intensity growth lines, would need to accept binding targets, transparent monitoring, and a climate change policy or development framework around revenues from sale of permits. Such an approach would provide a strong incentive for developing countries with low emissions per capita, or large opportunities for low-cost reductions in per capita emissions, to accept binding targets.

We are aware that some people in developed countries are critical of the possibility that some low-growth developing countries could benefit from sale of permits, while making minimal mitigation efforts themselves. The final reports will examine the empirical significance of this concern and explore alternative approaches that remove its significance

Figure 7: C&C for different countries with headroom for the rapidly developing economies: a stylised, illustrative scenario time.



Australia's circumstances give us important perspectives to bring to international discussion of these matters. Relevant circumstances include Australia's proximity to the rapidly developing countries of Asia, two of the world's biggest per capita developing country emitters (Indonesia (the world's third largest emitter in absolute terms because of deforestation) and Papua New Guinea (with per capita emissions potentially similar to or higher than Australia, again due to land-use change)), while being one of the three exceptionally large per capita developing country emitters itself. Within a regional agreement, Australia, through development assistance, could assume responsibility for development of emissions monitoring mechanisms. Each country would be free to develop its own domestic policies to achieve its national budgets. But collaboration across countries, through trading and complementary commitments by richer countries, would also be important.

These additional provisions would greatly assist developing countries, and thus make more ambitious commitments possible.

Emissions allocations would be tradable between countries, and revenue used for climate and development needs. Trading of emission rights would tend towards equalisation of the permit price and marginal cost of abatement across countries, contributing to an economically efficient distribution of abatement action. Emissions trading would also be a principal avenue for addressing international equity concerns in greenhouse gas mitigation. These concerns require that developed countries, which are responsible historically for the great bulk of greenhouse gas emissions and which have greater financial capacity, help developing countries meet the costs of mitigation and adaptation.

Many developing countries have low-cost mitigation options, and so would be sellers of permits on the international market, which could pay for the cost of restructuring and offer financial incentives above that cost. For example, developing countries with high current per capita emissions due to deforestation (including Indonesia and PNG) could be expected to reduce their emissions quickly and be financially rewarded for doing so by being able to sell their excess permits (i.e. they will be below their convergence line). Low-emitting and slower growing developing countries are likely to have space below their convergence line which will likewise provide the basis for selling permits on to the international market.

The income generated by reductions in emissions could be large in some developing countries which currently have abundant low-cost abatement opportunities, notably through reduction of deforestation and promotion of reforestation. Such large payments could become controversial in the countries buying permits if they were not embodied in a development framework. Such a framework would need to be agreed between Governments. Such a framework could be developed more readily within a bilateral or regional than within a global arrangement.

Some developing countries might not opt for a domestic emissions trading scheme, finding it instead more efficient to live within their national budgets through the application and administration of a carbon tax. A domestic emissions trading scheme would not be a prerequisite for international trading, as a country, typically through its government, would be able to sell any excess of permits (however that excess is achieved) in the international market.

Progress - EDM 1636 Jun 08, 2008

So far there are 18 signatures on Colin Challen's APPGCC EDM to the House of Commons. Please write your MP a short note encouraging them to sign it too.

The debate on the UK Climate Bill starts tomorrow [09/06/08] and so far the Government doesn't seem to have noticed that one of the reasons that the US Climate Act was blocked was the old-issue of 'globality' ["we will if you will" etc].

This EDM calls for an All Party event that might address the solution to this point.

Early Day Motion EDM 1636 - CROSS-PARTY CONSENSUS ON CLIMATE CHANGE
22.05.2008

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=35918&SESSION=891>

Challen, Colin

"That this House notes the seriousness and urgency of climate change; calls upon the Prime Minister to convene a conference of the leaders of all parties represented in the UK Parliament, the Scottish Parliament and the Welsh Assembly to examine the formation of a cross-party consensus on climate change policy; and believes that all participants in such a conference should assent to there being no pre-conditions on their attendance."

Signatures(18)

Challen, Colin

Williams, Betty

Foster, Michael Jabez

Gibson, Ian

Jones, Lynne

Wilshire, David

Jenkins, Brian

Llwyd, Elfyn

Opik, Lembit

Caton, Martin

Corbyn, Jeremy

Leech, John

Cryer, Ann

Dean, Janet

Drew, David

Walley, Joan

Williams, Hywel

Weir, Mike

A question worthy of an answer for such a conference might be: - *"Could not the colossal war on terror budget be reoriented towards global survival and sustainability...?"* When the situation is understood, it becomes one that demands an answer. Answering that question is clearly linked to the primary question which is, *"Can we solve this [climate] problem faster than we are causing it?"*

So, why not? It is worth pushing this again and again. Such a conference should address these questions. Solving this problem is like trying to crack the sound barrier a, *"can we go faster than"* question? It is a question of, *"can we reverse the current trend where we are creating the problem at roughly twice the rate we are responding to avoid it."* Climate-attributed damages grow at twice the rate of the economy thus: ~ economy:emissions:concentrations:temperature:damages:collapse

i.e. the economy grows at 3%/yr and damages at 6%/yr, but if we could use that "War on Terror" military budget to get emissions to fall a 3%/yr maybe that's one way of envisioning success now there's a 'procurement' challenge.

It is worth it, as the military have said they can't cope with the impending security crisis that accompanies runaway climate change.

The All Party Group on Climate Change called C&C "The Incontestable Truth" to stiffen perceptions in the wake of Gore's, "The Inconvenient Truth". This was partly a reaction to GCI saying that C&C was the principal weapon in "The War on Error" - i.e. it forces one [whoever] to do the sums that relate to the primary question.

Ross Garnaut now says, *"Climate Change policy remains a diabolical problem. There is a chance - just a chance - that . . . the world will manage to develop a position that strikes a good balance between the costs of dangerous climate change and the costs of mitigation. The consequences of the choice are large enough for it to be worth a large effort to take that chance, in the short period that remains before our options diminish fatefully."*

HoC - Climate Bill - debates C&C Jun 10, 2008

<http://www.publications.parliament.uk/pa/cm200708/cmhansrd/cm080609/debt-ext/80609-0006.htm#0806094000001>

Parliamentary Under-Secretary of State for Environment, Food & Rural Affairs (Joan Ruddock): *"My hon. Friend the Member for Morley and Rothwell (Colin Challen) spoke with his usual expertise and commitment."*

Supported by David Howarth: -

"The hon. Member for Morley and Rothwell (Colin Challen) was right to say that if the Government have accepted contraction and convergence, in the 60 percent figure, they must also accept it for any other figure that comes along. The Government have already accepted the principle and cannot go back on it."

This is what Colin Challen (Morley and Rothwell) (Lab) said:

"I, too, welcome the Bill, which shows genuine leadership on climate change. Indeed, that leadership has brought about a degree of consensus in the House. I welcome the Bill because it imposes a legal duty on the Government to continue to work on the mitigation of climate change, even when in future we may encounter more political pressure for adaptation: the two should not, of course, be juxtaposed. We all know, however, that if we told constituents that we were going to solve their flooding problems by putting up a wind farm, they would laugh in our faces and demand immediate action—on the grounds of adaptation—to address their particular concern. I welcome most, if not all, of the amendments made in the other place. They have strengthened the Bill, but it needs further strengthening. In saying that, I refer Members to the words of Dr. James Hansen who, as many will know, works for NASA at the Goddard space research centre."

He said: - *"If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, paleoclimate evidence and ongoing climate change suggest that CO₂ will need to be reduced from its current 385 ppm to at most 350 ppm."*

At the moment, the Bill is predicated on business assumptions that will take us well over 550 parts per million and possibly into the region of 700 parts per million CO₂ equivalent in the atmosphere. Many Members have referred to budgeting to deal with this most serious problem. Bearing in mind such extremely serious figures, I also refer Members to work done by the Tyndall Centre, which has contributed a wealth of information to us, including to the Environmental Audit Committee. It has calculated that if we wanted a pathway that stood even a 30 percent chance of not exceeding the 2° C threshold, the UK would have to cut its total carbon emissions by 70 percent by 2030 and by about 90 percent by 2050. That illustrates the seriousness of the issue of cumulative concentrations of CO₂ in the atmosphere. If we cannot grip the problem early, we will lose out in the long term. Although I support much tougher long-term targets, from which we can back-cast and figure out where we need to be eventually, early targeting and cuts must bite into the cumulative target-setting process."

**Clause 3 refers to the Royal Commission on Environmental Pollution report, "Energy—the Changing Climate", published in 2000, which is seen as a base point for our thinking on climate change. Adoption of the contraction and convergence model was implicit in that report.*

*Some Members might think that I sound a bit like a cracked record, but it is worth stating—the hon. Member for Northavon (Steve Webb) touched on the matter briefly—that one cannot arrive at a figure, whether 50, 60 or 80 percent, without a distribution of the responsibility for tackling climate change. We cannot simply say that the science tells us that the globe must have an average cut of, say, 50 percent by 2050, and that just happens to be our share. We should ask how we arrive at our share. The RCEP report in 2000 considered the various options, calculations and methodologies, and concluded that contraction and convergence were the most elegant and most likely to succeed.**

"Contraction and convergence" is not a phrase that the Government like to use much. I suspect that the reason for that is that one does not necessarily want to set out one's entire stall before going into an international negotiation. Just as we are showing leadership with this Bill, and taking action before any other Parliament in the world, we should go to Poznan later this year, and Copenhagen next year, and back the implicit principle that underpins our Bill. If people ask us what the report says, and we scratch our heads thinking, "We can't mention contraction and convergence, which underpins our whole thinking, as that might reveal our hand," we will not follow through the leadership that the Bill represents.

Thankfully, many more people than perhaps even a year or two ago are coming round to such a way of thinking. Tony Blair now talks about per capita emissions rights being equalised, possibly at 2 tonnes per person globally, although it depends on the rise in global population. Nick Stern, who said in his report that he could not quite get his head around contraction and convergence, now talks about a pragmatic right to the equalisation on a per capita basis of emissions. In January this year, the Prime Minister went to India for the UK-India summit and agreed with the Indian Government that the principle of convergence is very important and deserves serious attention. In Australia, Professor Ross Garnaut, who produced his interim report on climate change on behalf of Prime Minister Kevin Rudd, also strongly supports the contraction and convergence principle, arguing in favour of per capita rights to greenhouse gas emissions around the planet.

It is time that we urged the Government to consider the principle once again, and to make clear in a new clause in the Bill their methodology for arriving at a figure. Until they produce their methodology, they will always be open to the accusation that they are plucking figures out of thin air. If they do not do so, the independent climate change committee, if it is to be asked to bring forward figures, should be under a duty to produce its methodology.

The Bill provides for a duty, but how will we know that it is being taken seriously? The Bill does not provide the means for delivery. A new clause should also be introduced that requires the Treasury to report annually on the effort of UK plc to deliver on the targets under the Bill. As we know, Nick Stern said that it will cost less to avoid the problem if we spend a bit now. In his report, the actual figures—working on the basis of up to 550 parts per million—are that spending 1 percent of GDP might avoid 5 to 20 percent of damage to GDP down the line. As I said, that 1 percent is predicated on a possible 550 parts per million concentration in the atmosphere.

If we are talking about a 2° C limit on the increase, many people now know that 550 parts per million is totally over the top. A 4° C or even 5° C increase is more likely. The Government were presented with that science in Exeter, before the Gleneagles conference. Clearly, we should be considering a greater spend. According to Nick Stern, if we wanted to aim for between 450 and 500 parts per million, the cost would be 3 percent of GDP. In 2006, when his report was published, that would have been nearly £40 billion—obviously, 1 percent is about £13 billion. Have we spent anything like £13 billion, year on year, on tackling the problem? No, obviously not; not even half that, I suspect, although working out what we spend is extremely complex—is it a gross or net figure?

The Treasury, not the piddling Department for Environment, Food and Rural Affairs—not my words, but those of the hon. Member for Northavon (Steve Webb); I do not necessarily agree with his assessment, but it is certainly not an assessment that one could make of the Treasury, the least piddling Government Department—should have a duty under the Bill to report annually on the effort of UK plc to deliver on its targets. I hope that other Members will join me in supporting that principle on Report.

With that couple of small caveats, I very much welcome the Bill and hope that it will proceed with all-party support.

Mrs Ruddock finished reassuringly, "The Bill requires the committee to publish its advice and the reasons for it, so if the Government were to set a target at a different level, they would have to say why. The issue of transparency is covered."



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25th June 2008

Dear Mr Meyer,

Re: The Economics of Climate Change: The Stern Review (9780521700801)

Further to our recent communication on the issue of The Stern Review and unattributed references to the Global Commons Institute (GCI) and the principle of Contraction and Convergence, I am now writing to formally confirm the steps Cambridge University Press has agreed to take in connection with this matter.

Cambridge is happy to publish the following attribution at the next reprinting of The Stern Review:

Source: Contraction and Convergence TM (C&C) is the science-based, global climate-policy framework proposed to the UN since 1990 by the Global Commons Institute (GCI). www.gci.org.uk/briefings/ICE.pdf

This attribution will appear on page 47 of The Stern Review (which we believe is where the first reference to the C&C principle arises).

Cambridge has also communicated the above attribution to the authoring team of The Stern Review and they have agreed in principle to include the same attribution on the government website from which the Report can be accessed (http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_Report.cfm), although beyond passing the changes to the authoring team, the actual additions to the website are beyond Cambridge's control.

I hope that this belated attribution is satisfactory. If you have any further queries please do not hesitate to contact me.

Yours sincerely,

Melissa Macbeth
Intellectual Property Controller
mmacbeth@cambridge.org

CUP Agree GCI attribution on C&C in Stern Review Apr 14, 2000

Chartered Institute of Water and Environmental Management reaffirms C&C:

www.gci.org.uk/briefings/CIWEM_Advocacy_Plan_Climate_Change.pdf

"The temperature threshold deemed liveable is that future warming must be limited to less than 2°C above pre-industrial levels (currently thought to be equivalent to an atmospheric carbon dioxide equivalent of less than 400 parts per million).

Globally, greenhouse gas emissions must be reduced in line with this and the most equitable way of doing so is through Contraction and Convergence."

National Theatre Event on Sustainability

Opening Address Margaret Hodge, Minister for Culture, said, 'A quarter of the adult population attends the theatre each year. Audiences are increasingly aware of environmental issues. You're missing a trick if you don't trumpet your successes to the audience.'

10am. 'Perspectives'

John Vidal Chairing the Session said: -

"The whole idea of contraction and convergence came from a violinist. It's a superb example of how the arts has put a great idea on the international stage."

http://www.ashdendirectory.org.uk/featuresView.asp?pageIdentifier=200869_93034000&view=

Pulitzer "Helium Centre" starts a C&C debate.

"Should a global climate agreement hold the US to a higher environmental standard than the rest of the world?" [Lead article by: - Caroline Harmon].

It's . . . the responses . . . phew . . .

<http://www.helium.com/items/922857-should-a-global-climate-agreement-hold-the-us-higher-environmental-standard-rest?page=1>

"Assuming potential problems could be overcome, Contraction and Convergence offers a stunningly simple way of applying the same environmental standards to all. At the same time it would clearly demand more action from some than others. If it were applied on a worldwide scale and each government were given a quota based on their country's population, there could also be major advantages to international development such as poor countries being able to generate income by selling spare carbon credits to those in rich countries. A global climate agreement is needed urgently, but it will only work if all countries are involved and prepared to do as much as they can, not as little as they can get away with. Let's hope all countries, the US included, will rise to the challenge and ensure a sustainable, equal future for all."

Get Real Gordon: Market Won't Save Us From Climate Change, Green-MEP

www.carolinelucasmep.org.uk/2008/06/13/get-real-gordon-the-free-market-wont-save-us-from-dangerous-climate-change-says-green-euro-mp/

"Central Government has an absolutely key role to play in establishing a mandatory policy framework - based on a combination of regulatory and fiscal policy in line with the principles of contraction and convergence, and with equal per capita emission rights - to enable everyone to make the urgent and ambitious changes necessary."

Speaks at Campaign Against Climate Change this Weekend: -

www.campaigncc.org/forum.shtml

The fair Molly Scott Cato keeps arguing C&C for the UK Green Party

"The planet's atmosphere is also a common wealth. At present this is being greedily hoarded by the Western nations, who use it up with their industrial pollution, especially carbon dioxide. The Contraction and Convergence response to the problem of climate change takes the idea of commons seriously and assigns the right to pollute the atmosphere on fairly between the world's citizens."

<http://gaianeconomics.blogspot.com/2008/05/common-treasurer.html>

Tata Energy Research Institute [Dr. Pachauri's Centre in India].

http://www.actionforaglobalclimatecommunity.org/documents/Paper1-MovingGHGtargets-adjustingthescales_000.pdf

"contraction and convergence . . . the most ideal approach"

CSE India [Veteran and formidable Campaigning Centre in Delhi]

www.slideshare.net/bmbks321/climate-change-by-anumita?src=embed

Slide 15:

"Trading must have two key principles: -

It must be done in an equitable manner. We must have equitable per capita entitlements and a clear strategy for contraction and convergence. We must set an upper limit for greenhouse gas concentrations. It must be linked to non-carbon or zero-carbon energy."

The Left and Climate Change - why green goes better with red

By: Damian OBroin of Irish Left Review June 11th, 2008

<http://www.irishleftreview.org/2008/06/11/left-climate-change-green-red/>

"A contraction and convergence system would work along the following lines. For simplicity, let's look at in national, rather than global terms. We take a time horizon - let's say 2050 - and a target for reducing our emissions. Friends of the Earth argue that we need to reduce our greenhouse gas emissions by at least 90% by 2050. For Ireland that would mean bringing per capita emissions down from 17 tonnes per person to around 2 tonnes per person by 2050[1].

Everyone is then given an annual carbon quota - initially of 17 tonnes. If you use less than that, you can sell your excess credit to those who are more profligate with their carbon. Then each year, the personal carbon quota reduces towards the ultimate target. If you take a linear reduction that would mean your quota would reduce by 0.375 tonnes each year.

So how is this redistributive? Well, generally speaking, the wealthier you are, the more carbon you're going to produce. And likewise, poorer people tend not to emit as much. So if wealthier people want to continue their high-carbon lifestyle they'll have to buy credits from those with excess - who will tend to be either very carbon conscious, or less well-off, or both. Hey presto, we have a wealth redistribution system together with an equitable distribution of the 'right-to-pollute'.

When you transfer this to the global arena, the scale of wealth distribution would be utterly transformative. Just look at the per capita emissions of countries like Chad, Uganda and Rwanda, all of which have per capita carbon dioxide emissions of less than 0.1 tonnes. If the developed North wanted to continue with its carbon intensive lifestyle, it would have to buy large amounts of carbon credits from the South. The contraction and convergence system facilitates a global transfer of wealth from the richest to the poorest while still allowing under-developed countries to grow to a sustainable level."

Sarkozy now for C&C? Jun 14, 2008

Joint statement by M. Nicolas SARKOZY, President of the Republic and Mrs Angela MERKEL, Chancellor of the Federal Republic of Germany on the Climate

"The international climate regime should be based on legitimate principles of equity, such as long-term convergence of emission levels per capita in the various countries."

At the Ninth Franco-German Council of Ministers Straubing (Bavaria) – 9 June 2008

"France and Germany confirm their common commitment to reach a political agreement by the end of 2008 in the Council and the European Parliament on the climate package put forward by the European Commission. The adoption of the climate package will confirm the European Union's ambition when it comes to fighting climate change by providing it with an operational tool to fulfil the commitments it made in the European Council meeting of March 2007. This will enable the Union to be a driving force in the international negotiations engaged in Bali.

France and Germany consider paramount the goal to achieve a global agreement in the framework of the United Nations for the post 2012 period, based on the principle of common but differentiated responsibility. The international climate regime should be based on legitimate principles of equity, such as long-term convergence of emission levels per capita in the various countries.

France and Germany would like the adoption of the climate package to contribute to the progress of international negotiations. Europe must also recognise the need to support developing and emerging countries in their efforts to limit emissions, including in the field of technology. A part of the income generated by the sale of emission quotas in Europe should be used to finance common efforts, while member states should decide [...]"

Elysee Présidence de la République

<http://gouvactu.adminet.fr/joint-statement-by-m.-nicolas-sarkozy-president-of-the-republic-and-mrs-angela-merkel-chancellor-of-the-federal-republic-of-germany-on-the-climate-synd0019681.html>

In response to the C&C piece on Helium yesterday: -

<http://www.helium.com/items/1079357-contraction-and-convergence>

The negotiations on climate change at the UN over nearly twenty years have proved to be an increasingly bewildering exercise in the complexity of avoidance. So Caroline Harmon's commentary on Contraction and Convergence is welcome. She said, "[C&C] offers a stunningly simple way of applying the same environmental standards to all."

C&C was put forward many years ago. It was partly in the spirit of the Santa Fe Institute [to the effect], 'beneath all complexity lies a deep simplicity'.

The nearest we all came during that time to getting global agreement in terms of C&C was at 'COP-3' to the UN Climate Treaty in Kyoto in 1997. In simple terms, the US, China, the Africa Group of Nations and India saw C&C and the US Senate's *Byrd Hagel Resolution* as compatible and said so to the record: -

[See reference - http://www.gci.org.uk/temp/COP3_Transcript.pdf]

However, some 'green governments and non-government organisations' preferred 'Kyoto's' complex fire-fights as preferable and the moment was lost.

Even still now ten years on, we continue to cause the 'climate-problem' faster than we respond to avoid it. The import of this seems still to be less than fully appreciated. The objective of the UN Climate Treaty requires that our ghg emissions fall globally, yet still they rise. While this is now generally understood, what is less well understood is that, even were they to fall to nearly zero globally [contraction] and be shared internationally, 'rationally' [convergence], this full-term integral of 'contraction and convergence' still needs to be as a rate 'fast-enough' - say by 2060 - or as a weight 'light-enough' - say burning one last .25 trillion tonnes carbon - to avoid the runaway

effects of doing this too slowly which will be to influence many of the natural sinks and/or stocks for these gases turn and become their sources as temperature rises further.

Going to 'COP-15' next year for 'the global deal' that is supposed to save us all from the imminently dangerous rates of global climate change, we probably have another [is it the last?] chance to re-establish such an agreement. The key is to turn Kyoto's so-called 'market-based framework' into C&C's 'framework-based market'.

Here are some references that relate to that narrative in that spirit and the opportunity that so many say is still there and still 'viable': -

<http://www.gci.org.uk/briefings/ICE.pdf>

See revisable C&C rates accommodating sink failure: -

www.gci.org.uk/Animations/BENN_C&C_Animation.exe

and campaign and support for C&C in 2008: -

www.gci.org.uk/kite/Carbon_Countdown.pdf

Struggle of ideas. Are K2 and C&S > C&C? Jun 16, 2008

Do 'Kyoto-Two' [K-2] and 'Cap and Share' [C&S] combine to replace C&C? I don't think they do, but then arguments are there

GCI proposes the UNFCCC will be recognised for what it is, the UNFCCC, the United Nations Framework Convention for Contraction and Convergence: - [a] the equalisation of CO₂ entitlement per capita [b] under the global emissions cap that saves the climate from changing dangerously and [c] the declared 'constitutional' need, to declare and measure this up-front [i.e. as cause and not merely as effect] and [d] keep on declaring and measuring and implementing this as various and multiple efforts to avoid the worst unfold.

C&S is proposing, 'distributional equity, per capita and globally' in respect of resources [particularly emissions] and money [as EBCUS - Energy Backed Currency Units] that must be immediate for both and immediately insisted upon.

K-2 is proposing globally capping oil, coal and gas production and then auctioning permits for this back to producers of oil coal and gas and then be 're-distributing the trillions of dollars' raised this way for charitable purposes related to climate change.

Last weekend the Campaign Against Climate Change had an event with many different workshops. One was a "C&C/C&S" shared workshop. GC/I did the C&C bit and Laurence Matthews of C&S did the other bit. Richard Douthwaite of FEASTA and author of C&S appeared briefly and then left, but his FEASTA colleague Brian Davey stayed throughout, asking some relevant questions at the end. K-2 as far as I know were not represented at the weekend but FEASTA are talking the tie-in.

Laurence Matthews is a colleague and friend whom I met at the Schumacher College course on C&C a couple of years ago. He first made the point that as far as he was concerned, C&S was good and practical locally-nationally but not internationally.

He then developed this case neatly by saying the relevant 'comparison' of C&S was not with C&C but with Personal Carbon Trading [PCAs], Tradable (personal) Emissions Quotas [TEQs] and so on. He viewed C&S not as a replacement internationally for C&C but as an improvement on PCAs TEQs locally-nationally. Using an analogy - within a country - he likened that carbon production/consumption 'management-challenge' to a garden hose; - one end is connected to the 'tap' on the wall the other is connected to the 'sprinkler'. He said that C&S deals with the problem at the tap end and the where TEQs PCAs etc try and deal with the problem at the sprinkler end. In other words, managing one-hole as the 'tap' rather than many-holes in the 'sprinkler' 'simplifies' matters and took the view that this is sensible and preferable. This 'national' policy debate about the management of 'consumption patterns' seems relevant to me and doubtless this C&S/PCAs-TEQs debate is going to pick-up momentum sometime soon.

Here's a bit about how and why this doesn't resolve the headline issue starting with an appreciation of Richard Douthwaite and his work. Since I met Richard in 1993, I have known him in the role of - for want of a *role-title* - a "grass-roots macro-economist". That role sounds awkward and a paradox and maybe it is, but the questions he was seeking to answer seemed right to me. Taking to him as such, I would say without hesitation [and still say] that the body of his work, from then [the "Growth Illusion"] onwards, makes him outstanding and head and shoulders above most if not all the great and the grand-economists of the past and the present because unlike them, the pressing relevance of his work lay and still lies vastly in its links to climate change and work on what to do about it.

In other words, from Marx via Keynes to Milton Friedman, from past to present and from left and right - and so embracing a lot of big names - very few people that I can think of have had the instinct, the clarity and the courage to address the fundamental issues not of 'scarcity' but of limits - global limits - and the relevance of this to 'constitutional behaviour', public and economic policy.

I pay tribute to the fact that Richard Douthwaite is one of the few who have. That - and for the record - stands and that marks him out for distinction. He was unmoved by add-on monetarist nostrums and global cost-benefit calculations from 'arriviste' green-economists. He rightly saw that these were gauged to the political tolerances of the guardians of the free-market and the status quo [examples on demand] and not going to do anything except help to make things worse.

He was and still is a fundamentalist prepared to face fundamental questions, identify fundamental failures and put forward fundamental answers. That is said from my perspective and, for what its worth, is said with great respect; we fought and slew many dragons together.

However, from there on and also for the record, I also say that the recent huge effort put by him through FEASTA [his Irish-based economics group] to simply displace C&C with this new wave of C&S 'developments' and 'improvements' on C&C - in effect the replacement of C&C - has been and is misjudged. While the words are there in his documentation making these global-claims, the global-arguments and most crucially the trend-analysis and the global-numbers, justifying them - not to mention the basic political nous of 'consolidation' - are not.

While Richard worked with me in GCI during the 1990s these 'policy-type-issues' were there, but not obviously dominant as a cause of tension for our *modus operandi*. The primary battles we faced at that time to frame the problem ['Expansion and Divergence'], let-alone the solution [Contraction and Convergence], were so difficult and even desperate, that to survive to work let-alone campaign another week was a near miracle. Dragons were big and well-connected with their ideological clients and masters. But for good clean argument and some connections of our own, we could not have fought let alone won a round in the battle against 'the economics of genocide' - see the record COP1 [1995] and IPCC SAR WG3 Chapter 6 [1996].

By 1997 we had fought for what became the near-miss Kyoto-climax that was clearly defined in terms of C&C. After that in 2000 came the Royal Commission on Environmental Pollution [RCEP]. With RCEP we had another real result; it was clear and on-the-official government-record C&C advocacy. This required a Government response, which there was, and this reference has been and still is a really significant point from which to further leverage the debate in favour of C&C since that time. With real obstacles to overcome and to the best of my ability, I have since then and it's not over yet. For what its worth, the GCI plan is dead simple: - the UNFCCC will be recognised [reframed?] and reprogrammed as the UNFCC&C and act accordingly: -

i.e. [a] the equalisation of CO₂ entitlement per capita [b] under the global emissions cap that saves the climate from changing dangerously and [c] the declared 'constitutional' need, to declare and measure this up-front [i.e. as cause and not merely as effect] and [d] keep on declaring and measuring and implementing this as efforts to avoid the worst unfold.

As recently as 2006, Mr Nicholas Stern went out his way to identify, isolate and in global campaign supported and paid for by the British Government, ridicule C&C as an anonymous and unsubstantiated "assertion" and "unlikely to get political support."

C&C does have support: -

http://www.gci.org.uk/CACC_2008.pdf

and Mr Stern has now in 2008 reversed his position and made the *"equalization of emissions entitlements per capita globally"* the cornerstone of *"the global deal we need"*. He has separately written to Cambridge University Press agreeing with their request that the "Stern Review" which they published in 2006 must be corrected on the provenance of C&C forthwith.

To be blunt, over twenty years I am now no stranger to battling with Whitehall the Government and its 'voices', so was a tinge of predictable unpleasantness and it remains to be seen whether HMSO [who also published the Stern Review] will follow suit.

What was sad was that during this time, from early in this decade, Richard with FEASTA started to go break away from GCI and C&C and the driving force in his fundamental prescriptions came to the fore summarised as: - 'distributional equity, per capita and globally' in respect of resources [e.g. emissions] and money [e.g. EBCUS - Energy Backed Currency Units - must be immediate and immediately insisted upon. Sect. 3 page 22

www.feasta.org/documents/energy/Cap-and-Share-May08.pdf

The battle with Stern was 'routine'. This battle is not and I am unable to support what to me is FEASTA/Richard's extent of extreme meglo-demand-management with C&S and certainly not in the name of any defensible 'equity'. I don't think it is remotely achievable or, if it was, that it would be constructive or helpful or last and while it may generate some 'extreme support' I do think this will resolve problems. It may even help trigger rather than avoid conflict. So showcasing this 'full-case-C&S' as 'an improvement on C&C' is inaccurate and damaging to C&C and I will say so.

It is still hard to get acceptance of the equalization of per capita entitlements to the 'tipping point' though it is coming together now. Never mind communists-in-corduroys, next to this 'full-case-C&S' will be seen as a subterfuge for what, in an inverse way, is a shock-doctrine that makes Milton Friedman and the Chicago School boys seem like small fish in a big pond.

Richard's full-case C&S proposal is a big wish in a big pond. Fine. But however, much it is wished for, this 'global and God-like' version of C&S is beyond the 'Commintern' in scope and all-over-again, will do nothing but crumble into more nourishment for the very forces Richard rightly and understandably seeks, but sadly fails, to subdue. In other words it is really 'divisive'.

This is not a grumble. As I see it, Richard's and FEASTA's stature and relevance diminishes with his/their 'insistence' on this kind of scheme especially at this scale. And there are issues here; I doubt FEASTA's grass-roots are cognizant of let-alone conversant with this full-case and its import and I hope Richard will calm and tone down a bit. After all that C&S and Kyoto-2 sum in apples-and-oranges - as the Italians say 'Macedonia' - to fruit-salad. And I muse that Oliver Tickell and the K-2 advocates might think again before agreeing the marriage of ideas C&S want and what they're after.

K-2 has its alternative and equally impossible 'totalitarian' tendencies but seems more 'innocent' but like C&S, K-2 will struggle get to first base on globally capping oil, coal and gas production and producers let-alone phase. Good intent should be encouraged and ambition shouldn't necessarily be discouraged but, if they do, K-2 says that from the undisclosed and fictitious centre of it-[/they/whoever-it-is], will be 're-distributing the trillions of dollars' raised this way! This is delusional.

If they are serious about that, they will have a primary conflict with C&S over the money-management issues i.e. K-2's virtual 'charity-without-cash-limits' versus the annual set-up and iterations of the command/demand of the C&S money-creation-monopoly, and the approaches will be seen as quite different and oppositional. Jointly or severally they are hardly realistic developments or even improvements upon C&C.

In the 1990's C&C's opposite - D&D - was 'dither and drift'. K2 and/or C&S is 'delusional and divisive' and is/are not [a] replacement[s] for C&C.

Godd time for the struggle of ideas though.



C&C Support Rising - Guardian Jun 16, 2008

"Many, now including the UK parliament's all-party climate group, Gordon Brown, Tony Blair, David King, Ross Garnaut and his equivalent here Nicholas Stern, Angela Merkel, Nicholas Sarkozy, Crispin Tickell and many others support this [C&C] argument".

<http://www.guardian.co.uk/environment/2008/jun/17/climatechange.geology>

"Mutually Assured Destruction (MAD) achieved a "balance of terror" during the cold war. It was frightening but it was "symmetric" on an east-west axis, and it was ultimately "rational" that neither side pushed the button. Since then, and despite the efforts of the UN, the near deadlock on restraining the greenhouse gas emissions causing climate to change is now 20 years old.

This has created an international political climate of Mutually Assured Suicide (MAS). This time, on a north-south axis, both sides have got their feet flat on the accelerator pedals, and it is now more terrifying because it's patent. Also, unlike MAD, while imminent climate disaster may become symmetric in effect, it is not symmetric in its causes, and the rationality that caused us to stop last time now needs to be adjusted to reflect this asymmetry.

The objective of the UN climate treaty is framed as an upper limit to greenhouse gas accumulation in the global atmosphere on which we all depend for a stable climate. Emissions are proportional to wealth so both of these, as a tension between rich and poor within the over-consumption causing climate change, are problems. That is why the UN itself has said that an overall contraction of emissions within which a convergence to equal shares per capita is "inevitably required" to achieve the treaty's objective.

Many, now including the UK parliament's all-party climate group, Gordon Brown, Tony Blair, David King, Ross Garnaut and his equivalent here Nicholas Stern, Angela Merkel, Nicholas Sarkozy, Crispin Tickell and many others support this argument. We must make the transition Lynas rightly argues for, and we must redress both the over-consumption and the asymmetry within it."

Aubrey Meyer
The Global Commons Institute

World Bank's CG&D backs C&C Jun 17, 2008

World Bank's Commission on Growth and Development
Releases Final Report and backs C&C

<http://www.growthcommission.org/storage/cgdev/documents/Report/Overview.pdf>

Commission on Growth and Development

World Bank

1818 H Street NW

MSN MC-4-401

Washington, DC 20433

"Convergence in long-term per capita emissions is both feasible and desirable. As countries approach high-income levels, they should be entitled to the same per capita emissions as other advanced economies. These entitlements must be consistent with a safe global level of emissions."

The Growth Report:

Strategies for Sustained Growth and Inclusive Development

Global Warming and Climate Change

Climate change is the quintessential global challenge: the harm greenhouse gases do is not confined to the country that emitted them. Indeed, poorer countries, which have contributed least to the problem, may suffer the most. They may need to take defensive action against the consequences of climate change sooner rather than later. We don't know how soon. But international contingency plans to provide help to a country in case of need are underway and should be speeded up.

Preventing climate change (or "mitigation," as the experts call it) is better than palliating its effects. But how can we cut carbon emissions to safe levels by mid-century while also accommodating the growth of developing countries? At the moment the debate has reached a conceptual impasse.

Technology offers one answer. Advanced economies should promote the creation of new techniques for cutting carbon and saving energy. The world needs to reduce radically the energy and carbon-intensity of global growth.

That is the only way developing countries can grow rapidly without subjecting the world to potentially catastrophic global warming. Second, global mitigation efforts need to satisfy the dual criteria of efficiency (that is, cutting the most emissions at the least cost) and fairness.

In the interests of fairness, advanced economies, which are responsible for most of the problem, should take the lead in setting medium-term targets for cuts in their own emissions.

Many people also argue that developing countries should commit to longer term, 50-year emissions targets. After all, these countries are responsible for a growing share of gases in the atmosphere. But this, we feel, is the wrong approach. Poor developing countries can make a bigger, quicker contribution by cooperating in cross-border mitigation projects.

These projects meet the dual criteria of efficiency and fairness. The cuts are made in poor countries, which is efficient. But the costs are borne by richer countries, which is fair.

Beyond this contribution, developing countries also need to improve energy efficiency, import new technologies rapidly, and eliminate energy subsidies.

Convergence in long-term per capita emissions is both feasible and desirable. As countries approach high-income levels, they should be entitled to the same per capita emissions as other advanced economies. These entitlements must be consistent with a safe global level of emissions.

This limit is currently estimated to be 14.8 gigatonnes per year, or 2.3 tons per person. The current global per capita CO₂ emissions are 4.8 tons, about double the safe level.

About Us

Ideas Informing Action

Launched in April 2006, the Commission on Growth and Development brings together twenty-one leading practitioners from government, business and the policymaking arenas, mostly from the developing world. The Commission is chaired by Nobel Laureate Michael Spence, former Dean of the Stanford Graduate Business School, and Danny Leipziger, Vice-President, World Bank, is the Commission's Vice-Chair.

Over a period of two years the Commission will seek to gather the best understanding there is about the policies and strategies that underlie rapid and sustained economic growth and poverty reduction. The Commission's audience is the leaders of developing countries.

The Commission is supported by the Governments of Australia, Sweden, the Netherlands, and United Kingdom, the William and Flora Hewlett Foundation, and the World Bank.

Motivation

The Commission has been brought together by the belief that the world's challenges - poverty, environment, misunderstandings within and between nations, vast differences in living standards within and across countries - are best met in conditions of rising and sustained prosperity, and expanding economic opportunities.

The Commission was established "to take stock of the state of theoretical and empirical knowledge on economic growth with a view to drawing implications for policy for the current and next generation of policymakers."

Its creation responds to:

the sense that poverty cannot be reduced in isolation of economic growth, and that link has been missing in the minds and strategies of many;

growing evidence that the economic and social forces underlying rapid and sustained growth are much less well understood than generally thought - economic advice to developing countries has been given with more confidence than justified by the state of knowledge;

realization that the accumulation of highly relevant (both successful and unsuccessful)

growth experiences over the past 20 years provides a unique source of learning; and

growing awareness that, except for China and India, and other rapidly growing economies in East Asia, developing countries need to accelerate their rates of growth significantly for their incomes to catch up with income levels in industrialized countries, and for the world to achieve a better balance in the distribution of wealth and opportunity.

The Commission's activities have taken place at three levels: 1) the Commission defined the themes and issues it thinks important for growth and development; 2) the Commission invited world renowned academics, practitioners and experts to author papers exploring the state of knowledge in these themes and issues; those were reviewed and discussed at the Commission workshops; and 3) a working group which interacts with academics and Commissioners, reviews and comments on papers throughout the process.

The working group support the Chairman in its drafting of the final report by reviewing interim drafts and providing comments.

The Commission is funded by the William and Flora Hewlett Foundation, the governments of Australia, Netherlands, Sweden, and the United Kingdom, and the World Bank.

C&C backed by India Europe Jun 17, 2008

High Level India-Europe Seminar

Climate Change and Sustainable Development

Cecilienhof, Potsdam , 27th – 29th May 2008

Concluding statement by the Co-Chairs Nitin Desai and Sir Crispin Tickell

"We agreed alternative time paths for equal per capita emissions by 2050, on the basis of equal per capita entitlements to the global atmosphere."

We start on the basis, now overwhelmingly supported by the science, that climate change is the greatest risk now facing humanity.

In his address to participants to the High Level India-Europe Seminar in Potsdam May

2008, President Barroso said that this event brought together diverse views seeking to converge on a common position. He referred to the compelling evidence of dangerous climate change, citizens' concerns and the need for a global response to bring about steep and rapid reductions in greenhouse gases: India and Europe had much in common which provided a basis for a constructive dialogue.

Our deliberations opened with reminders of the evidence of climate destabilisation as a result of accumulating carbon and other greenhouse gases in the atmosphere and of the consequences, particularly for the poorest.

In response to these challenges, we recognise that the prosperity enjoyed by the industrialised countries, including many within the European Union, was achieved historically by the use of energy derived from fossil fuels, and that it is just that they should bear an appropriate share of the cost of enabling poorer countries to harness energy from clean and renewable sources.

We need to identify practical steps that will enable India and Europe to exercise the leadership required to ensure that long term development can be advanced without damage to the planet. We believe that India and the EU are ideal partners for initiating this promising co-operation on the basis of fairness and equality. As a solidly-based democracy, based on the rule of law, India offers a range of skills and capacities which could be developed in partnerships with European enterprises, not only in industry but also in the green-related service economy. For its part, the EU has taken the lead in negotiating the Kyoto Protocol and moving towards the post carbon economy.

We believe that recognition of convergence towards equal per capita emissions is central to the process of achieving common agreement, as stated clearly by Dr Manmohan Singh. We note that clear principles are needed to achieve a democratic mandate and win political support for the scale of the transformation required.

We note that the EU and India are both challenged by climate destabilisation and the impact of possible tipping points, such rapid sea-level rise, sustained drought or black carbon reducing the albedo effect on the cryosphere, especially the Arctic and Himalayan glaciers with potentially dangerous results;

We should therefore resolve to accelerate progress on ambitious and effective climate mitigation and adaptation through interim flexible solutions and quick wins through Indian –European cooperation. Such new initiatives will support the Bali road map process within the UNFCCC framework and bring new impetus to tackle climate change while maintaining momentum towards sustainable economic development.

We agreed that:

1. The substance of these discussions should be communicated to the European Institutions to Foreign Ministers and to other relevant Ministries in the EU and India , as a contribution to the EU-India Summit due to take place later this year.
2. An India-Europe Working Group should be set up to explore a joint and equitable approach to the challenges of climate change and development.
3. A further High Level Seminar should be organised in Delhi within eight months to consider proposals, based upon substantive research by the Working Group, into the following areas:
 - a. Processes and institutional arrangements: -
 - alternative time paths for equal per capita emissions by 2050, on the basis of equal per capita entitlements to the global atmosphere;
 - models to show how such a partnership might work, in both the short and long term, within the principle of equity;
 - the possibilities of linking India with the EU ETS and associated technical issues;
 - a road map to a global emissions trading system the political and economic institutions required to implement such proposals,
 - how an India-Europe partnership might in due course be enlarged to embrace other partners;
 - possible sets of minimum measures for effective action on climate change relevant and appropriate for the EU and India ;
 - b. Research and development: -

the creation of a network of European and Indian research institutes on climate-related issues such as sustainable biomass, energy, black carbon, solar thermal, desalination, monsoon dynamics, health, economic impacts, and other issues;

c. Finance and technology: -

options for financing adaptation and sustainable development, including:

how an India-Europe partnership might promote sustainable investments in ecosystems and the services they provide, including further development of resource accounting and valuation techniques;

the scope for local and sectoral co-operation including technology transfer, eco-innovation and intellectual property rights issues;

information sharing to promote technologies which offer early success, including sustainable biomass, rural energy development, solar thermal and use of information technology;

ways of encouraging joint private sector partnerships to support adaptation and mitigation.

We look forward to a constructive response from governments and European institutions in support of closer cooperation to bring about practical solutions that can tackle climate change within the context of sustainable economic development.

Nitin Desai and Sir Crispin Tickell - Cecillienhof, Potsdam , 27 May 2008

C&C - Peter Head of ARUP Jun 17, 2008

THE BRUNEL LECTURE 2008

www.arup.com/_assets/download/72B9BD7D-19BB-316E-40000ADE36037C13.pdf or
http://www.gci.org.uk/ARUP/Peter_Head_Brunel.pdf

By Peter HEAD OBE FREng FRSA

Entering the Ecological Age: THE ENGINEER'S ROLE 158 INTERNATIONAL POLICIES

UN Contraction and Convergence

"All nations in the world benefit from healthy eco-systems in other countries but they do little to help pay for their preservation. There is a desperate need to create an effective policy for preserving healthy ecosystems by providing incentives and the resources to do so. The Kyoto protocol and what may follow from it is the first attempt to tackle this for the earth's atmosphere to which no one has been able to claim ownership. The Contract and Convergence approach promoted by UN is a well thought through and potentially powerful approach which also addresses fair distribution. The logic of this underpins this paper's model of convergence to living within environmental limits and the two are mutually supportive."

158 Meyer, Aubrey, The fair choice for climate change, BBC News,
<http://news.bbc.co.uk/1/hi/sci/tech/4994296.stm>, (May 18 2006).



C=P and vice versa Jun 18, 2008

Consumption equals Production and vice versa. *Survival equals both at rates proportional to the objective of the UNFCCC*.

Just as the Green Party renews its call for C&C: -

<http://www.greenparty.org.uk/news/3454>

. . . the small matter of the arithmetic of * . . . * escapes those who don't.

To help track the quantitative issues that have arisen for the avoidance of dangerous rates of climate change, here is a 'zoomable' overview chart of the three 'climate-scenarios' [acceptable 350ppmv, Dangerous 450 ppmv and Impossible 550 ppmv] as in the first chapter of Mark Levene and David Cromwell's book "Surviving Climate Change": -

www.gci.org.uk/Book/Surviving_Climate_Change.pdf

But in this graphic the scenarios are repeated in two forms that may help understanding of C=P at 'rates' that keep the risks of runaway climate change low enough to avoid that: -

www.gci.org.uk/images/Poster_Oil_Coal_Gas_350_450_550.pdf

[a] as a 'consumers' protocol i.e. UNFCCC and

[b] as a 'producer's protocol i.e. after Colin Campbell's 'depletion' data [and embracing the idea of the depletion-protocol thereto] but extended to include coal [which isn't depleting] and gas and oil which are but with different pressure-dynamics. As can quickly be seen, the need is obviously there to cut through known reserves of fossil fuel to keep the risk level to that shown in 'acceptable'. However, this zero emissions globally by 2050 for 350 ppmv, must now be read in the light of the coupled model results from the GCM proxies published in IPCC AR4 WG1 Chapter Ten. These show that even approaching that rate of contraction for what was originally 350 ppmv now gives us nearer a 450 ppmv outcome: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

Dealing with both consumption and production in some overall double-entry rationale with an international structure of reconciliation and consent is simply unavoidable if dangerous rates of climate change are yet to be avoided. Those who argue otherwise, focusing on production/producers as bad-guys while eschewing the arithmetic, are looking without rationale or political realism at a fight they can perhaps easily pick but certainly not win. Just picking on 'bad-guys' [players - whether as a few countries or corporations] divorced the Kyoto Protocol from the UNFCCC and was largely futile. Doing it again and going just for fossil-fuel producers and calling it 'Kyoto 2', continues, and in reality worsens what has been a 'toy-story'. It is even more confrontational than the story so far and for these reasons the recent developments to this end with C&S and K-2 freed from the objective of the UNFCCC, are no more persuasive than Kyoto 1.

Jeffrey Sachs in C&C U-Turn? Jun 18, 2008

Is this a copy-cat C&C U-Turn like Nicholas Stern?

http://www.gci.org.uk/Stern/Stern_U_Turn.pdf

"Climate change 'for a crowded planet' "As reported in Nature

http://blogs.nature.com/climatefeedback/2008/06/jeffrey_sachs.html

To get a global climate agreement out of the UN process, he thinks we need to start by welcoming the economic growth of rapidly developing nations like China and India.

"That's the icebreaker on this first date," he said. From that viewpoint, country-specific emissions targets can be set that correspond to growth along the greenest possible paths.

By 2050, he explained, that might mean that the North cuts its greenhouse emissions by 80% while India's emissions are allowed to double - a contraction-and-convergence plan.

Because China and India have even more to fear from climate change than does the wealthier world, he said, it's an ultimatum they'll have to accept: "You're going to develop. But you're going to do it with the best technology."*

Development economist Jeffrey Sachs, famous for the economic turnarounds he's helped engineer as an advisor to Latin American and Eastern European governments, is also known for his optimism that the living standards of the world's poorest can be raised much higher without sacrificing either the wealth of the industrialized world or crucial natural resources. But among analysts of global change, optimism is relative. "I believe that there is most likely a path of sustainable development, but we can't quite be sure," Sachs told a sold-out lecture hall at the London Zoo last night. "It's a question mark."

Sachs spoke on big themes from his new book *Common Wealth: Economics for a Crowded Planet*, notably the need for expansion beyond market-based thinking to face problems not dreamt of in Adam Smith's philosophy. Before and after this rousing overview (if you'd bet ahead of time that Sachs would quote John F. Kennedy at length, you'd have won), I had the chance to get some nittier, grittier details on how Sachs wants to deal with climate change. More and better government investment in foreign aid and green tech is the number-one key for Sachs - with only the US presidential turnover running a close second, and cap-and-trading off in the distance. So he didn't hesitate to offer a laundry list of projects that he thinks need much more political commitment - among them carbon capture and storage, passively heated

and cooled green buildings, and super duper climate computers. Technological solutions often raise ownership problems, though. If, for example, the agrobiotech industry produces new 'climate-proof' crop varieties that survive floods and droughts - an innovation Sachs welcomed at a recent climate modelling summit - can the developing world afford to buy the seeds? "One of the things we've learned from the battle over access to anti-retroviral medicines," Sachs said - and this was a battle he himself fought - "is that it's possible to create hybrid systems where you have intellectual property rights applied mainly in the high-income markets and you have access at the cost of production, or on a no-profit basis, in the poor countries." In the case of African food shortages, he added, simple, readily available remedies like chemical fertilizers and high-yield non-GMO crops had been "sitting on the shelf" until the global food price crisis grabbed headlines. We shouldn't have to wait for disasters before we take the equivalent action on climate change. What about politics? Since Sachs's talk didn't go much beyond sighing relief at Bush's departure, I asked him afterward about his hopes for the upcoming G8 conference in July. More dubious optimism here: "There are a lot of things I'd hope for. That doesn't mean I'm expecting much." Honouring commitments to monetary aid and technology transfer is the first step, he told me. To get a global climate agreement out of the UN process, he also thinks we need to start by welcoming the economic growth of rapidly developing nations like China and India. "That's the ice-breaker on this first date," he said. From that viewpoint, country-specific emissions targets can be set that correspond to growth along the greenest possible paths. By 2050, he explained, that might mean that the North cuts its greenhouse emissions by 80% while India's emissions are allowed to double - a contraction-and-convergence plan. Because China and India have even more to fear from climate change than does the wealthier world, he said, it's an ultimatum they'll have to accept: "You're going to develop. But you're going to do it with the best technology."

C&C - New EDM - MPs support . . . Jun 19, 2008

Please ask your MP to consider supporting: -

Early Day Motion [EDM] 1795 16.06.2008

CONTRACTION AND CONVERGENCE

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=36099&SESSION=891>

Challen, Colin

"That this House welcomes the joint statement of President Nicolas Sarkozy, President of France and Angela Merkel, Chancellor of Germany, made on 9th June at the Ninth Franco-German Council of Ministers, in which they said `The international climate regime should be based on legitimate principles of equity, such as long-term convergence of emission levels per capita in the various countries'; and calls upon the Government to issue a similar statement."

Conservative Party

Bottomley, Peter

Open: 1 Closed: 0

INDEPENDENT

Davies, Dai

Open: 1 Closed: 0

Labour Party

Caton, Martin

Challen, Colin

Chaytor, David

Drew, David

Jones, Lynne

Taylor, David

Turner, Desmond

Vis, Rudi

Open: 8 Closed: 0

Liberal Democrats

George, Andrew

Leech, John

Open: 2 Closed: 0

C&C EDM 1795 - Please ask your MP's to support Jun 24, 2008

Matthias Machnig, the German State Secretary of the Federal Ministry for the Environment said to the All Party Parliamentary Group on Climate Change[APPGCC] in the UK House of Commons last Wednesday: -

"Contraction and Convergence [C&C] per capita approach is best for the long-term"

mentalist.blogspot.com/2008/06/uk-german-climate-change-partnership.html

This restates the support from Nicholas Sarkozy, Angela Merkel and many others for C&C.

www.gci.org.uk/MPs/MPs_C&C.pdf

It is also helpful to Labour MP Colin Challen, Chairman of the APPGCC who is writing to all UK MPs seeking support for the C&C Early Day Motion 1795: -

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=36099&SESSION=891>

Please write to you MP asking them to support this EDM.

CONTRACTION AND CONVERGENCE

Challen, Colin

"That this House welcomes the joint statement of President Nicolas Sarkozy, President of France and Angela Merkel, Chancellor of Germany, made on 9th June at the Ninth Franco-German Council of Ministers, in which they said 'The international climate regime should be based on legitimate principles of equity, such as long-term convergence of emission levels per capita in the various countries'; and calls upon the Government to issue a similar statement."

Colin Challen has chaired the APPGCC over several years. He has consistently advocated C&C in parliament and this effort is widely known and admired. In 2005 he pressed a Private Members Bill for C&C.

Presently the aim is to get the UK climate bill, which acknowledges its origins in the Royal Commission Report [RCEP - 2000], also to accept the RCEP's advocacy of C&C.

When the Saints Come Marchin In Jim Jun 25, 2008

Jim Hansen - Pinch Yourself or a Pinch of Salt.

To get back to 350 parts per million volume atmospheric CO₂, James Hansen is Proposing "Tax-and-Dividend" [based on Peter Barnes "Cap-and-Dividend" [C&D]].

The message is global 'emergency' [fair enough - but where were you 20 years ago?] this *concentration* target requires deep global cuts in CO₂ *emissions* etc - zero-all by 2040 [or sooner] and negative thereafter.

In weight of carbon, we must now emit less than 200 Gigatonnes carbon; as a rate global contraction of emissions ~ <5%/annum needed some of us were arguing this target 13 years ago and being laughed out of the IPCC court . . . but better late than never . . .

The Tallberg Foundation have launched a campaign with full page newspaper ads raising a chorus of voices demanding this concentration target in support of Jim Hansen's demand.

Tallberg, were unwilling however to talk about the emissions requirement for this.

Hansen refers to Peter Barnes Cap and Dividend. This has a history and the avoidance of a coherent, let-alone equitable globality of emissions cuts, is nothing new. As Barnes recognised and then recognised in his book "Who Owns the Sky?", there is the small but unavoidable matter of 'global inequity'

"On the question of global equity, which I have avoided in this book, the reader may want to explore the Web site of the London-based Global Commons Institute. GCI is promoting the concept of "contract and converge" as a way to resolve the dispute between rich and poor countries about how to share the global atmosphere."

www.gci.org.uk/Hansen/Hansen_GCI_C&C_Comparison.pdf

Scientists like James Hansen certainly had a hard time with George Bush [who didn't]. Moreover, as a scientists he's more expert and probably braver than many.

However, that doesn't automatically translate to his being an expert on policy or even a good judge of the global politics and the need for a global framework.

To turn Barne's Cap-and-Dividend into a Washington-concentric 'Tax-and-Dividend' would have Milton and the Friedman-Fighters [Chicago Boys] in tears [one suspects of laughter]. Tax may well be relevant if there is a framework for the ppmv target. If there's no framework, by extension there isn't a target.

Detail at: - www.gci.org.uk/Hansen/Hansen_GCI_C&C_Comparison.pdf

More detail at: - www.gci.org.uk/briefings/risk_rising.pdf

More detail at: - www.gci.org.uk/Book/Surviving_Climate_Change.pdf

"Succinct clear and honest" call for C&C from Davos CEO

Climate Policy Recommendations to G8 Leaders - July 2008

<http://www.weforum.org/documents/initiatives/CEOStatement.pdf>

"Addressing climate change will require clear and honest communication as to the scale of the challenge we all face. Lord Stern describes the problem for us *succinctly* " . . .

"Current annual global emission flows are around 40-45 Gigatonnes of CO₂ equivalent (Gt CO₂e). About 45% of current global emissions come from developing countries and this is set to grow. A 50% reduction in global emissions by 2050 equates to an aggregate annual flow of around 22GtCO₂-eq. As there will be around 9 billion people in 2050, this implies per capita emissions per year of about 2-2.5 tonnes CO₂-eq. Currently, US emissions are more than 20 tonnes of CO₂e per person per year, Europe and Japan 10-15 tonnes, China 5 or more tonnes, India around 1.5 and most of Africa much less than 1 tonne CO₂e per person per year. The consequence is that rich countries will have to take the lead and demonstrate strong cuts. Since around 8 billion people will be in currently developing countries, those countries will also have to be in the range of 2-2.5 tonnes CO₂e by 2050, otherwise the world average for the total would be unachievable. The size of their economies will, we hope, grow strongly. This means that emissions per unit of output will have to fall very strongly in all countries by 2050 if we are to avoid dangerous climate change."

http://www.gci.org.uk/Stern_U_Turn.pdf

The World and Canada - Trends Reshaping Our Future

A "contraction and convergence" scenario—with its accompanying "clean-energy revolution"—is quite plausible.

<http://www.policecouncil.ca/reports/CBOCPerformanceandPotential06.pdf>

<http://www.gci.org.uk/briefings/CBOCPerformanceandPotential06.pdf>

Contraction and convergence is attractive to both developed countries that are seeking lower unit emission rates while retaining economic growth opportunities and to developing countries that would be permitted to increase their per capita emissions for a time.

The challenge for the Canadian oil and gas sector—and for individual countries—is to put actions into effect now that would make sense under a variety of outcomes. Suppose, for example, Kyoto is replaced by a far more comprehensive international agreement by 2012.

A so-called "contraction and convergence" scheme by 2050 to stabilize the climate, while letting developing nations increase their per-capita emissions until they "converge" with those of the industrialized world. Such a scheme would offer attractions to both the United States and the major developing nations.

The former would find it appealing because of its very long-term horizon, which provides enough flexibility and time to achieve the desired goal. Developing countries could support that approach because it offers them the opportunity to grow their emissions to match the levels of industrialized countries on a per capita basis.



But “contraction and convergence” would require a steep drop in GHG emissions from the industrialized world by 2050. So it would also feature a “clean energy” revolution characterized by the following:

- A move to lower-carbon fuels, such as bio-fuels and natural gas liquids;
- More stringent automobile fuel-efficiency standards;
- Increased use of fuel cells and hydrogen power;
- Huge investments in clean coal technologies;
- A revival of interest in nuclear options for electricity;
- Proposals to build more large-scale hydroelectric capacity;
- Measures to promote a range of renewable energy technologies;
- Incentives for an expanded use of co-generation (meaning both heat and power);
- Increased energy efficiency in the residential, commercial and industrial sectors; and
- Large-scale carbon sequestration, either underground, or in forests or oceans.

CANADA AND THE THIRD OPTION

Under the third scenario highlighted above, it may make economic sense for Canada to “reduce more later.” That is, we might let GHG emissions continue to rise, but at a slower pace, peaking around 2025. We would avoid the premature scrapping of existing capital stock, gradually replacing it with a “clean energy” system that would yield rapid GHG reductions from 2025 to 2050.

While an aggressive “contraction and convergence” scenario might have minimal impact on Canadian oil and gas production before 2020, it would certainly affect corporate investment decisions before then. And those decisions, taken before 2020, will have consequences for many decades. For example, proposed new oil sands plants might no longer be financially viable.

Companies may have to accelerate research and development on sequestration technologies or plan large-scale production of hydrogen from natural gas.

A “contraction and convergence” scenario—with its accompanying “clean-energy revolution”—is quite plausible.

Firms in the oil and gas sector will need to give serious attention to the implications of this scenario for their investments and operations. Are companies in the business of extracting, processing and selling hydrocarbons, or are they providing energy to customers? Major oil and gas firms based in OECD countries would gain more strategic flexibility if they saw themselves, long term, in the “energy” business. Shell and BP, for example, have incorporated renewable technologies and hydrogen into their strategies, even though their oil and gas operations.

C&C letter in Guardian responds to Stern

www.guardian.co.uk/environment/2008/jun/26/climatechange.scienceofclimatechange

“Stern joins UNDP’s “emerging consensus” of halving global emissions by 2050, also stressing the “pragmatism” of the equalisation of per capita emissions globally by then. This is the global principle of contraction and convergence.

It is now widely supported and with early day motion 1795, many of our MPs are urging the government to support the principle openly. They point out that contraction and convergence was clearly advocated to government in the royal commission on environmental pollution report on which the UK climate bill is based.

Doubling the spend of GDP to achieve this is neither here nor there. As the costs of failure are without limit, the only cost-benefit ratio relevant to this whole process results from understanding that we have to solve the problem of climate change faster than we are causing it.”

Aubrey Meyer

www.guardian.co.uk/environment/2008/jun/28/renewableenergy

The Guardian cut the final comment which said, “ . . . and this may well be faster than the rate suggested by Sir Nicholas.” In other words we must double the rate of C&C so doubling the spend is less irrelevant.

This is germane as two positions emerge either side of C&C: -

Challen - the pull of Samsom - Jun 28, 2008

SAMSON AND THE PILLARS

1. – PILLAR ONE

Tony Blair with the Climate Group, UNDP, Nicholas Stern and many others now argue Pillar One – i.e. '500 ppmv' or global emissions halved by 2050 with Developed Countries cutting by 80%. This is where Stern now says the equalization of per capita by then is 'pragmatic'. Roughly it is C&C but the rates are too slow to avoid dangerous rates climate change.

The Climate Group Report, which says [p 19]: -

<http://gci.org.uk/climategroup/BTCDJune08Report.pdf>

"Another way to think about this is that in 2005 emissions were about 8 tonnes per person per year. Advanced economies ranged from 10 tonnes per person for Japan and the EU, to 23 for Canada (Exhibit 5). Developing countries range from very small amounts for the poorest countries to under 2 tonnes per person for India and 6 for China. Assuming the emissions cuts above and world population growth to 9 billion people, such a scenario implies a world average of approximately 2 tonnes per person by 2050. [Reference Stern and quoting the UNDP graphics that UNDP call C&C] . . .

The DAVOS leaders' statement in the name of "clear and succinct honesty"

[p8] <http://www.weforum.org/documents/initiatives/CEOStatement.pdf>

. . . and uses another of Stern's statements that says: -

"Current annual global emission flows are around 40-45 Gigatonnes of CO₂ equivalent (Gt CO₂e). About 45% of current global emissions come from developing countries and this is set to grow.

A 50% reduction in global emissions by 2050 equates to an aggregate annual flow of around 22Gt CO₂e. As there will be around 9 billion people in 2050, this implies per capita emissions per year of about 2-2.5 tonnes CO₂-eq. Currently, US emissions are more than 20 tonnes of CO₂-eq per person per year, Europe and Japan 10-15 tonnes, China 5 or more tonnes, India around 1.5 and most of Africa much less than 1 tonne CO₂-eq per person per year. The consequence is that rich countries will have to take the lead and demonstrate strong cuts. Since around 8 billion people will be in currently developing countries, those countries will also have to be in the range of 2-2.5 tonnes CO₂-eq by 2050, otherwise the world average for the total would be unachievable. The size of their economies will, we hope, grow strongly. This means that emissions per unit of output will have to fall very strongly in all countries by 2050 if we are to avoid dangerous climate change."

http://www.gci.org.uk/Stern_U_Turn.pdf

2. – PILLAR TWO

James Hansen, 350, K2 et al who variously argue the Pillar 2 position – i.e. '350 ppmv', which it can be argued will be fast enough to avoid dangerous rates of climate change. However, these positions avoid C&C reasoning as they say all you need to do is to tax, or auction, or hand-out permits equal to the international upstream fossil fuel production [numbers for oil coal and gas and/or institutional methods for administering this not specified] and variously hand-out, pay out or pay back the 'dividend' to individuals or causes unspecified.

C&S say they are a 'special case' of C&C which 'insists' that the hand-out of the fossil fuel production permits and the new Energy-Backed Currency Units to match, must be equal per capita globally immediately.

The MP Colin Challen strategy pulls keep to middle ground between these pillars, simply calling for C&C at rates that are meaningful.

Perhaps he's in the position of Sampson – he must pull these pillars into the middle as an international C&C agreement at rates which solve the problem of causing dangerous rates of climate change faster than we are creating it.

Further to that, all MPs have received a personal written invitation from GCI/APPGCC to support EDM 1795 calling on the Government to join with the support for C&C. The EDM is quoted in the document and is at this link: - http://www.gci.org.uk/briefings/MPs_C&C.pdf

Contraction & Convergence [C&C] has been described recently by the Head of the United Nations Development Programme [UNDP] as the 'emerging position'. He was recently joined in this by Sir Nicholas Stern who has described the need for C&C as 'pragmatic'. Please will you consider seriously supporting Colin Challen's EDM [1795] welcoming the newly stated support of President Sarkozy and Mrs Merkel for C&C. Please write you MP and ask them to support EDM 1795.

India pushes C&C again Jul 01, 2008

" . . . every citizen of this planet should have an equal share of the planetary atmospheric space and therefore, long-term convergence of per capita GHG emissions was the only equitable basis for a global agreement to tackle climate change."

Indian PM releases National Action Plan on Climate Change

June 30, 2008 - New Delhi

<http://www.pmindia.nic.in/pressrel.htm>

Prime Minister Dr. Manmohan Singh today released India's National Action Plan on Climate Change, in a brief ceremony at 7 Race Course Road, New Delhi.

The National Action Plan has been prepared under the guidance and direction of Prime Minister's Council on Climate Change. Members of Prime Minister's Council on Climate Change, senior members of the Union Cabinet, representatives of civil society and senior officials of Government, were present on the occasion.

Prime Minister made a brief speech on the occasion. He said that the release of the National Action Plan reflected the importance the Government attaches to mobilizing our national energies to meet the challenge of climate change.

The National Action Plan focuses attention of 8 priorities National Missions.

These are:

1. Solar Energy
2. Enhanced Energy Efficiency
3. Sustainable Habitat
4. Conserving Water
5. Sustaining the Himalayan Ecosystem
6. A "Green India"
7. Sustainable agriculture
8. Strategic Knowledge Platform for Climate Change

The National Mission of Solar Energy, occupies a pre-eminent place, whose success, Prime Minister said, has the potential of transforming the face of India. Prime Minister emphasized the global dimension of the challenge of climate change, which demands a global and cooperative effort on the basis of the principle of equity. India, he said, was ready to play its role as a responsible member of the international community and to make its own contribution.

He added that India believed that every citizen of this planet should have an equal share of the planetary atmospheric space and therefore, long-term convergence of per capita GHG emissions was the only equitable basis for a global agreement to tackle climate change.

In this context, the Prime Minister reaffirmed India's pledge that as it pursued sustainable development, its per capita GHG emissions would not exceed the per capita GHG emissions of developed countries, despite our developmental imperatives.

Prime Minister clarified that the National Action Plan would evolve and change in the light of changing circumstances and therefore invited broader interaction with civil society as a means to further improve the various elements of the Plan.

C&C and the Global Climate Certificate System Jul 02, 2008

From the eminent Lutz Wicke, here's another approach to climate change policy: - The Global Climate Certificate System.

At the meeting on 'Climate Justice' in May this year, "The chairman of the IPCC, Rajendra Pachauri and Gro Harlem Brundtland, Chairman of the World Commission of Environment and Development frequently underlined the enormous importance of Singh/Merkel's consensus about 'carbon justice' and an equal per capita distribution of emission rights."

http://www.gci.org.uk/briefings/PIK_Equal_Per_Capita_Distribution.pdf

"Although the C&C-Concept is – by far – the oldest concept (since the early nineties) up to now deplorably the brilliant basic C&C-concept of Meyer and the GCI, backed by the German Council WBGU (or other concepts) not yet have been conceptualized and instrumentalized down to the implementation level world wide (not even for national levels)."

Garnaut on C&C - transparent, fair, pragmatic Jul 04, 2008

Ross Garnaut's latest Climate Report to the Australian Government is the longest and strongest C&C endorsement ever published by serious government source. Not only does he comprehensively make the case for C&C 'pragmatic' [noting recent converts to it], he takes on the arguments of C&C's critics . . .

Full Report at: -

www.gci.org.uk/Garnaut/Climate_Change_Review_Draft_Report_040708.pdf

Full C&C section at: -

www.gci.org.uk/Garnaut/Garnaut_C&C.pdf

"The per capita approach is generally referred to as 'contraction and convergence' (Global Commons Institute 2000) and has figured in the international debate for some time. It has been promoted by India and has been discussed favourably in Germany and the United Kingdom (German Advisory Council on Global Change 2003; UK Royal Commission on Environmental Pollution 2000). Recent reports have shown increasing support for this approach internationally: see, for example, Stern (2008) and the Commission on Growth and Development (2008).5

Under contraction and convergence, each country would start out with emissions entitlements equal to its current emissions levels, and then over time converge to equal per capita entitlements, while the overall global budget contracts to accommodate the stabilisation objective. This means that emissions entitlements per capita decrease for countries above the global average, and increase (albeit typically at a slower rate than unconstrained emissions growth) in countries below the global average per capita level. Importantly, emissions entitlements would be tradable between countries, allowing actual emissions to differ from the contraction and convergence trajectory.

The per capita approach addresses the international equity issue transparently: slower convergence (a later date at which per capita emissions entitlements are equalised) favours emitters that are above the global per capita average at the starting point, while faster convergence gives more emissions rights to low per capita emitters. The convergence date is the main equity lever in such a scheme."

Global Commons Institute 2000, 'GCI briefing: C&C at www.gci.org.uk/briefings/ICE.pdf originally published as Meyer, A. 2000, Engineering Sustainability 157(4): 189–92.



C&C and the Climate QUAD Jul 07, 2008

The Climate Quad: Geopolitics, Tactics and Quick Hits
A Presentation to the Council for Multilateral Business Diplomacy
Sofitel Brussels Europe Hotel, Brussels 18th June 2008

By Tom Spencer - Vice Chairman, Institute for Environmental Security
<http://www.envirosecurity.org/news/articles/QuadSpeech18.06.08.pdf>

"There is a Quad in the Climate Change negotiations of much more significance than the WTO Quad. Success requires a deal between the USA, China, India and the EU. Not surprisingly this reflects the current state of geopolitics, where all the major powers are re-assessing their foreign policy in the light of the emergence of a multi-polar world. A world in which the security of energy supplies and the impact of climate change on security are key building blocks.

I believe that an agreement amongst the Quad is possible around the principle of "Contraction and Convergence". It is important to recall that the American insistence on India and China accepting targets was not always merely a negotiating tactic. The idea of per capita equity in the Contraction and Convergence analysis of the Global Commons Institute was seriously discussed in all four capitals in the mid-nineties. It is often forgotten that the Byrd-Hegel Resolution of the US Senate took place before Kyoto and majored on the involvement of India and China. The 94 – 0 vote was not a rejection of the Protocol. Rather it was a statement of the obvious that rapid progress on climate change could only be made after a deal with India and China."

Will the G8 agree convergence? Jul 08, 2008

G8 vows to halve greenhouse gases

<http://news.bbc.co.uk/1/hi/world/asia-pacific/7494702.stm>

World leaders have agreed to set a global target of cutting carbon emissions by at least 50% by 2050 in an effort to tackle global warming. In a joint statement, the G8 leaders said they would work with nearly 200 other UN member states - who have signed up to the convention on climate change - to adopt a goal of halving greenhouse gas emissions by 2050.

Half the contraction needed and at half the rate.

"Climate change has been one of the stickiest issues tackled by the G8 leaders, with divisions over what targets should be set and what would be expected of developing countries. Speaking at the summit, the Japanese prime minister said he would call for the co-operation of China and India in cutting emissions when they join the meeting on Wednesday."

Will the G8 agree convergence?

As Ross Garnaut, wrote in his report to the Australian Government published on July 2008:

"Leaving emissions reductions to politics, negotiations and arm-twisting, without explicit criteria, would prove deeply problematic. While politics and special circumstances will inevitably have some role, limiting the scope for discretion will be critical if the pace of coordinated international mitigation action is to quicken. An allocation framework based on simple principles, if it received widespread international support, could facilitate international negotiations, and in the meantime guide individual countries' commitments ahead of a new international agreement.

The approach that seems to have the most potential to combine the desired levels of acceptability, perceived fairness and practicality is one based on population or per capita emissions; an approach that gives increasing weight over time to population in determining national allocations both acknowledges high emitters' positions in starting from the status quo and recognises developing countries' claims to equitable allocation of rights to the atmosphere.

Any allocative formula that does not emphasise population as the basis for long-term emissions rights has no chance of being accepted by most developing countries.

The per capita approach is also broadly consistent with the emerging long-term emissions-reduction goals of several developed countries. The per capita approach also has the virtue of simplicity, in contrast to many other proposals on the table. Equal per capita emissions is a natural focal point, and contestable computations based on economic variables do not need to enter the allocation formula.

The per capita approach is generally referred to as 'contraction and convergence' (Global Commons Institute 2000) and has figured in the international debate for some time. It has been promoted by India and has been discussed favourably in Germany and the United Kingdom (German Advisory Council on Global Change 2003; UK Royal Commission on Environmental Pollution 2000). Recent reports have shown increasing support for this approach internationally: see, for example, Stern (2008) and the Commission on Growth and Development (2008).

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Analysis

Clouds part slowly in climate change diplomacy

Patrick Wintour, political editor
guardian.co.uk, Tuesday 8 July 2008 09.21 BST
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Exclusive cinema screenings

Patrick Wintour, political editor guardian.co.uk,

Tuesday July 8, 2008 Article history

<http://www.guardian.co.uk/world/2008/jul/08/g8.climatechange>

"The British government has some modelling under way in the most favoured method - contraction and convergence - but there is no diplomatic agreement that this is the best way to proceed."

The agreement G8 officials reached overnight on climate change represents a small step forward for politicians on the tortuous path to a framework agreement next year, but it is hardly a giant leap for mankind. It does represent progress on last year's G8 in Germany, where George Bush agreed to seriously consider at least 50% cuts in emissions by 2050.

There is now a shared vision to cut emissions by 2050, something that the Americans presumably also accept and own, rather than something external they will consider.

There is also an acceptance that there must be interim targets for emissions reductions, presumably for 2020, and an agreement that a new body may be needed to guide this process through the UN. The EU has already unilaterally targeted a 20% interim cut by 2020.

This, in the sphere of international climate change diplomacy, represents progress, and sets the course for further talks through the UN leading to an agreement at Copenhagen at the end of next year on a precise deal designed to replace the Kyoto agreement that expires in 2012. Copenhagen has always been seen as the ultimate destination for these talks.

But Gordon Brown, like every other European leader, has been waiting politely for George Bush to leave the international stage and allow either John McCain or Barack Obama to embrace deep carbon cuts by 2050, based on an international cap and trade scheme.

In private he points out that he has spoken to both McCain and Obama about climate change, and both are committed to changing US policy. Obama favours an 80% cut in emissions by 2050 using a baseline of 1990, and McCain favours a 60% cut.

Both favour an international cap and trade mechanism to achieve this. "Cap and trade is being implemented in Europe and they have stumbled and they've had problems but it is still the right thing to do," McCain has said. McCain is probably more pro-nuclear of the two, and Obama appears to have a more progressive view on bio-fuels,

Neither can be absolutely guaranteed to hold these positions as petrol prices start to rise in the US and the cost implications of a decarbonised economy are scrutinised. But it is a great virtue that both presidential candidates support a radical climate change agenda, and should not use the campaign to undermine the green case.

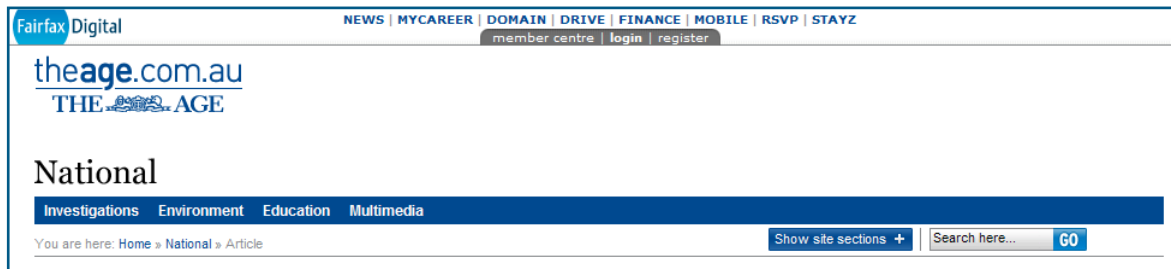
Yet the Bush White House at the G8 has had a point when it has stressed this week that the world, especially European leaders, should not think that once Bush is gone this winter, a magical international consensus is going to be formed. The current White House occupants stress that neither McCain nor Obama are going to sign up to a deal that does not place clear requirements to cut emissions on China and India.

The environmental audit select committee pointed out the dangers: "Even if developed countries' emissions reduced to zero, the predicted developing country emission increases alone would be enough to exceed a 2 or 3C increase."

"Emissions are also growing fastest in the developing world, with China now being the largest emitter of CO₂ from fossil fuel use. India is thought soon to become the third largest emitter. When all greenhouse gas sources are counted (such as those from land use change), India, Indonesia and Brazil are among the five largest emitters."

Yet there is no formula in place on how the developed and developing countries could share the burden on emissions cuts. There also needs to be a way of differentiating between the developing countries themselves. Angola cannot be put in the same pool as Saudi Arabia, for instance. The British government has some modelling under way in the most favoured method - contraction and convergence - but there is no diplomatic agreement that this is the best way to proceed.

G-8: "C&C - on the table" Jul 08, 2008



Adam Morton

The AGE [Australia daily]

July 9, 2008

"Let's not get carried away"

<http://www.theage.com.au/national/lets-not-get-carried-away-20080708-3c34.html>

"One approach on the table is contraction and convergence — rich countries contracting their emissions quickly, while developing countries are given some room to grow on condition they make cuts later."

THE world's richest nations agreeing that global greenhouse emissions should be cut in half by 2050 is a step forward, no question. But its importance should not be overstated: no one has signed on to a new binding commitment.

In reality, it is little more than an understanding that something needs doing. Polls suggest a majority of people in many developed countries could have told their leaders that some time ago.

The climate change section of the summit seems a case of lowering expectations and meeting them. Despite last year's G8 summit pledging to seriously consider a 50% cut, climate envoys went out of the way in the lead-up to the Hokkaido meeting to say no agreement was likely.

That immediately swept the tough 2020 target that lobbyists and climate scientists were calling for off the table. US President George Bush consistently argued that the G8 was not the forum to strike a climate deal. He prefers the major economies meetings that include developing polluters China, India and Brazil — countries that, along with Australia, will be present for expanded discussions today.

The agreement is a win for Japanese Prime Minister Yasuo Fukuda, who all but staked his future on convincing the G8 to agree to something — "in any form" — on climate change. It could even be spun as good news for Kevin Rudd as he prepares to introduce carbon trading — an indication the developed world, including the US, is ready to act.

But let's not get carried away. The real negotiations are being held back until next January, once there is a new leader in the White House. Even then, a binding post-Kyoto deal that spells out how the world can get to the 50% reduction target seems a long way off.

One approach on the table is contraction and convergence — rich countries contracting their emissions quickly, while developing countries are given some room to grow on condition they make cuts later.

Whichever approach ends up being taken, negotiations have barely begun on the road to a new global treaty, due at a UN meeting in Copenhagen in December 2009.

UIA - 1.2 million architects adopt C&C Jul 08, 2008

The UIA is a body representing over 1.2 million architects worldwide.

It has just committed to lobbying @ Copenhagen for a treaty based on the principle of contraction and convergence.

"Climate Change Resolution for UIA General Assembly, Torino July 2008

Preamble In line with its commitment to sustainable development and responsible architectural practice the UIA believes that co-ordinated international action is urgently required to arrest global warming. Current Climate change is the greatest emergency human civilisation has faced. There is overwhelming scientific consensus that it is caused by human activities and that it threatens a major proportion of life on earth.

We believe that to successfully mitigate climate change it is essential to reach an intergovernmental agreement to limit greenhouse gas (GHG) emissions so as to stop the rise of GHG concentration in the atmosphere. As an international body of architects we feel a particular need for such a global agreement for it would create the conditions in which our members can better play their part in advocating local action and finding effective solutions.

The international climate change agreement must be science based, equitable, and enforceable. It must lead to a progressive contraction of total emissions and a progressive convergence of per capita emissions worldwide.

The United Nations Climate Change Conference in Copenhagen, COP-15, to take place in November December 2009, offers an unrepeatable opportunity to finally put in place a more effective treaty to replace the very limited Kyoto Protocol which in any case expires in 2012.

The UIA commits itself to campaigning for the most effective outcome possible at COP-15 through advocacy of an emission limitation agreement based on the principle of contraction and convergence.

Sections are encouraged to work with other professional institutions and NGOs in their countries and regions, to organise events or join with already planned events in pursuit of effective intergovernmental action on climate change."

G8+5 – No Slam, No Dunk; Kerplunk! Jul 10, 2008

[1] The G8 slam Contraction without Convergence [-50% emissions *globally* by 2050 – i.e. capping *all* countries]

[2] the additional 5 [India, China, Mexico, South Africa, and Brazil] join them at the end and dunk them with Convergence without Contraction

Result – no slam no dunk; Kerplunk!

[1] plus [2] equals the now familiar and predictable failure to engage and therefore agree anything at all. Who was it aid, "You can't be serious?" [So near but so far].

This increasing tragic and lethal waste of time is subsidised by the iterative ignorance of pompous individuals such as Professor Tom Burke. He recently advised the suddenly irresolute UK House of Commons Environmental Audit Committee: -

"C&C *could* be an eventual outcome, but that the international community would not willingly and deliberately adopt it – trying to push any particular framework in the negotiations would cause problems."

The UNFCCC Secretariat says, "*C&C is inevitably required to achieve the objective of the Convention.*" If Burke is now not even sure that C&C will an outcome – let alone in input – we are going into the realm of perpetual darkness and calamity. He is saying we are going to fail because the reality is that if C&C is not an outcome, we're done for and effort from now on is in reality wasted.

If effort is not to be wasted C&C has to be the outcome, and if C&C is to be the outcome it has to be an input – slam dunk – as the G8 plus 5 have just negatively proved yet again.

Saying C&C is an outcome but not an input is delusional. It is the same as saying that the sun shines because plants are looking for the light. Has this man been taking too much medication?

"7 Years to Save The Planet" McGuire book published today 10 Jul 2008

Paperback: 240 pages

Publisher: Weidenfeld & Nicolson; New Ed edition

Language English

ISBN-10: 0297853368

ISBN-13: 978-0297853367

Chapter 4 includes "What is the fairest way of controlling emissions?"

"Contraction & Convergence (C&C) is based upon the simple and fair principle that everyone on the planet has the 'right' to emit the same amount of carbon dioxide. International agreement would define progressively lower ceilings for global emissions, with each country allocated an emissions quota eventually proportional to the size of its population. A developing country unable to use its allocation could trade entitlements to emit with an industrialised nation that needed more. A well-publicised goal of C&C is the convergence of emissions so that every human emits about one third of a tonne of carbon dioxide every year, leading to the stabilisation of greenhouse gas emissions at around 450 ppm in 2100.

There is a way of cutting global greenhouse gas emissions that is equitable, sensible and workable. It is called Contraction & Convergence, or simply C&C, and it is the brainchild of the South African musician Aubrey Meyer, founder of the London-based Global Commons Institute. Meyer is one of the most extraordinary characters on the climate change activist 'scene', who grasped the urgency of finding a viable solution to climate change earlier than most of us realised that there was a problem.

Almost two decades ago he gave up a professional music career that included playing with the London Philharmonic Orchestra and writing for the Royal Ballet, to focus on the issue. Through the vehicle of the grand-sounding Global Commons Institute, which was actually launched in Meyer's bedroom and remains close to being a one-man band, the C&C concept has been forced onto the world stage by Meyer's unstinting enthusiasm and incredible work rate. So successful has the lobbying process been that C&C is now a serious contender in terms of forming the basis of the post-Kyoto climate agreement that will, fingers crossed, be signed at Copenhagen in 2009.

So what is C&C all about? The underlying principles are simple and democratic: first, that greenhouse gas emissions must be reduced to ensure 'safe and stable' concentrations in the Earth's atmosphere; second, that the mechanism used to accomplish this must be fair to all, and should therefore be based upon the idea that every man, woman and child on the planet has the 'right' to emit an equal amount of greenhouse gas. The first stage would see all nations agreeing upon a stable atmospheric concentration of carbon dioxide in the atmosphere. Next, a global emissions 'contraction' budget would see global emissions progressively brought down so as to be consistent with an atmospheric concentration considered to be safe, perhaps reviewed annually in order to take account of new science. This global 'carbon cake' would then be shared out regionally, for example to the EU, African Union, and the US, in the form of tradable entitlements, with individual countries negotiating their own quotas within these bigger 'slices'. As the global carbon budget is progressively contracted, so the allocation of emissions entitlements would converge, by a specified date, towards individual country quotas proportional to national populations. The advantages of this are manifold. It is scrupulously even-handed, complicated negotiations are not needed, every country would have a target, and the agreed levels for overall emissions can be linked to scientific criteria for preventing dangerous climate change.

The mechanism also permits emissions trading so that developing countries unable to use up all their entitlements can sell these to industrialised countries desperate for more.

A suggested working goal for C&C has been the stabilisation of the carbon dioxide concentration in the atmosphere at 450 ppm by the end of the century, which would require an average annual emissions target for every man, woman and child on the planet, of about one third of a tonne.

**SEVEN YEARS TO
SAVE THE PLANET**
**THE QUESTIONS
... AND ANSWERS**

BILL MCGUIRE

The scale of this challenge is immense, but with increasing scientific evidence that only a zero-carbon world, or something approaching it, will have any chance of thwarting dangerous climate change, even this tiny carbon footprint may actually be too big. Just how much emissions in the industrial countries are going to have to come down can be seen from the fact that even one third of a tonne of carbon dioxide is almost 60 times less than the average American or Australian emits and more than 25 times smaller than the carbon footprint of the average Brit. On the other hand, it is 15 times higher than the carbon produced in a year by a citizen of Chad.

Clearly, the big losers under C&C will be the richest countries and most wasteful emitters, while the winners will be poorer nations alongside those that embrace clean technologies and low-carbon lifestyles. Dismissed by elements of the US government, by some UK civil servants, and by others, as thinly disguised communism, almost every day now brings further high-powered support for C&C. As long ago as 1995, the Indian government signed up to the framework, and two years later it was adopted by the Africa Group of Nations. Most surprising of all, just before walking out of the Kyoto climate negotiations in 1997, the US delegation conceded that C&C contained 'elements for the next agreement that we might ultimately all seek to engage in'; good news, perhaps, for Copenhagen in 2009. Other supporters include China, the European Parliament, the UN Environment Programme, and even the World Council of Churches. Most recently, and perhaps most significantly, the German chancellor, Angela Merkel, also publicly backed C&C. In the UK, successive labour governments have been lukewarm, to say the least, but there is plenty of support elsewhere, including from the Royal Commission on Environmental Pollution and from 180 MPs who supported C&C in an early-day motion in parliament.

Whether or not C&C will form the basis of any post-Kyoto climate agreement remains to be seen, but there is certainly nothing else on the table that can hold a candle to it in terms of simplicity, elegance and downright even-handedness. I am sure that adoption of C&C by the international community would prove to be an almighty relief to Aubrey Meyer, who commented, in a recent Guardian interview, that he 'did not realise that it would take quite so long to change the world'."

Ed Dreby in QUAKER ECO-BULLETIN July-August 2008

"Information and Action Addressing Public Policy for an Ecologically Sustainable World"

http://www.quakerearthcare.org/Publications/QuakerEco-bulletin/QEB_Archive/QEB8-4-Ladder.pdf

A dot-com bubble. A housing bubble. A financial bubble.

Lester Brown of the Earth Policy Institute refers to the challenge for politicians to deflate the "bubble economy" before it bursts, because the modern global economy has become so overgrown in relation to its geo-bio-physical foundations. George Soros, one of the world's leading financiers, is trying his best to warn us about the crash-prone position of the global economy. What is now being experienced as the pain of a recession in the US is very real. Yet it is modest compared with the chronic suffering and structural economic violence experienced in much of the world. The only policy prescription currently available for dealing with a recession is to restore growth by boosting spending for consumption and investment. If increasing consumption in the wealthy regions of the world is the only option, how are those who are truly impoverished in other places to improve their prospects without causing even more damage to the fabric of life? Is it wishful thinking that a group of economists might "build a ladder" so our inflated economy can return safely to Earth without crashing? Why do we need a ladder? What would it take to build it? **What might the rungs of that ladder be? Contraction and Convergence is a policy framework for "**

http://www.quakerearthcare.org/Publications/QuakerEco-bulletin/QEB_Archive/QEB8-4-Ladder.pdf

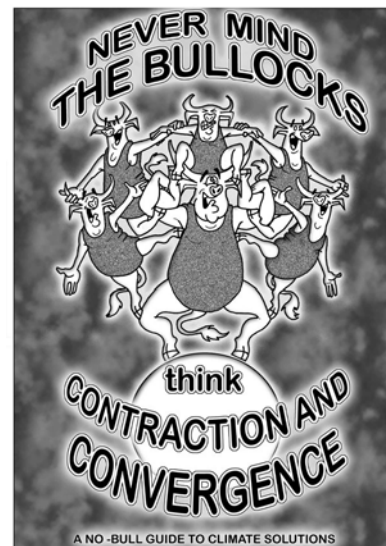
'Throbgoblins', one of world's 'don't-go-down-without-one' eco-toonists: -

<http://throbgoblins.blogspot.com/2009/02/never-mind-bullocks-yet-again.html>

<http://www.grinningplanet.com/2007/08-26/global-warming-comic-strip.htm>

throbgoblins.blogspot.com/2007/02/contraction-and-convergence-never-mind.html

[http://bp1.blogger.com/_2fgn3xZDtKI/SH-DpcbLmrI/AAAAAAAAABWU/3XSpY2oSR3o/s1600-h/StandSTRIP\(MINI\).jpg](http://bp1.blogger.com/_2fgn3xZDtKI/SH-DpcbLmrI/AAAAAAAAABWU/3XSpY2oSR3o/s1600-h/StandSTRIP(MINI).jpg)



US & China agree C&C! Jul 26, 2008

Well, that was the high point of negotiations in the BBC2 TV two-part drama-documentary, "Burn-Up" concluded last night.

It can be watched on-line or downloaded at: -

www.bbc.co.uk/iplayer/episode/b00cr619

www.bbc.co.uk/iplayer/episode/b00crgk4

http://www.bbc.co.uk/pressoffice/pressreleases/stories/2008/06_june/03/burnup.shtml

<http://twitter.com/martinbrown/statuses/868450580>

World Nuclear Association continue to call for C&C

"Construct a Comprehensive Global Regime. The first necessity is to move beyond Kyoto to construct a truly comprehensive, long-term climate regime that yields strong political signals – and economic incentives – for a worldwide transformation to clean-energy technology. To be both effective and politically feasible, any such treaty must include all major nations, developed and developing, and must embody some variation on the principle of "contraction and convergence".

"Contraction" means that the agreement must produce, over a span of decades, a global reduction in greenhouse emissions on the order of 60%. "Convergence" means that the agreement must adopt – at least implicitly – the principle of equal per-capita emission rights.

The principle of equal emission rights is far from utopian: First, as a matter of political reality, it is the only feasible principle for a global agreement, and actually involves a concession from South to North by taking as "water under the bridge" the considerable environmental damage already done by the developed countries.

Second, the gap between actual emissions and emissions rights provides the potential for a dynamic international trading mechanism that will promote universal efficiency in clean-energy investment while producing a large net flow of such investment from North to South.

From a Northern perspective, this economic assistance will be the most cost-effective in history if it helps to prevent the globally destructive growth in greenhouse emissions that might otherwise occur in the developing world."



<http://www.stockhouse.com/BULLBOARDS/MessageDetail.aspx?p=0&m=23596424&l=0&r=0&s=EFR&t=LIST>

C&C Output from India-Europe event Potsdam May 2008

Organised by Potsdam Institute for Climate Impact & Action for a Global Climate Community the European Environment Agency, the Heinrich Böll Foundation & the Esmée Fairbairn Foundation.

http://www.gci.org.uk/briefings/Potsdam_Seminar_final_report.pdf

"The Rapporteur noted an intelligent discussion around variants of Contraction and Convergence 3. Two secular states, India and the EU debated religious and ethical subjects such as Equity and Justice. Indian and European ideas had interpenetration over the last 300 years. He reminded the Seminar that American insistence on a global deal involving China and India had not originally been a blocking tactic and recalled widespread interest in convergence to equal per capita emissions in the months before the Byrd-Hagel Resolution of the Senate ahead of the Kyoto Conference. He stressed the need for some 'early wins' with side benefits such as the issue of Black Carbon and the health benefits of cleaning up urban air quality. Politicians have a key role in turning statistics into stories that command democratic support."

3 Source: Contraction and Convergence™ (C&C) is the science-based, global climate policy framework proposed to the UN since 1990 by the Global Commons Institute.

www.gci.org.uk/briefings/ICE.pdf

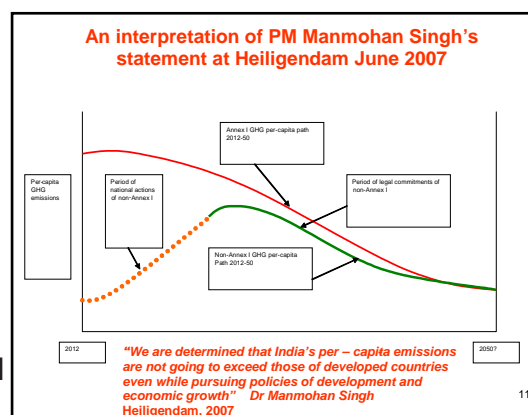
It is clear from the graphic on page 16 of this document:

www.gci.org.uk/briefings/Potsdam_Seminar_final_report.pdf

[which was taken from what was described as 'the Indian Presentation'] that the "interpretation of PM Manmohan Singh's statement at the Heiligendam June 2007" is free-hand drawing of future international fossil fuel consumption that has no connection with reality. The global integral of fossil fuel consumption indicated by the Indian 'convergence' curves shown, would roughly increase gross consumption threefold in the next fifteen years with convergence on a per capita average that will be three plus times the 1.x tonnes that it currently is, when what is needed is in a global contraction and convergence path-integral to dramatically reduce that average. This point is 4 years old and understood by viewing the graphics here and at these links: -

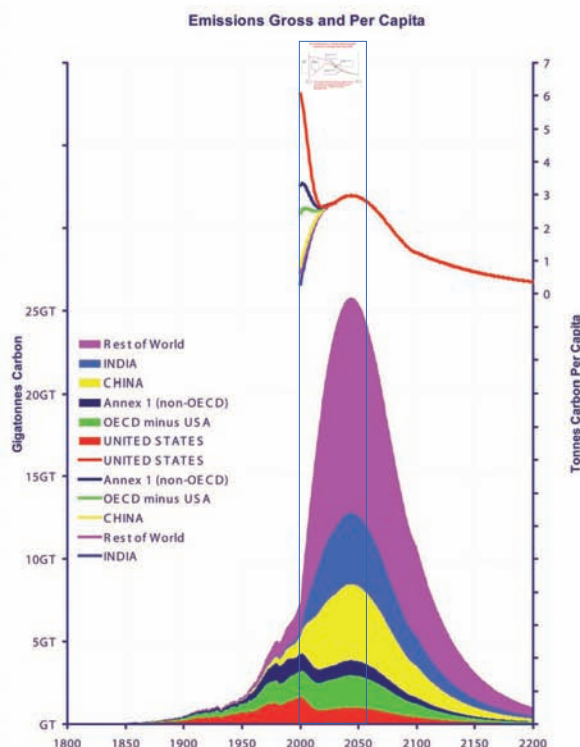
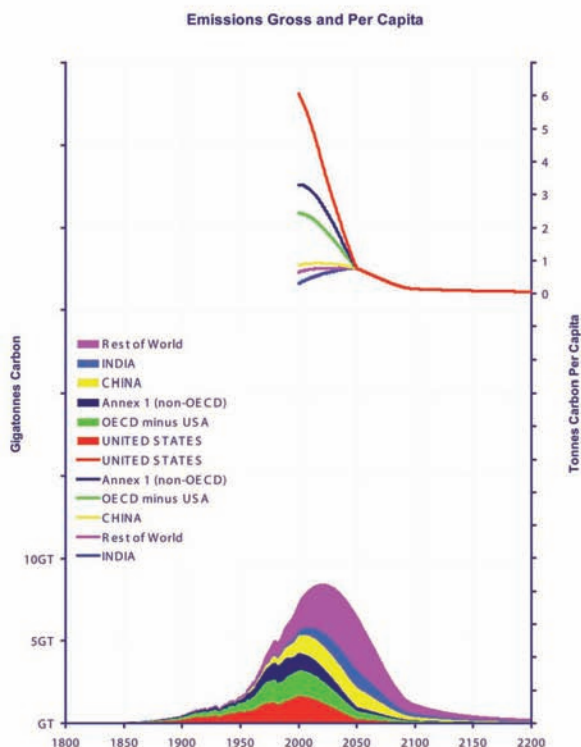
http://www.gci.org.uk/images/Indian_C&C_Potsdam.pdf

http://www.gci.org.uk/EAC/Climate_C&C_Report.pdf



C&C according to Stern Gore UNDP King Blair [maybe Garnaut] - This is too little too late; the integral gives a runaway outcome ppmv - not shown . . .

. . . but this is 'mad' C&C as from the Indians; Converging on equal per capita at not even quite three tonnes per person per annum by 2030 [& so why nobody trusts them or C&C]



Managing China's per capita carbon emissions Author: Frank Jotzo

<http://eastasiaforum.wordpress.com/2008/07/25/contraction-and-convergence-a-new-hope-for-emissions/>

The challenges of international climate equity are well taken up by Yongsheng Zhang in this post. He suggests that emissions rights may be allocated on an equal per capita basis. Indeed equal per capita seems the one simple principle that could cut work, because it could be acceptable to the majority of developing countries.

A gradual transition from current levels to equal per capita levels would be necessary to strike the balance with interests of high-emitting countries. It's called 'contraction and convergence', because the global emissions budget contracts over time, and countries' per capita allocations converge.

In that model, China's per capita emissions are close to the global average and rising fast. Consequently, China's emissions rights would rise only for a short time until they hit the global average and then would need to decline along with the global average. That may not be acceptable to China and some other fast-growing countries. For them, some headroom may be needed, perhaps in the form of linking the growth in emissions allocations to GDP growth, as suggested by the Garnaut Climate Change Review (chapter 12 of the draft report). That can conveniently gel with China's energy intensity target, mentioned in the post.

Whatever form a greenhouse gas commitment by China takes, it will have to result in comprehensive action, and it will likely need to be binding not voluntary to be successful. The Clean Development Mechanism (CDM) may have been a useful first step, but it is quite unsuitable to deliver the kind of reductions needed. Just how crucial China is for the global effort to limit climate change, and how urgent the challenge, is explained in several chapters in the China Update 2008 book. Global Commons Institute 2000, 'GCI briefing: C&C at www.gci.org.uk/briefings/ICE.pdf originally published as Meyer, A. 2000, Engineering Sustainability 157(4): 189-92.

C&C at NOTTING HILL CARNIVAL

Steel Band takes C&C with songs and T-Shirts, to this year's Notting Hill Carnival. They will be joined by drummers from Europe - potentially 70/80 strong – this could be fun in Poznan too, playing the climate anthem 'third planet from the sun'

www.gci.org.uk/images/C&C_Steel_Band.JPG

[Real polish on the recycled oil drums].



C&C at Howies DO Conference

September 6th, Wales.

www.gci.org.uk/events/DO.pdf

C&C at the 'Eco-Faith' Climate Conference

September 15th, Bournemouth.

IDEA Conference 2 - www.eco-faith.org



C&C at the 'Kingsnorth' Climate Camp

<http://climatecamp.org.uk/themes/ccamptheme/files/workshop.pdf>

Truly remarkable achievement by RIBA and its President Sunand Prasad,

uniting millions of architects globally to the cause of C&C: -

www.gci.org.uk/articles/RIBA.pdf

"To commit to lobbying at the UN Climate Change Conference in Copenhagen in late 2009 for an effective climate change treaty based on the principles of contraction and convergence."

BT and C&C as seen by Carbonsense:

ense.com/documents/CarbonSense_whatwouldagenuinelycneutralBTlooklike.pdf

"To be effective such a system would have to operate under a global policy framework. Such a framework has been suggested by the UK based Global Commons Institute - 'Contraction and Convergence'."

Climate Change & Human Rights: A Rough Guide, 2008.

International Council on Human Rights Policy. Versoix, Switzerland.

"The best known rights-based approach to climate change mitigation is the "contraction-and-convergence" (C&C) framework presented by the Global Commons Institute (GCI) at the second Conference of the Parties in 1996."

48, chemin du Grand-Montfleury, P. O. Box 147, 1290 Versoix, Switzerland.

www.gci.org.uk/briefings/ICHR_Report_2008.pdf

C&C Early Day Motion 1795 Finally 50 MPs 16.06.2008

Challen, Colin *"That this House welcomes the joint statement of President Nicolas Sarkozy, President of France and Angela Merkel, Chancellor of Germany, made on 9th June at the Ninth Franco-German Council of Ministers, in which they said `The international climate regime should be based on legitimate principles of equity, such as long-term convergence of emission levels per capita in the various countries'; and calls upon the Government to issue a similar statement."*

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=36099&SESSION=891>

C&C from the UK National School of Government

www.gci.org.uk/presentations/sdwk6Mar08.pdf [C&C - toggle notes]

www.nationalschool.gov.uk/downloads/sdwk6Mar08.ppt

Towards sustainable energy tariffs A Report to the National Consumers Council

by William Baker and Vicki White

www.ncc.org.uk/nccpdf/poldocs/NCC211pd_sustainable_energy_tariffs.pdf

Environmental sustainability - *"The C&C principle forms the basis for combating climate change at an international level by working towards equity between developing and developed countries through the United Nations Framework Convention on Climate Change (UNFCCC)."*

C&C in FoE 'How to Stop Climate Change'

www.foe.co.uk/living/latest/how_stop_climate_change.html

IIED Harnessing ecological space –

<http://www.iied.org/pubs/pdfs/17023IIED.pdf>

"If the balance is achieved at a globally low level of emissions, it would be in line with the theory of Contraction and Convergence, proposed in the 1990s by the Global Commons Institute and accepted as a policy target by the Africa Group, among others."

350.org Global Warming and C&C Global Action. Global Future.

Join a global movement to solve the climate crisis - John Riley:

www.350.org/en/about/blogs/scottish-action-climate-changes-way-350

John's video for further explanation.

www.350.org/en/home?page=3#tabs-rotator-2

Star Green MEP Caroline Lucas argues that,

"The trade union movement has a vital role in promoting C&C worldwide."

www.carolinelucas.com/?q=node/46

De-Growth Conference

"Even the environmentally and ethically sound strategy of contraction and convergence must leave open the carrying capacity question of what the ecologically dictated level of throughput, for a given population, might mean for poverty."

[/degrowthconference/en/appeal/Degrowth%20Conference%20-%20Proceedings.pdf](http://degrowthconference/en/appeal/Degrowth%20Conference%20-%20Proceedings.pdf)

C&C takes off in Turkey 06/12/2005

www.acikradyo.com/default.aspx?_mv=a&aid=12470

Bir Çözüm Önerisi

Nice C&C/GCI Tribute - Colin Challen, Martin Caton & APPGCC MPs

www.martin-caton.co.uk/news?PageId=4ec8ff91-07dd-e3d4-5d47-57362266c35c

www.gci.org.uk/NobelPeacePrize/Martin_Caton_Website.pdf

HELLO I'm Martin Caton, the Member of Parliament for Gower. Welcome to my website. I hope this will tell you something about me, Gower and my work in Westminster and the constituency and issues that I am giving priority to at present.

<http://www.martin-caton.co.uk/news?PageId=4ec8ff91-07dd-e3d4-5d47-57362266c35c>



Martin Nominates Meyer for 2008 Nobel Peace Prize



Gower MP, Martin Caton, together with six other Members of Parliament from across the House, has nominated Aubrey Meyer for the 2008 Nobel Peace Prize.

Martin explained, "Aubrey Meyer may not yet be a household name, here in Britain, or indeed, in many other parts of the world. Yet his work is absolutely central to the global fight against climate change.

"The Nobel Institute recognised how important the climate change challenge is to the future of our planet last year, when it awarded the prize jointly to Al Gore and the Intergovernmental Panel on Climate Change for raising awareness about this environmental threat.

"We believe that it would, now, be right to recognise the man who has done most to provide an international solution to averting the disaster of global warming.

"Aubrey Meyer realised that we need a comprehensive climate change framework if we are to protect our planet. He founded the Global Commons Initiative in 1990 that developed just such a framework known as 'contraction and convergence'.

"This is the logical way forward. The human race reduces its carbon footprint towards zero at the same time as greenhouse gas emissions on a per capita basis in developed and developing nations converge.

"If his initiative was recognised now then it would send exactly the right message to world leaders as we consider what comes after the end of the Kyoto round in 2012."

Martin's fellow nominators of Aubrey Meyer are: -

Colin Challen MP	(Labour),
Peter Ainsworth M P	(Conservative),
Chris Huhne MP	(Liberal Democrat),
Michael Meacher MP	(Labour),
Joan Walley MP	(Labour) and
Tim Yeo MP	(Conservative)

C&C, K-2 and TWERP Aug 05, 2008

Tomorrow GCI gives a C&C workshop at the Kingsnorth climate camp.

The 36 page C&C Brochure for the event is here. Copies will be available on site: -

www.gci.org.uk/briefings/Climate_Camp_Brochure.pdf

On page five there is picture of GCI members at the 2nd 'Conference of Parties' to the United Nations Framework Convention on Climate Change in Geneva 1996.

GCI formally tabled Contraction & Convergence there that year. In that picture, we defended C&C at rates IPCC said were consistent with a 350 ppmv atmospheric stabilisation target.

We were ridiculed - by the green NGOs - and that's life, or a bit of it. Twelve years on, the contraction requirement for 350 ppmv is now much faster because of sink-failure: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

Two years ago there was a climate march in London ending in a rally outside the US Embassy. Very movingly, with his hand in the shape of a cocked pistol, George Monbiot raised this hand, pointed it at his head and told the crowd that, *"the problem is in here."*

Not half - and now he's pulled the trigger. If you read his 'Tedious, Witless, Endless, Rhetorical, Posturing' [TWERP], in the Guardian, the new message is - Oliver Tickell's 'Kyo-to-2': - this is the way to the truth and to life after climate.

The situation is so serious that the author of TWERP now says that it isn't fossil fuel consumption that must halt, it is fossil fuel production.

Go to the source: - in a simple 'garden-hose' analogy, turn off the tap if you want to stop the sprinkler. What could possibly be wrong with that? The answer in simple terms is, 'nothing' [if production is the source].

But, there is the small matter of the sprinkler's institutional handling of that. The production 'tap' is - like consumption - a political 'hydra'. But undeterred, K-2 says, the UN will be the tap-executive. The UN must abandon its climate treaty and authorize that the future 'agency' for the issue and auction of all future 'fossil fuel production permits' worldwide will be handed to a coalition of the world's central banks who must ensure zero fossil fuel production globally within 40 years.

As the resource graphics on pages 10-13 of the GCI brochure show, this is cutting very sharply through all known reserves of oil, coal and gas and their belligerent owners, not to mention their bankers.

But ignoring considerations of 'constituency-power, the climate camp at Kingsnorth is being rallied to support K-2's new plan for the bankers. With messages of encouragement from celebrities, a small army of young people - who do have many reasons to be increasingly anxious - are being encouraged to collectively pressure all the world's fossil fuel producers with Non-Violent-Direct-Action to go along with the plan.

With the whacky appeal of the Marx brothers, K-2's agenda is to force all the producers of Oil, Coal and Gas worldwide to voluntarily coalesce and submit themselves to global management by audit and auction at the hands of this coalition of bankers.

This, in the spirit of 'equity', will enable the UN/K-2 to re-distribute the trillions of dollars of rent it raises annually from this for global welfare payments. And this, just as the world is coming to a C&C consensus, is what must replace C&C.

Blimey George! What was in that pistol?

Oliver Tickell - not to be confused with the father Sir Crispin - is the Mohamed of K-2 - not to be confused with the ill-fated mountain, though he does seem to have found it.

Opinion piece Tackling climate change: Who should pay? 4 August 2008

Jonathan Boston is Professor of Public Policy and Director of the Institute of Policy Studies at Victoria University of Wellington. He talks about how the costs of mitigating and adapting to climate change should be shared internationally. Reducing global greenhouse gas emissions and adapting to the adverse impacts of climate change over the coming decades will impose costs. But how should these costs be shared, both across and within countries? This question was the

focus of a gathering of senior diplomats and leading researchers from a range of developed and developing countries in Wellington last Tuesday.

Hosted by the Institute of Policy Studies at Victoria University and the NZ European Union Centres Network, the symposium considered the challenge of stabilising concentrations of greenhouse gases in the atmosphere, what various stabilisation targets imply for global emission-reduction paths (e.g. over the next four decades), the options for sharing the burden of these reductions, and the criteria for assessing these options.

Under the United Nations Framework Convention on Climate Change, negotiated in 1992, the global community agreed to 'protect the climate system for the present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities'. But what does 'equity' mean, and on what basis should the various responsibilities for addressing climate change be 'differentiated' between countries?

One option is to base each country's emission-reduction commitments on their historical responsibility for the increase in greenhouse gas concentrations in the atmosphere. But there are significant problems calculating the cumulative emissions of individual countries over a long period of time, not least because of data limitations and disagreements over suitable base years. Also, many countries have not had stable borders.

A more widely supported option, known as 'contraction and convergence', argues that emissions across all countries should eventually be equalized at the same amount per capita, while at the same time ensuring that total emissions are consistent with an acceptable stabilisation target. This approach rests on the ethical principle that all human beings are equal, and thus should have equal emission rights.

The German Chancellor, Dr Angela Merkel, proposed last year that annual rights to emit greenhouse gases should be limited to two tonnes per person by 2050. Currently, the global average exceeds six tonnes. New Zealand's per capita emissions are around 20 tonnes. On Merkel's calculations, therefore, New Zealanders annual allocations in 2050 would be a mere 10 percent of current emission levels. There are, of course, many other burden-sharing options, each with its advocates and detractors. One thing, however, is clear: any equitable method for addressing climate change will require developed countries, including NZ, to take on very significant emission-reduction commitments over the coming decades and bear a more substantial share of the costs than developing countries. This may be unpalatable for many developed countries, but there are no fair alternatives.

<http://mba-stuffs.blogspot.com/2008/03/what-is-kyoto-protocol.html>

C&C in Bonn/GTZ - 11 08 08 Aug 09, 2008

GTZ Event Bonn

C&C keynote

Programme here: -

[www.gci.org.uk/events/GTZ_de-fachtagung-umwelt-2008-programm\[1\].pdf](http://www.gci.org.uk/events/GTZ_de-fachtagung-umwelt-2008-programm[1].pdf)

Brochure here: -

http://www.gci.org.uk/briefings/GTZ_Brochure_Spencer.pdf

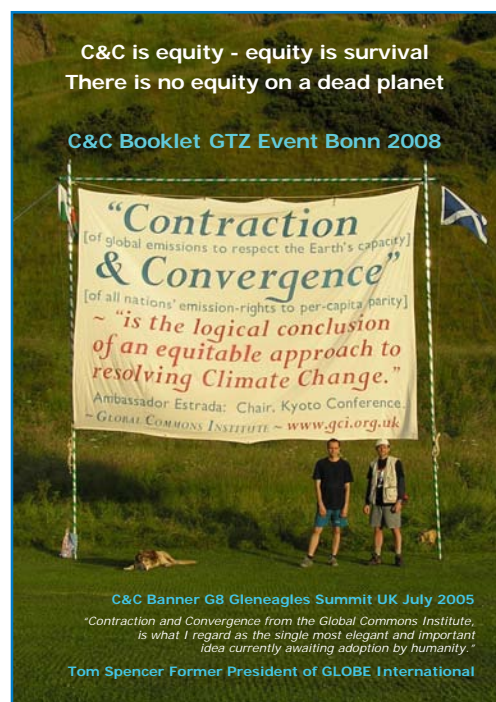
A few other links to C&C related discussions: -

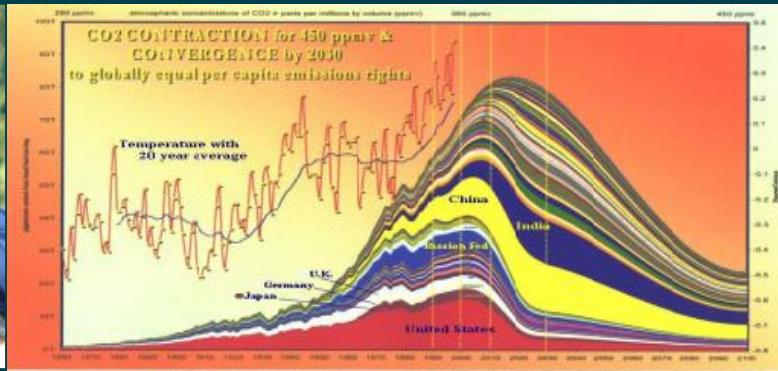
<http://amberlinks.org/sustainable-living/contraction-and-convergence.html>

<http://holyrood350.org/campaign.html#cc>

<http://www.populationandsustainability.org/papers/LSseminar.pdf>

<http://www.victoria.ac.nz/home/about/newspubs/news/ViewNews.aspx?id=2015&newslabel=>





The Graphic above is the Contraction and Convergence analysis from Aubrey Meyer of the Global Commons Institute, which I regard as the single most elegant and important idea currently awaiting adoption by humanity.

"C&C [GCI] the single most elegant & important idea awaiting adoption by humanity.

Tom Spencer, Dir. Environmental Security Institute, Fmr. President of GLOBE International

<http://www.tomspencer.info/published.php>

http://www.gci.org.uk/briefings/GTZ_Brochure_Spencer.pdf

Johan Hari's answers to the 'Total Politics' daily questionnaire...

<http://johannhari.com/archive/article.php?id=1353>

Which one law would you introduce?

I would introduce a commitment to Contraction and Convergence (C&C) – a requirement for us to dramatically cut our global warming emissions while the poor world is allowed to continue developing, until our emissions meet in the middle at a safe and sustainable level. Until we reach that point, we would compensate the poor countries for the imbalance and the disastrous destabilisation of the climate we are already causing.

Full Q&A on a range of issues at: -

<http://johannhari.com/archive/article.php?id=1353>

Fred's Footprint: C&C - The best solution to climate change Aug 13, 2008

http://www.newscientist.com/blog/environment/2008/08/best-solution-to-climate-change.html?DCMP=ILC-hmts&nsref=spectr11_bar

What's the best way to fix climate change, to stamp out the emissions that are warming our planet? I don't mean what technology. That's actually coming along quite nicely. I mean what are the international legal and financial levers that can be pulled to get the technology, on the scale needed, from the test rigs to the national grids?

Later this month, in Accra, Ghana, the UN's lumbering Kyoto negotiations will have another stab at what to do after 2012. They will come up against the familiar stand-off. On the one hand, is the rich world's reluctance to accept emissions limits that will add to the cost of doing business unless developing countries subscribe to emissions controls. On the other, developing countries utter their familiar (and not unreasonable) cry: "You caused the problem; you fix it."

The answer has been staring us in the face for a while now. And more and more people - from business to politics to the greens - are catching on. It has an inelegant name: contraction and convergence (C&C).

It works like this. The world needs to contract emissions by more than half by the middle of the century. It's do-able and it won't wreck the world economy. (Bankers on a spree are far better at doing that.)

But there will be some pain. The only way of sharing out that pain fairly is for everyone to take on emissions targets, but targets that are fair because they are based on a basic parameter of need. That is: population size. So every country should head towards annual emissions proportionate to its population. Most would have to reduce their emissions; but some of the poorest countries could raise them. That's the convergence part of the formula.

Of course, to ease the pain and make investment more efficiently, there would be massive carbon trading in the same way as is already allowed for under the Kyoto Protocol.

It's simple and it's obvious. Tony Blair's shuttling climate diplomats get it. Nicholas Stern, author of the groundbreaking report on the economic perils of climate change back in 2006, gets it. In Washington and Paris and New Delhi, some influential figures get it.

"It's where we will need to end up, of course, even if we can't quite work out how to get there," one UN leading negotiator told me recently.

Why doesn't the world admit it and get on with it? Surprisingly, one reason is the long-term opposition of most environmental groups to the plan. I find this baffling and dispiriting.

Why the hostility? One reason seems to be that it is the brainchild of a maverick and sometimes truculent campaigner living in London called Aubrey Meyer.

So the likes of Greenpeace and Friends of the Earth can't claim ownership. And even the more radical climate campaigners - like the Guardian syndicated op-ed writer and blogger George Monbiot - have got cold feet.

Monbiot, a former supporter of C&C, has recently started publicly backing a proposal from his old mate Oliver Tickell, called kyoto-2, which would set up an international agency to control not emissions of greenhouse gases but the production of fossil fuels themselves.

Well, I can see why politically he wants to take on the fossil-fuel leviathans. But the beauty of contraction and convergence is that it doesn't require a global fossil-fuel autocracy; it is transparent, self-evidently fair and tackles the problem, not a surrogate.

If climate change is the central challenge for the world in the 21st century, then C&C is the most, perhaps the only, viable long-term solution on which there can ever be international agreement.

Fred Pearce, senior environment correspondent

Hot Steel C&C at the Olympics Aug 19, 2008

The Paper at this link was presented to the ZEW conference in Mannheim Germany in June 1997. GCI continued the defence of a 350 ppmv target.

www.gci.org.uk/briefings/ZEW_1997_CONTRACTION_&_CONVERGENCE.pdf

The paper was finally published by ZEW through Springer Verlag in 1999. This was in a form updated to take account of Kyoto, where this defence was edited out: -

<http://www.gci.org.uk/papers/zew.pdf>

Contraction and Convergence (C&C) was formally tabled by GCI at the UN in 1996. The campaign started in 1989 and from that time GCI proposed the thesis of "Equity & Survival" to the UN.

Through 1993-94 we countered its 'economic' antithesis, [called by economists] 'Efficiency with No-Regrets' with a rebuttal [called by GCI] 'Expansion and Divergence' or the 'Economics of Genocide'.

<http://www.gci.org.uk/articles/Nairobi3b.pdf>

Since 1996 'Contraction & Convergence' [C&C] has become the most widely cited, and arguably widely supported methodology in the process.

http://www.gci.org.uk/briefings/GTZ_Brochure_Spencer.pdf

This Sunday, an especially composed C&C anthem "Third Planet from the Sun" will be played by the Nostalgia Steel Band wearing C&C T-Shirts at the Notting Hill Carnival. This accompanies a worldwide film-screening of the hand-over of the Olympic Torch - "One World One Dream".

SAARC vote C&C Aug 13, 2008

Colombo Declaration 15th South Asian Association for Regional Cooperation [SAARC]

Colombo, 2-3 August 2008

Tuesday, 05 August 2008

The leaders of the SAARC countries attended the concluding session of the 15th SAARC Summit, which held at the Bandaranaike Memorial International Conference Hall (BMICH) today (03rd August).

At the end of the session all leaders endorsed the Colombo Declaration of the fifteenth SAARC Summit, which focused on combating terrorism, energy, environment, water resources, poverty alleviation energy, transport, science and technology and education.

Declaration - Partnership for Growth for Our People

<http://www.lankamission.org/content/view/632/2/>

"The Heads of State or Government affirmed that every citizen of this planet must have an equal share of the planetary atmospheric space. In this context, they endorsed the convergence of per capita emissions of developing and developed countries on an equitable basis for tackling climate change."

The President of the Islamic Republic of Afghanistan,

His Excellency Mr. Hamid Karzai;

The Chief Adviser of the Government of the People's Republic of Bangladesh,

His Excellency Dr. Fakhruddin Ahmed;

The Prime Minister of the Kingdom of Bhutan,

His Excellency Lyonchhen Jigmi Y. Thinley;

The Prime Minister of the Republic of India,

His Excellency Dr. Manmohan Singh;

The President of the Republic of Maldives,

His Excellency Mr. Maumoon Abdul Gayoom;

The Prime Minister of the Federal Democratic Republic of Nepal,

The Rt. Hon'ble Girija Prasad Koirala;

The Prime Minister of the Islamic Republic of Pakistan,

His Excellency Syed Yousuf Raza Gilani,

The President of the Democratic Socialist Republic of Sri Lanka,

His Excellency Mr. Mahinda Rajapaksa,

Fifteenth Summit meeting of the South Asian Association for Regional Cooperation (SAARC) - Colombo, Sri Lanka August 2-3, 2008

C&C - AMEN to climate change Sep 14, 2008

Music and AMEN to Climate Change

IDEA Multi Faith Event

Bournemouth, September 15th 2008

www.eco-faith.org

C&C -A Well Tempered Climate Accord "In time and in tune to save the planet"

www.gci.org.uk/briefings/IDEA_Brochure.pdf

www.gci.org.uk/presentations/Introduction_to_2nd_IDEA_Conference.pdf

IUCN nibbling at C&C "Re-conceiving growth: contraction and convergence"

'There is an urgent need to move beyond the old-fashioned idea of development'

"The dominant development model, based on the unlimited meeting of consumer wants leads inexorably to overconsumption. Yet the continued physical expansion in the global reach of commodity supply systems means that consumers in developed countries continue to perceive resource flows as bountiful, and develop no sense of limits to consumption. Whether as consumers or citizens, people in industrialized economies show no awareness that production systems are ecologically flawed or constrained."

http://cmsdata.iucn.org/downloads/transition_to_sustainability_en_pdf_1.pdf

Fascinating - Author Jeanrenaud surely is the exec of WWF who for the last twenty years - before now - went out of their way to damm C&C. Why?

Garnaut – Supplementary Report on “Targets and Trajectories” re C&C

www.garnautreport.org.au/reports/Garnaut%20Review%20-%20Targets%20and%20trajectories%20-%20Supplementary%20Draft%20Report%20-%2005%20Sept%202008.pdf

Vigorous reactions around C&C etc on Ozblog

<http://larvatusprodeo.net/2008/09/05/open-garnaut-review-targets-and-trajectories-thread/>

Open letter from Garnaut asking for input: -

[www.garnautreview.org.au/CA25734E0016A131/WebObj/LetterfromProfessorGarnaut-toscientistsandenvironmentalgroups9Sept08/\\$File/Letter%20from%20Professor%20Garnaut%20to%20scientists%20and%20environmental%20groups%2009%20Sept%2008.pdf](http://www.garnautreview.org.au/CA25734E0016A131/WebObj/LetterfromProfessorGarnaut-toscientistsandenvironmentalgroups9Sept08/$File/Letter%20from%20Professor%20Garnaut%20to%20scientists%20and%20environmental%20groups%2009%20Sept%2008.pdf)

Garnaut - C&C “adds-up” Sep 18, 2008

Defending his use of C&C, Ross Garnaut has issued a supplement to his Review entitled “Targets and Trajectories”: -

[http://www.garnautreport.org.au/reports/Garnaut%20Review%20-%20Targets%20and%20trajectories%20-%20Supplementary%20Draft%20Report%20-%2005%20Sept%202008%20\(Accessibility%20enabled\).pdf](http://www.garnautreport.org.au/reports/Garnaut%20Review%20-%20Targets%20and%20trajectories%20-%20Supplementary%20Draft%20Report%20-%2005%20Sept%202008%20(Accessibility%20enabled).pdf)

He has been challenged about highlighting rates of its use that are effectively too slow. An interesting debate on this has emerged on a thoughtful Australian weblog called lavatusprodeo: -

<http://larvatusprodeo.net/2008/09/11/garnaut-responds-in-part/#comment-510085>

I posted this: - The debate triggered here is really interesting. Strategic [for me numerate goal-focused] thinking does come to bear in two ways: [1] The need to solve the climate problem faster than we cause it and have a measured plan to that end, and [2] as Garnaut says in ‘Targets and Trajectories’, “The important thing is that any proposals that do not ‘add up’ to a defined global outcome be quickly rejected.”

So any ‘deals’ brokered need to be a function of that coherent strategy as at all levels we will pay an increasingly unbearable price for organising too little too late. The structured ‘flexibility’ that Peter argues bears on the questions of how, rather than whether, to use C&C to draw parties together internationally within a coherent and meaningful set of rates.

My impression is that Ross Garnaut and his team understand that and speak to that. I see that he and his team are challenged here about the rates he highlights being too permissive and I agree this challenge needs to be made; the danger of too little too late is endemic - see: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

But I see with some disappointment that elsewhere Climate Action Network

Australia are ticking Garnaut off about C&C use per se: -

http://www.cana.net.au/documents/CANViews%20on%20SuppGarnautReview_Sept5.pdf

Perhaps it is worth raising the challenge to CAN and asking how they demonstrate that it is possible to keep within 450 ppmv, i.e. nearly zero emissions globally by 2050/60 [see animation above and note CANA quote IPCC-AR4 & Martin Parry] while also defending all the distributional assumptions about QELROS setting and yet ensuring that their proposals do ‘add up’ to the strategically defined global i.e 450 ppmv [emissions path integral from now to zero weighed as carbon equals about 350 GTC].

Of course it is as Garnaut says ‘a diabolical problem’. My reading of his sense of strategy - as an *economist* and probably like all of us, out of his depth - is that he understands clearly the need to distinguish between ‘diversity’ and ‘dissipation’. I am glad that he brings that understanding to bear on the international negotiations. The analysis brought to bear on him here on this list is constructive and will only strengthen his position.

<http://larvatusprodeo.net/2008/09/11/garnaut-responds-in-part/#comment-510085>

www.garnautreport.org.au/

www.gci.org.uk/Garnaut/Review_Final.pdf

"It is unlikely that any allocation of a global trajectory for emissions entitlements will be seen as being fair if it is not based on the idea that, sooner or later, there will be equal per capita rights to use the atmosphere's limited capacity to absorb more greenhouse gases.

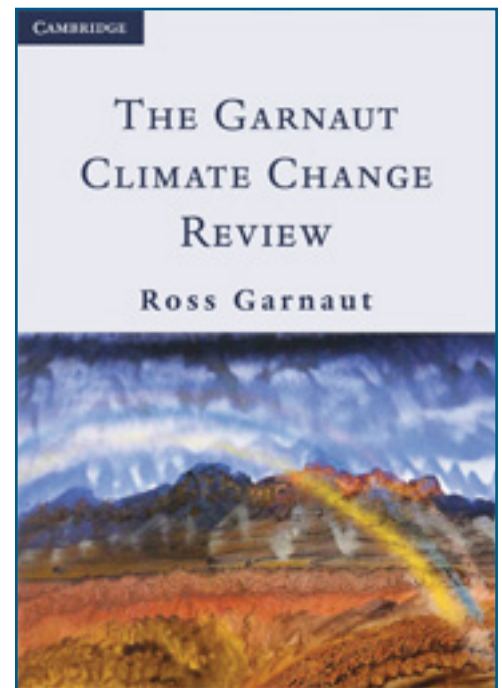
To be seen as being practical, it will need to allow some time to move from the currently highly unequal assumption of emissions rights across countries, to equal per capita rights.

The basis thought to be most likely to be successful is what has become known as 'contraction and convergence', modified to allow faster growth in emissions from fast-growing developing countries for a transition period.

This approach addresses the central international equity issue simply and transparently. Slower convergence (a later date at which per capita emissions entitlements are equalised) favours emitters that are above the global per capita average at the starting point. Faster convergence gives more emissions rights to low per capita emitters. The convergence date is the main equity lever in such a scheme."

Global Commons Institute 2000, 'GCI briefing: contraction and convergence', available at www.gci.org.uk/briefings/ICE.pdf originally published as Meyer, A. 2000, Engineering Sustainability 157(4): 189-92.

http://www.gci.org.uk/Garnaut/Review_Final.pdf



A few more recent C&C related publications: -

www.gci.org.uk/briefings/transition_to_sustainability_en_pdf_1.pdf

www.gci.org.uk/briefings/IUCN.pdf

www.gci.org.uk/briefings/Barnes_Kapitalismus_3-0_komplett_End.pdf

www.gci.org.uk/briefings/21_2008_Kverndokk_Rose.pdf

www.gci.org.uk/briefings/PACE_Law_School.pdf

Dear Ed, C&C please Oct 07, 2008

Climate Change Committee advises New Secretary of State on new emissions control numbers that are obviously C&C-related: -

http://www.gci.org.uk/correspondence/Interim_report_letter_to_DECC_SofS.pdf

4. Appropriate UK contributions to global emissions reductions

The appropriate UK share of a global emissions target involves ethical judgements and will be the subject of international negotiations. A range of methodologies for allocating emissions reductions between countries have therefore been proposed. Most of these methodologies base emission reduction targets on per capita emissions, abatement costs or income. They differ in relation to the time when different countries begin emissions reductions, the rate at which they then reduce emissions, and the extent to which already industrialised countries should have to compensate for historic emission levels. It is not part of the Committee's remit to propose a specific methodology for the purposes of international negotiations. But we believe that it is difficult to imagine a global deal which allows the developed countries to have emissions per capita in 2050 which are significantly above a sustainable global average. In 2050 the global average, based on an estimated population of 9.2 billion, would be between 2.1 to 2.6 tonnes per capita, implying an 80% cut in UK Kyoto GHG emissions from 1990 levels.

UK Treasury finally acknowledges origin and source-referencing for C&C: -

http://www.hm-treasury.gov.uk/media/6/7/chapter_2_technical_annex.pdf

The notions of the right to climate protection or climate security of future generations and of shared responsibilities in a common world can be combined to assert that, collectively, we have the right only to emit some very small amount of GHGs, equal for all, and that no-one has the right to emit beyond that level without incurring the duty to compensate. We are therefore obliged to pay for the right to emit above that common level. This can be seen as one argument in favour of the 'contract and converge' proposition of Meyer, 1990, whereby 'large emitters' should contract emissions and all individuals in the world should either converge to a common (low) level or pay for the excess (and those below that level could sell rights). Contraction and Convergence™ (C&C) is the science-based, global climate policy framework proposed to the UN since 1990 by the Global Commons Institute (GCI).

www.gci.org.uk/briefings/ICE.pdf

Earth Charter continues C&C-related advocacy: -

http://www.earthcharterinaction.org/climate/pdfs/protecting_Life_From_Climate_Change-DCChalmers-08pdf1.pdf

"As discussed earlier, the single most important policy action for stabilizing GHG concentrations in the 450-550 ppm range is the implementation of internationally coordinated GHG price signals. Note the use of the word "signals." That is important because an ethically informed pricing system should entail GHG emission prices that vary between nations-states on the basis of differing emission levels and capacity to pay. And it should be rooted in the concept of "contraction and convergence" (Mackey and Li 2006).

Contraction and convergence provides a way for net anthropogenic GHG emissions to decrease while per-capita emissions converge and ensures that pathways to increased living standards available to poor countries are not unduly constrained by climate policy. It does this by providing the basis for GHG pricing frameworks that set a high price on GHGs in high GHG-emitting countries, which will result in a contraction of their emissions (the higher the price, the bigger the contraction) and sets a lower price or no price at all on GHG emissions in developing countries, allowing those countries' emissions to continue to rise for a period before eventually converging with those of currently high-emitting countries.

The key feature that distinguishes contraction and convergence from many other possible frameworks for reducing GHG emissions is its explicit focus on per capita emission equity. The ethical argument for per emission equity, based as it is on the idea that in an equitable world no one should be allowed to pollute more than anyone else, or should at least have to pay a cost that will benefit society if they do, is quite strong.

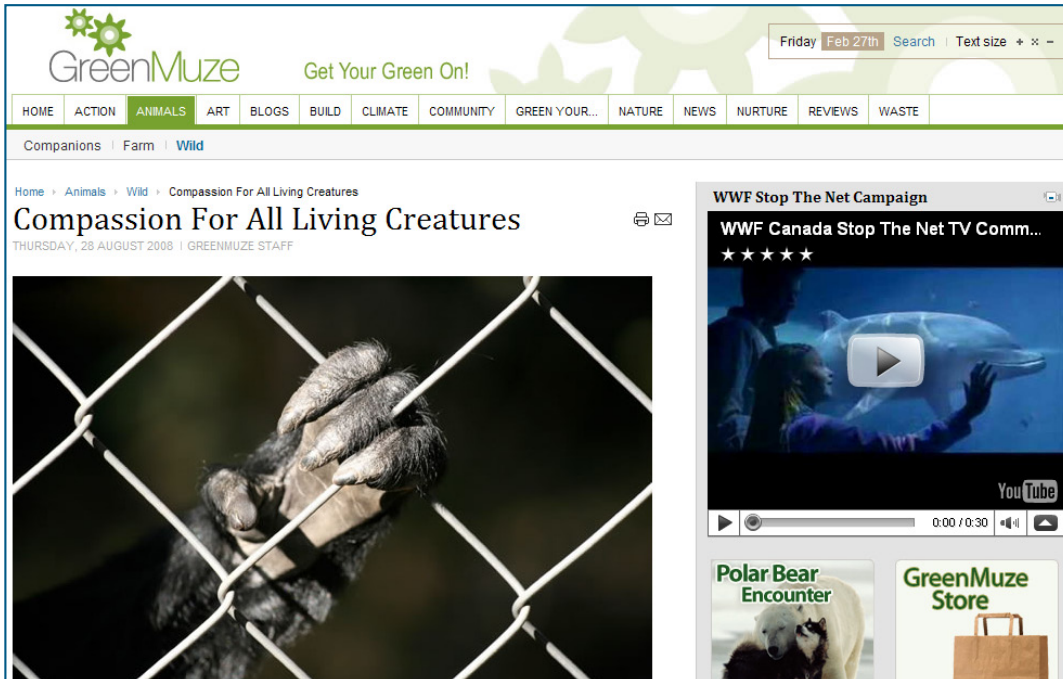
However, the increase in GHG emissions that contraction and convergence would allow to take place in poor nations for a period of years might at first glance appear to contradict the goal of protecting life, given the harm that GHG emissions cause. A closer look reveals otherwise. GHG emissions always cause some harm. However, as discussed earlier, they also usually benefit society in some way. Currently there are few, if any, systems of production, trade, or services provision that can function without producing at least some GHGs and that will not change overnight. Many times the benefits those systems provide—employment, food, water sanitation, access to health care, education and so forth—are essential to well being. Because they have limited financial resources and generally lack technological capacity, developing countries are particularly ill-suited to rapidly reorient their economies. To ask them to do so would likely do more harm than good. Thus, there is no real contradiction between protecting life from climate change and a policy of contraction and convergence which does not call for poor countries to immediately reduce their net GHG emissions."

25-6th November – contribution to 'Nordic Solutions' conference, Copenhagen

www.nordicclimatesolutions.com/?section=XWky9OpAY9

m/sites/ncs/images/Nordic%20Climate%20Solutions%20Program_24%20Sept..pdf

Professor McMichael Australia National University argues C&C."



<http://greenmuze.com/animals/wild/349-compassion-for-all-living-creatures.html>

*"Meat & Climate Change We tend to focus on transport or heavy industry as significant contributors to greenhouse gases, yet meat production is a serious contributor to climate change. A 2006 UK Stern Report estimates the livestock sector contributes an estimated one-fifth of the world's total greenhouse gas emissions. Beef remains the most resource intensive food on the planet. Numerous scientists around the world are calling for humans to reduce their meat consumption as one strategy to immediately reduce greenhouse gases. Americans consume more meat than any other nation on the planet, consuming in the range of 200-300 grams of meat per day. Most nations around the world consume far, far less. Professor J. McMichael, from the Australia National University, in his paper *Contraction and Convergence is Good For Our Health*, recommends, "...high consuming populations reduce their intake and low consuming populations could increase their intake up to the agreed average level".*

"He suggests the global intake of meat should be 90 grams per day, with no more than 50 grams from ruminant animals. Professor J. McMichael reinforces the belief that "less meat means less heat".

Resources Animal Liberation Front: <http://www.animalliberationfront.com/>

Association of Lawyers For Animal Rights: <http://www.alaw.org.uk/>

Compassion in World Farming: <http://www.ciwf.org.uk/>

Humane Society International: <http://hsus.org/>

In Defense of Animals: <http://www.idausa.org/>

Jane Goodall Institute: <http://www.janegoodall.org/>

JesusVeg: <http://www.jesusveg.com/>

Meat: <http://www.meat.org/>

PETA: <http://www.peta.org/>

World Animal Net: <http://www.worldanimal.net/>

Voiceless: <http://www.voiceless.org.au/>

Government ARGENTINA for C&C [and more] . . . Oct 14, 2008

Views on enabling the Full, Effective, And Sustained Implementation of the Convention through Long-Term Cooperative Action Now, Up To, and Beyond 2012

http://unfccc.int/files/kyoto_protocol/application/pdf/argentinabap300908.pdf

"Argentina is committed to contributing its utmost to mitigating climate change. This contribution necessarily depends on striking the balance between our responsibility to our citizens – ensuring they have access to minimum standards of security, human rights, and social benefits, such as food, health, education, shelter, and opportunity for self-development – and the means available to implement mitigation activities. One task of the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) is to frankly and openly discuss how to guarantee continued economic development while also achieving the necessary sharp global cuts.

In this regard, the concept of contraction and convergence, supported by adequate financing, technology and capacity building and compensation for lost development opportunity, remains an option for our consideration within these negotiations.

This approach provides one option for balancing the effort by developing countries to secure their development needs while reducing GHG emissions over time. As countries secure their development objectives, they are better equipped to adapt to climate change and mitigate without detrimental impacts on their societies."

http://unfccc.int/files/kyoto_protocol/application/pdf/argentinabap300908.pdf

C&C/GCI 6th out of 100 in 'Independent on Sunday' Green League: -


THE INDEPENDENT

GREEN LIVING



SUMOSUM AND JIGBLOCKS
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Click here to see how >




The IoS Green List: Britain's top 100 environmentalists [First](#) | [Previous](#) [3](#) [4](#)



6. Aubrey Meyer, Campaigner

This former busker came up with what is widely recognised as the fairest solution to global warming, based on everyone being entitled to emit the same amount of carbon. Pushed it relentlessly until many governments took it up. Now endorsed by Angela Merkel and Nicolas Sarkozy.

<http://www.independent.co.uk/environment/green-living/the-iiosi-green-list-britains-top-100-environmentalists-958711.html?action=Popup&ino=6>

CIWEM - PEACE FOR EARTH

CIWEM wants the UN's International Day of Peace on 21st September to be recognised, not only as a day for non-violence, but as a symbol for environmental protection, international co-operation, cultural diversity and tolerance. Environmental damage is an inevitable consequence of war. The environment may seem a minor casualty but, combined with the destruction of democratic informed decision-making, war prolongs human suffering and undermines the foundation for social progress and economic security.

CIWEM believes we need to take a holistic approach to peace that covers its many components, such as the prohibition of the use of force, the promotion of social justice, the realisation of the right to sustainable development, access to clean water and sanitation, and a healthy environment. CIWEM champions the contraction and convergence as an important tool for achieving sustainability and equity. CIWEM also believes individuals and peoples have the right to the fair re-allocation of resources freed by disarmament to encourage their economic, social and cultural development, especially responding to the needs of the poorest and most vulnerable in such a way as to put an end to inequality, social exclusion and poverty. Nick Reeves, Executive Director of CIWEM, says: - "There has already been too much suffering for the sake of ethnic and national gain. We must treat the environment and each other with more respect. Peace can only occur when all people rise above national boundaries, politics, religion and ideologies. We need to celebrate our cultural diversities rather than using them as a reason for conflict."

<http://www.gci.org.uk/briefings/CIWEM.pdf>

European Economic and Social Committee

Development with equity and environmental responsibility Brussels, October 2008

INFORMATION REPORT of the Section for External Relations on Development with equity and environmental responsibility "3.3 Although the proportion of people in extreme poverty fell from 27.9% in 1980 to 21.1% in 2002, the gap between high and low incomes continues to widen. The rate of essential consumption needed to maintain the average 6% annual growth in global trade over the last twenty years is unsustainable in the medium term. It has been estimated that the impact of climate change will reduce global GDP by 20% by 2050 . This makes a pressing case for exploring a long-term global strategy through which resource consumption and individual GNP across all nations may converge. Such an approach, known as "contract and converge" can no longer be dismissed out of hand."

[http://www.gci.org.uk/briefings/CES873-2008_FIN_RI_EN\[1\].pdf](http://www.gci.org.uk/briefings/CES873-2008_FIN_RI_EN[1].pdf)

C&C in UK Climate Bill - please write your MP Oct 16, 2008

UK Government adopts Contraction and Convergence (C&C) . . . ?

The UK government will enact the Climate Change Bill in the current session of parliament, probably on the 28th of October. When enacted, it will give ministers power to introduce measures to reduce the UK's carbon emissions down to a safe and stable level in a given time.

The bill is based on the recommendations of the Royal Commission on Environmental Pollution [RCEP] in their report "Energy - The Changing Climate" of June 2000.

RCEP's key recommendation was: - ***"The Government should press for a future global climate agreement based on the Global Commons Institute's "Contraction and Convergence" approach as the international framework within which future international agreements to tackle climate change are negotiated. These offer the best long-term prospect of securing equity, economy and international consensus."***

<http://www.rcep.org.uk/pdf/chp4.pdf>

RCEP proposed either a 60% cut or an 80% cut by 2050 for the UK. This choice resulted from calculations where a global contraction of emissions limiting atmospheric carbon dioxide concentrations to no more than either 550 parts per million [ppmv] or 450 ppmv were made with a global convergence to equal per capita entitlements globally by 2050 in each case. This assumed we could prevent global temperatures from rising by more than 2°C (3.6°F) and so avoid the most serious consequences of global warming.

The draft climate bill proposed the 60% cut, but today this was revised to be 80%. Since 2000 evidence of accelerating rates of climate change has been mounting and it is now generally recognized that an atmospheric concentration of 550 parts per million is too high to avoid the most serious consequences of global warming and that a UK cut of 60% by 2050 will not be fair or effective as both locally and globally it is too little and too late. Ed Milliband, the Secretary of State, has accepted advice from the chairman of the independent climate committee Lord Adair Turner who wrote saying,

"we believe that it is difficult to imagine a global deal which allows the developed countries to have emissions per capita in 2050 which are significantly above a sustainable global average," and that, "the UK's contribution to this should be to reduce emissions by at least 80% below 1990 levels by 2050 [as] this contribution would keep per capita UK emissions at the required global average level in 2050."

The Chairman of the All Party Parliamentary Group on Climate Change [APGCC] Colin Challen MP, has introduced amendment 15 to the Climate Bill in support of this call asking for the insertion of the following words: - "the committee must prepare its advice to the Secretary of State having regard to the methodology used by the Royal Commission on Environmental Pollution (RCEP) in its 22nd Report "Energy – The Changing Climate."

This is to establish that the Climate Change Act sets targets where whatever they are and are revised to be, as the RCEP recognised, they need be set using a consistent global methodology rather than picked and revised at random locally.

We are asking you please to write to you MP (letters sent by conventional post are more effective) asking them to support this Amendment to the Bill.

<http://findyourmp.parliament.uk/commons/l/>

We suggest you use the following draft letter as a template...

Dear MP

Climate Change Bill

I am writing to ask you to support Amendment 15 page two line 36 [clause three] which would insert the following: - "the committee must prepare its advice to the Secretary of State having regard to the methodology used by the Royal Commission on Environmental Pollution (RCEP) in its 22nd Report "Energy – The Changing Climate."

The bill refers to the RCEP report which shows how important it is to have targets that result from using a consistent methodology. I am pleased to see that Lord Adair Turner, chair of the independent Climate Committee with oversight to the bill wrote recently to the Rt. Hon. Ed Milliband, agreeing with it too.

Concerning what he called, "Appropriate UK contributions to global emissions reductions", he said that, "we believe that it is difficult to imagine a global deal which allows the developed countries to have emissions per capita in 2050 which are significantly above a sustainable global average," saying "the UK's contribution to this should be to reduce emissions by at least 80% below 1990 levels by 2050. This contribution would keep per capita UK emissions at the required global average level in 2050."

The bill is welcome as it is a sign of the UK Government's commitment to de-carbonize the UK's energy supply because of the well-founded concerns about dangerous rates of global climate change. The world as a whole is becoming aware of the rate at which climate change is accelerating and that potentially calamitous consequences attend a failure to prevent this running out of control. The RCEP Report and the methodology it advocates, should form the basis of the international response, as it has enormous support and the amendment no. 15 from MP Colin Challen reflects that. Please will you add your signature to amendment 15. It will improve the climate change committee's remit in line with the RCEP report quoted in the bill.

Yours sincerely

C&C PACE Law School

Equity and fairness concerns are reflected in the Framework Convention itself. Equity is considered explicitly in many of the proposals for a post-Kyoto climate agreement, perhaps most prominently the Contraction and Convergence proposal, put forward by the Global Commons Institute, see: -

<http://www.gci.org.uk/contconv/cc.html> http://www.gci.org.uk/articles/pace_law_school.pdf

C&C Lessard Quebec

Par ailleurs, la proposition « Contraction et convergence » (Global Commons Institute [GCI], 1990) suggère de fixer un taux égal d'émission par habitant à atteindre sur un horizon à long terme, et ce, peu importe le pays.

http://www.gci.org.uk/articles/Lessard_Quebec.pdf

www.gci.org.uk/articles/Global_Climate_Change_and_the_Noose_of_Equity_and_Survival.pdf

C&C – RCEP and UK 'climate-bill' Oct 17, 2008

C&C is now - via the Royal Commission on Environmental Pollution Report [RCEP 2000] the basis of the UK climate bill.

Detail at: -

http://www.gci.org.uk/briefings/UK_Climate_Bill_RCEP_C&C.pdf

The real issue of course is that the reaction rate on emissions control is still too slow and the worth of Poznan/Copenhagen and beyond is really contingent on rationally addressing this issue.

Here is C&C modelled in response to the IPCC AR4 'coupled-scenarios' which was done for Hilary Benn at his request: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

C&C has wide and growing support see: -

http://www.gci.org.uk/kite/Carbon_Countdown.pdf

Stern again on Horns of C&C Oct 24, 2008

Letter to Guardian

"Nicholas Stern proposes a global cut in emissions of 50% by 2050, with an 80% cut in the emissions of the developed countries by then.

While the principle of the contraction and convergence to world per-capita average of emissions is welcome, proposing it at a rate that is too slow is not. The coupled climate modelling in the fourth and latest IPCC assessment shows that a global cut in emissions of nearly 100% is needed by around 2060 to offset the accelerated rate at which emissions are now accumulating in the atmosphere.

We need emissions contraction and convergence globally, but at roughly twice the rate he argues if we are to avoid greenhouse gas concentrations causing "a major climate disaster"."

Aubrey Meyer

Global Commons Institute

www.guardian.co.uk/environment/2008/oct/24/carbonemissions-economics

The above is a response to the Nicholas Stern article in the Guardian 23/10/08

www.guardian.co.uk/commentisfree/2008/oct/23/commentanddebate-energy-environment-climate-change

Contraction and convergence for social equity Global sustainability is not possible without a contraction and convergence process: - contraction in the consumption of resources in developed countries-(limited) expansion in developing countries...until converging to a sustainable point.

http://www.gci.org.uk/articles/Sustain_Labour.pdf

Specifically, Action for a Global Climate Community calls for a new political initiative within the UN Framework Convention on Climate Change that will unite a vanguard group of countries – north and south – to lead the world in a commitment to reduce their carbon emission farther and faster than existing Kyoto obligations. It proposes that this commitment should be based on a form of 'contraction and convergence', an idea originally proposed by the Global Commons Institute.

http://www.gci.org.uk/articles/AGCC_first_4_years_report.pdf

RECOMMENDATIONS

We bring together here all the recommendations which appear (in bold type) elsewhere in this report; first 19 key recommendations, which are also included (in capitals) in the relevant contexts in chapter 10; and then a number of other recommendations on particular aspects

KEY RECOMMENDATIONS

1. The goal of reducing the UK's annual carbon dioxide emissions by 20% from their 1990 level by 2010 is a major step in the right direction. It should become a firm target and the government should produce a climate change programme that will ensure it is achieved (5.60).
2. The UK should continue to play a forceful leading role in international negotiations to combat climate change, both in its own right and through the European Union. The government should press for further reductions in the greenhouse gas emissions of developed nations after 2012, and controls on the emissions of developing nations (4.68).
3. 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 (4.69).
4. While UK carbon dioxide emissions are falling at the moment, they are expected to begin rising again. All but one of the nuclear power stations, the main source of carbon-free energy at present, are expected to close by 2025. The government should set out, within the next five years, a programme for energy demand reductions and development of alternative energy sources that will prevent this from causing an increase in UK emissions (10.12).
5. The government should now adopt a strategy which puts the UK on a path to reducing carbon dioxide emissions by some 60% from current levels by about 2050. This would be in line with a global agreement based on contraction and convergence which set an upper limit for the carbon dioxide concentration in the atmosphere of some 550 ppmv and a convergence date of 2050 (10.10).
6. Absolute reductions in energy demand and a large deployment of alternative energy sources will be needed if the UK is to make deep and sustained cuts in carbon dioxide emissions while protecting its environment and quality of life (10.17). Longer-term targets should be set for expanding the contribution from renewable sources well beyond 10% of electricity supplies to cover a much larger share of primary energy demand (7.106). A range of targets should be developed for raising energy efficiency in all sectors of the economy (6.172). A central policy objective must be a very large reduction in demand for energy for heating and cooling, achieved through much more sophisticated management of heat and much wider use of combined heat and power schemes for both the industrial and the commercial and domestic markets. The resulting heat networks, supplied initially by fossil fuels, could ultimately obtain heat from energy crops and electrically powered heat pumps (8.15).

Contraction & Convergence BALI.

The forthcoming Climate Talks in Bali are perhaps the last chance to get a viable international agreement to replace Kyoto. Given the need for a global framework which is independent, simple, flexible and which recognises the needs of developing countries we urge the government to reconsider the advice of the All Parliamentary Climate Change Group, and support the adoption of Contraction and Convergence as the global framework for achieving the objectives of the Intergovernmental Panel on Climate Change (IPCC).

[www.gci.org.uk/articles/Labour Brighton Climate Policy Forum.pdf](http://www.gci.org.uk/articles/Labour_Brighton_Climate_Policy_Forum.pdf)

C&C Wales

Finally, we wish to draw attention to a much neglected area in the literature and scenario work: equity and distribution. These issues are at times flagged in the scenarios (and subsequently in this report), but there is no systematic appraisal. Furthermore, even with the Contraction and Convergence model – of which equity is a key tenet – there appears to be currently no framework for translating the general principles of inter- and intra-generational equity into specific details at the level of towns and cities.

http://www.gci.org.uk/articles/Climate_Challenge_English.pdf

http://www.gci.org.uk/articles/Climate_Challenge_Welsh.pdf

C&C Yantra

Good phrases can cost large amounts of money to coin and circulate. "Sustainable development" was an expensive one which cost us \$8 million to coin but plainly means something to most people and is proving useful. Extend a welcome then to "contraction and convergence" which so far has cost one hundred thousand times less and may prove every bit as useful and even more so. It applies to greenhouse gases and embodies the proposition that, eventually, we should all agree to the same amount of emissions per capita, whoever we are, anywhere in the world.

http://www.gci.org.uk/articles/YANTRA_.pdf

Climate & Health Council - Oct 26, 2008

Agreeing with Indian Prime Minister on C&C: -

[www.gci.org.uk/briefings/PM_STATEMENT Manmohan Singh on C&C.pdf](http://www.gci.org.uk/briefings/PM_STATEMENT_Manmohan_Singh_on_C&C.pdf)

PM STATEMENT MANMOHAN SINGH ON SUSTAINABLE DEVELOPMENT

Saturday October 25th 2008-10-26

"I believe that the principle of convergence of per-capita emissions of developing countries with advanced developed countries is catching the imagination of the international community. We should recognize that each citizen of the world has equal entitlement to the global atmospheric space."

This is 'why the UK based Climate & Health Council advocate C&C and here's who is with C&HC: -

http://www.climateandhealth.org/getinformed/carboncap_trade/

http://www.gci.org.uk/briefings/Climate_and_Health_Council.pdf

The Climate and Health Council believes that health professionals can and should play a major role in helping tackle climate change whilst at the same time improving the circumstances of globally disadvantaged people in communities around the world. Its rationale is that climate change and the resource gap between rich and poor are the two factors which most impair both local and global public health. They create a vicious cycle where the impacts of climate change exacerbate the resource gap, and increasing impoverishment adds to environmental degradation. There is much evidence that the insufficiency of action being taken is leading to a public health catastrophe. To restore and improve global public health, both of these critically-related problems have to be faced up to and resolved as the mitigation of one is linked to the mitigation of the other. Given the trans-boundary, indeed global nature of both sets of problems, the Council recognises the imperative of achieving an international agreement on a framework to take policy forward. In the Council's view, it must be have the following three essential ingredients if it is to be health promoting and health sustaining:

a) a scientifically-assessed and globally binding commitment to cap and reduce carbon emissions so that, over an agreed period of time, these are reduced sufficiently to ensure that atmospheric concentrations are not increased. The extent of this reduction is much debated: The current scientific consensus is that a concentration of 450 ppm of these emissions must be the limit if we wish to have a 70 % chance of limiting global temperature rise to 2 degrees centigrade. This is considered to be a tipping point beyond which runaway climate change is likely to occur. This level is the one we presently work to, but recognise it may well be too high particularly in light of the 30% risk of failure.

b) a mechanism for ensuring that, coupled to the above process, there is a transfer of resources which allows for development in those countries which have not raised their standards of living through excessive use of fossil fuels. A key feature of this transfer is the provision of resources enabling all women to get secondary education, which is recognised to be the quickest way of promoting the demographic transition to a stable population.

c) the mechanism must have a strong policy bias promoting low carbon policies as the basis for development.

The Council judges these three ingredients are built into the 'fair shares' Contraction and Convergence cap and trade framework articulated by the Global Commons Institute

www.gci.org.uk

Who is involved

Organisations

Academy of Medical Royal Colleges
Association of Public Health Observatories
British Holistic Medical Association
Conference of UK Postgraduate Medical Deans
Doctors for Human Rights
Faculty of Medicine & Dentistry, University of Bristol
Faculty of Public Health
Finnish Medical Association
GreenNet
Heads of Academic Departments for Public Health
International Physicians for the Prevention of Nuclear War
International Society of Doctors for the Environment (Europe) ISDE Austria
Israeli Medical Association
Leijerstam Medical AB
New Zealand Medical Students Association
PHMUK
Physicians for Global Survival
Physicians for Social Responsibility
Royal College of Anaesthetists
Royal College of Nursing
Royal College of Physicians
Royal College of Physicians and Surgeons of Glasgow
Royal College of Psychiatrists
Royal Society of Medicine
Swedish Doctors for the Environment (LfM)
Swiss Doctors for the environment (Aerztinnen und Aerzte fuer Umweltschutz)
UK Public Health Association

Journals

British Medical Journal
Journal of Epidemiology and Community Health Lancet

Individuals

Aileen Adams, Doctor, Royal College of Anaesthetists
Alan Maryon-Davis, Doctor
Alan Mcglennan, Doctor
alex cochrane, Doctor, NHS and University of Bristol
Alison Hill, Doctor, Supporting Public Health
Andrew Haines, Doctor, London School of Hygiene and Tropical Medicine

Angela Raffle, Doctor, Bristol Primary Care Trust
 Anna Moore, Doctor, Trafford General NHS Trust
 Ayokunle Abegunde, Doctor, Michael Abegunde Foundation, Lagos, Nigeria
 Biplab Nandi, Doctor, University Hospital Lewisham
 Brian Harrison, Doctor, Retired
 Candida Campbell-Smith, Doctor, Mid-Sussex Primary care group
 Cathy Crosman, BT Conferencing
 Christopher Davis, Doctor, Lambeth PCT
 Christopher Mayes, Other Health Professional, Warrington Cycle Campaign
 Claire Barton, Doctor, Barton Oncology Ltd
 Clodagh Beckham, Other Health Professional, BMS
 David Casson, Doctor, NHS
 David Pencheon, Doctor, erpho
 Deborah Haigh, Doctor, retired
 Derek Gould, Doctor, Royal Liverpool NHS Trust
 Donald Zeigler, PhD, Other Health Professional, American Medical Association
 Douglas Holdstock, Doctor, Medact
 Dr Ian Gibson MP, Other Health Professional, House of Commons
 edmund willis, Doctor
 Erica Frank, Doctor, President, Physicians for Social Responsibility and
 Professor Frances Mortimer, Doctor, Knowledge into Action
 Graham McAll, Doctor, Devonshire Green Medical Centre, Sheffield
 Guy Aloïs MAGNUS, Doctor, European SREH
 Helen Ward, Doctor, Imperial College London
 Hilde Rapp, Other Health Professional, Centre for International Peacebuilding
 Hugo Crombie, Other Health Professional
 Ian Baker, Doctor
 Ian Campbell, Doctor, www.carbonindependent.org
 Ian Orr, Doctor, SouthernTrust
 Ian Roberts, Doctor, LSHTM
 Jack Piachaud, Doctor, Medact
 Jacqueline Ferguson, Doctor, British Association of Psychotherapists
 Jan Fohlman, Doctor
 Jean Zigby, Doctor
 Jeffrey Easton, Doctor, general practitioner
 Jenny Wilks, Other Health Professional, South Devon Healthcare
 Jo Violet, Doctor, Tavistock & Portman NHS Trust
 John Boyle, Doctor, Oxleas NHS Foundation Trust
 John Furness, Doctor, County Durham and Darlington Foundation NHS Trust
 John Guillebaud, Doctor, Population and sustainability
 John Martin, Doctor
 John Somner, Doctor, Tennent Institute of Ophthalmology
 John Yates, Doctor, University of Cambridge
 John Yudkin, Doctor, University College London
 Jon Ayres, Doctor, University of Aberdeen
 Josh Cullimore, Doctor
 Judith Harvey, Doctor, freelanced
 Karen Gibbon, Doctor, Whipps Cross University Hospital
 Keith Evans, Doctor, GP, Gwynedd
 kevin mattholie, Doctor, retired GP Cornwall
 Klaus Witte, Doctor, University of Leeds and Leeds General Infirmary
 Kristien Hintjens, Doctor
 Lindley Owen, Other Health Professional, Cornwall & Isles of Scilly PCT
 louise pealing, Doctor, GP
 Maggie Eisner, Doctor, Bradford Specialist Training Scheme for General Practice
 Marc Hudson, Other Health Professional, University Hospital of South Manchester
 Margaret Allen, Other Health Professional, Ravenswood Family Health Center, East Palo Alto, California

Mayer Hillman, Other Health Professional, Policy Studies Institute
 Mike Gill, Doctor, Climate and Health Council
 Moyra Cosgrove, Other Health Professional, Nutrition for Health & Fitness
 Myriam Van Winckel, Doctor, University Hospital Ghent Belgium
 Neil Pakenham-Walsh, Doctor, Global Healthcare Information Network
 niall macleod, Doctor, The Heavitree Practice, Exeter
 Nick Astbury, Doctor, Norfolk and Norwich University Hospital
 Olof Wallin, Doctor, Karolinska University Hospital/Umeå University
 Pam Zinkin, Doctor
 Peter Hall, Doctor, Doctors for Human Rights
 Phil Hanlon, Doctor, University of Glasgow
 robin stott, Doctor, medact
 Roger Jones, Doctor, Professor of General Practice
 Rupert Manley, Doctor, Stennack Surgery, St Ives, Cornwall
 Sharon Hutchings, Other Health Professional
 Stephen Gillam, Doctor, Institute of Public Health, University of Cambridge
 Sue Atkinson, Doctor
 Susan Francis, Other Health Professional, CAFE
 Tim Campbell-Smith, Doctor, NHS
 Tish Laing-Morton, Doctor, Met Office
 Tom Martin, Doctor, Bristol Royal Infirmary
 Uwe Hild, Doctor, IDEA
 William House, Doctor, British Holistic Medical Association
 ziyaad Iorgat, Other Health Professional
 Zoe Wang, Doctor, NHS/Medway Hospital

Partnerships

The Climate and Health Council works in partnership with the Health and Sustainability Network to inform, affirm, advocate, innovate and disseminate. We jointly: Affirm the importance of personal action - seek to inspire and motivate NHS organisations to take action - Support the public health and clinical communities in reaching out to patients and communities - Lobby and advocate at all levels - Communicate with the wider public health workforce in local government and NGOs - Promote the development of personal carbon trading through the RSA pilot

C&C advocated by DG Development EC

C&C advocated by Antonio Garcia Frago Head of Economic Development DG Development European Commission: - *"Interesting exercise is the contraction and convergence. Clear that to reach anything like equity there will be a need for an large decrease in per capita emissions in developed countries, and an increase in many of the least developed countries."*

opa.eu/development/icenter/repository/afgenenergy_partnership_addis_en.ppt

American Physical Society – October 2008

"C&C is supported not only by China, India, and most African nations, but also by the European Commission and the European Parliament, which endorsed it in 1998. I can't imagine that the developing nations would accept any plan that did not eventually converge on equal per-capita emission rights. Although C&C is the fair solution, it is not "ideological." It is dictated not only by fairness but also by practicality and realism: The nations of the world will agree on nothing less."

<http://www.aps.org/units/fps/newsletters/200810/upload/october08.pdf>

"Two Decades of Countering the Economics of Genocide with C&C

CRISIS FORUM at Southampton University 14 11 08"

<http://www.gci.org.uk/briefings/sss.pdf>

http://www.crisis-forum.org.uk/events/workshop1_video.php

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Dear Mr Stern

Thank you for your letter of the 12th of August.

1. The treasury website appears has now been corrected on the source of C&C in line with the 5th edition of the CUP report which has also been so corrected: - Source: Contraction and Convergence TM (C&C) is the science-based, global climate-policy framework proposed to the UN .since 1990 by the Global Commons Institute.

This is the reference supplied to and at last quoted in your review:

www.gci.org.uk/briefings/ICE.pdf

www.hm-treasury.gov.uk/d/Chapter_2_Technical_Annex.pdf

2. Thank you too for the link to your Ely lecture. Here again however, the reference is as 'contract-and-converge', rather than Contraction and Convergence, and this is not attributed to GCI. Instead you raise a critique of some notion of C&C that includes assertions about "equal rights to pollute" [see below] which amount to "rights to kill". These are entirely your assertions and certainly not GCI's. The reference for C&C now given in the CUP edition and on the Treasury website and in the

Garnaut Report www.gci.org.uk/briefings/ICE.pdf make no such assertions about equal rights, and your comments are wholly incorrect for asserting this.

It is also quite improper to construct the notion that contract-and-converge [which you now in the CUP and Treasury-based Report do attribute to GCI as "Contraction and Convergence"] perhaps represents "rights to kill". In the light of now attributing C&C to GCI elsewhere, this peculiar remark appears to go in the direction of libel. I have used C&C to fight the economics of genocide since 1990. So I would be grateful if you would read GCI's C&C reference now cited and respond to this request that you withdraw these comments and confirm that point to me in writing.

On whatever basis you care to nominate, rights are by definition being created in a 'global carbon market', as you cannot trade what you do not own. C&C presents this dilemma as a framework-based market the first issue for which is a decision regarding a global contraction rate that is fast enough to avoid the death rates associated with a contraction rate that is too slow.

This modelling was done for Minister Hilary Benn based, at his request, on coupled-modelling of contraction rates as published in IPCC AR4 and this link too is in the C&C reference you cite, as: -

www.gci.org.uk/Animations/BENN_C&C_Animation.exe

I am surprised to see that you have not paid attention to this and particularly the IPCC modeling. Contraction rates needed for given concentration outcomes are significantly faster than you are suggesting. This is the over-sight that is going to result in the [with-or-without] "rights-to-kill" death-rates that will accompany the scenario that your Ely figures portray - as shown below.

In the context of the Climate Bill which clearly indicates its source origin in the RCEP 2000, the attention accorded to the Stern Review is judged in light of GCI's track record that led from 1990 to 2000, during which time we have used C&C to fight against the Economics of Genocide. You only entered the debate with your report in 2006. Since then you have made two significant re-positionings you acknowledged within a year that: -

[1] the issue was much more serious than your first report had indicated

[2] C&C or the equalization of per capita emissions globally was in fact the 'pragmatic' course.

"An 80 percent reduction of flows by rich countries by 2050, in the context of a 50 percent reduction overall, is not a target for which rich countries should congratulate themselves warmly as demonstrating a splendidly powerful commitment to equity. And the contract-and-converge argument for some common flow level, or for using such a level as the eventual basis of trading, on the asserted grounds that there are "equal rights to emit or pollute," does not seem to me to have special claim on our attention. [Asserting equal rights to pollute or emit seems to me to have a very shady ethical grounding. Emissions deeply damage and sometimes kill others. Do we have a "right" to do so?] Rather, the target of equalizing by 2050 (allowing for trade) may be seen as being a fairly pragmatic one, on which it might be possible to get agreement, and one that, while only weakly equitable, is a lot less inequitable than some other possibilities, such as less stringent targets for rich countries."

This says therefore that you still appear to believe that you are actually arguing against C&C while you are actually arguing for it, but at rates that are too slow. Please will you confirm which is the case and whatever it is, come up with some more consistent reasoning than has been the case to date.

With kind regards Aubrey Meyer GCI

C&C in the Lancet: -

<http://www.knowledgeplex.org/news/2615801.html>

C&C advocated by Antonio Garcia Frago Head of Economic Development DG Development European Commission: - *"Interesting exercise is the contraction and convergence. Clear that to reach anything like equity there will be a need for a large decrease in per capita emissions in developed countries, and an increase in many of the least developed countries."*

http://ec.europa.eu/development/icenter/repository/afgenergy_partnership_addis_en.ppt

C&C taken up by the Humanist Society

<http://www.humanistsociety.org/recap-2007-12-Population.html>

"The concept of "contraction and convergence" (C&C) as well as "reduction and approximation" and has therefore proved to be very popular in ethical positions concerning climate change. "Contraction" calls for us to maintain the 2°C target through a rapid and satisfactory reduction in emissions, while "convergence" calls for the gradual evening-out of the per-capita emissions of rich and poor nations, with a more equitable distribution of emissions per capita among the world population. On the basis of the C&C concept, it is fairly easy to calculate the level of emissions that each country can be allowed in order to keep global emissions within the tolerable range."

It is not too late to respond to climate change

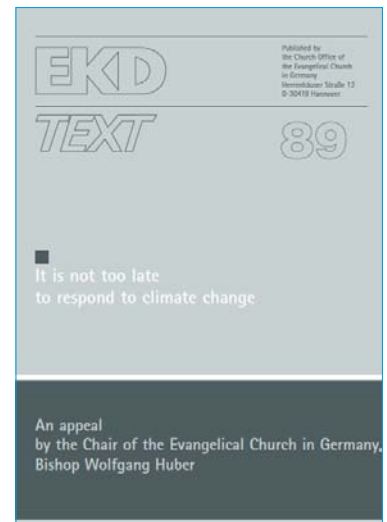
An appeal by the Chair of the Evangelical Church in Germany, Bishop Wolfgang Huber

"The concept of "contraction and convergence" (C&C) as well as "reduction and approximation" and has therefore proved to be very popular in ethical positions concerning climate change. "Contraction" calls for us to maintain the 2°C target through a rapid and satisfactory reduction in emissions, while "convergence" calls for the gradual evening-out of the per-capita emissions of rich and poor nations, with a more equitable distribution of emissions per capita among the world population."

On the basis of the C&C concept, it is fairly easy to calculate the level of emissions that each country can be allowed in order to keep global emissions within the tolerable range.

A global emissions trading system would be appropriate as an instrument to implement the C&C concept. However, the political implementation of such a system seems almost impossible in view of the present state of international climate change politics due to the sharp clash of interests. This calculation thus provides us with an ideal case scenario as a point of reference, but not a goal that we could achieve in the short term. Climate policy should instead focus first on a decisive reduction of global greenhouse gas emissions."

http://www.ekd.de/english/download/ekd_texte_89_engl.pdf



A CHRISTIAN VIEW ON CLIMATE CHANGE

A Report to the Bishops of COMECE Secretariat of the Commission of the Bishops' Conferences of the European Community - Aspiration for global justice – a bias in favour of the weakest.

*"The aspiration for global justice and special attention for the poor and for those generations who are not yet born are core values of Catholic social teaching. The contraction and convergence approach to the reduction of greenhouse gas emissions is one option for achieving more global justice through an emission allotment and trading scheme, and a minimum requirement in the light of these values. **Contraction relates to the need to reduce the total amount of anthropogenic emissions in order to protect the climate. Convergence relates to the distribution of these outputs. In order to achieve an equitable allocation of emission rights, it is often suggested that each human being in the world should gradually receive the same emission rights: based on their current per capita emissions, fewer emission rights will gradually be allocated to the industrial countries, while the developing countries will increasingly be granted more emission rights until each country achieves the same per capita rights by 2050.**"*

http://www.comece.org/upload/pdf/081029_pub_climat_EN.pdf

American Physical Society – October 2008

"C&C is supported not only by China, India, and most African nations, but also by the European Commission and the European Parliament, which endorsed it in 1998. I can't imagine that the developing nations would accept any plan that did not eventually converge on equal per-capita emission rights. Although C&C is the fair solution, it is not "ideological." It is dictated not only by fairness but also by practicality and realism: The nations of the world will agree on nothing less."

<http://www.aps.org/units/fps/newsletters/200810/upload/october08.pdf>

C&C - Letter to Guardian; UK supports C&C - Nov 11, 2008?

The Guardian et al reported yesterday that the new President of the Maldives is preparing contingency plans for evacuation due to forecast sea-level rise.

If the Maldives are to remain inhabitable, all now depends on the rate at which the global contraction and convergence [C&C] of greenhouse gas emissions is agreed at Copenhagen and applied from now. Abdullah Majeed, a principal negotiator for the Maldives for the last twenty years has supported C&C throughout and this morning a spokesman for the Government indicated that - it is a matter of public record that - they have now accepted this principle.

This spokesman was Michael Jacobs, responsible for energy and the environment in the Prime Minister's Policy Directorate. He acknowledged the advice from Adair Turner's climate change committee and this year's advocacy of C&C to the Australian Government by economist Prof. Ross Garnaut. He pointed out that Gordon Brown had in fact spoken to the principle on his visit to India in January this year.

The issue of whether small islands like the Maldives remain habitable relates to how rapidly the C&C principle is brought to bear. Mr Jacob's pleaded for understanding that they were "in a negotiation". I read that Jackie Ashley reminds the Prime Minister that, "nothing is inevitable". If so, significantly faster rates of C&C are needed than the PM is being advised at this time for the survival of the Maldives.

Robin Attfield of Cardiff Uni combines C&C with Greenhouse Development Rights

"Can we combine these approaches? In some ways the two approaches are inconsistent, and the task of combining them could be a nightmare for diplomats. But to omit steps to introduce either of them could be much worse."

<http://www.smokewriting.co.uk/philosophycafe/attfield211008.pdf>

Peter Wood [Australia] on Garnaut and Obama

About Obama and Garnaut, Peter Wood in Australia says "In short, Obama's policies are not as bad as the Australian policy of a 60% reduction by 2050, but are still not appropriate. They have an unacceptably high risk of catastrophic climate impacts, and shift too much of the job of reducing emissions away from the US.

Unfortunately, the Garnaut Review only modelled a convergence date of 2050, but the Global Commons Institute has tools available for modelling other convergence dates. For stabilisation at 450 ppm and a convergence date of 2050, Garnaut suggested that the US would have to have an allocation in 2020 of approximately 28% less than 2000 levels. Greenhouse gas levels will depend on carbon cycle feedbacks, worse feedbacks would require more reductions in allocations. A stabilisation target of 350 ppm would be much safer than 450 ppm.

Obama has got some policies right, such as 100% auctioning of emission permits, deployment of renewable energy, better energy efficiency, better electricity grid infrastructure, and weatherizing low-income households.

<http://climatedilemma.com/2008/11/11/obama-climate-change/>

A Global Contract Based on Climate Justice - equal emission rights per capita

The Need for a New Approach Concerning International Relations Big Bash Conference in Brussels, today 11 November 2008 - With a Policy paper prepared for this by Ottmar Edenhofer, Gunnar Luderer, Christian Flachslund, Hans-Martin Füssel and Contributing Authors, Alexander Popp, Georg Feulner, Brigitte Knopf, Hermann Held

"A new climate agreement could be part of a Global Contract, provided that it is based on the principles of environmental effectiveness, cost-efficiency as well as equity and justice in distributing the costs of curbing emissions and adapting to the adverse effects of climate change, taking into consideration the increased vulnerability of the many low-income countries and the responsibility implied by historic emissions.

Climate justice – equal emission rights per capita – is a principle that combines a humanitarian approach with an ecological and economic one. The principle of climate justice has to be the basic principle for all negotiations in the field of climate change and it could be the lever to accomplish a global climate agreement - a Global Contract. Such a climate agreement could catalyse the transformation towards global sustainable development.

A Global Contract based on Climate Justice could immediately help developing countries move in the direction of sustainability while enabling industrialised countries to massively reduce their ecological impact."

A Global Contract on Climate Change

Policy paper prepared for the conference

A Global Contract Based on Climate Justice: The Need for a New Approach Concerning International Relations

in Brussels, 11 November 2008

Ottmar Edenhofer, Gunnar Luderer, Christian Flachslund,
Hans-Martin Füssel

Contributing Authors:
Alexander Popp, Georg Feulner, Brigitte Knopf, Hermann Held



Potsdam Institute for Climate Impact Research

November 2008

The Report authors include Ottmar Edenhofer no less who is Deputy-Director and Chief-Economist at the Potsdam Institute for Climate Impact Research (PIK) where he leads Research Domain III "Sustainable Solutions". Since July 2008 he teaches as professor of "Economics of Climate Change" at the Berlin Institute of Technology. Edenhofer was appointed joint Chair of Working Group "Mitigation of Climate Change" of the Intergovernmental Panel on Climate Change (IPCC) in September 2008. His research has influenced the Stern Review on the Economics of Climate Change substantially. Edenhofer is key climate change advisor to federal foreign minister and deputy-chancellor Frank-Walter Steinmeier.

These authors make a somewhat straw-man assessment of C&C [e.g. who says the convergence date is 2050?] and [at last] point out [at least] one of two serious drawbacks backs with ECOFYS "Common but Differentiated Convergence" [CDC]

The correctly say, *"The drawback of this [CDC] approach is in the complexity of calculating consistent allocation trajectories for developed and developing countries and making sure that it is compatible with a predefined global emission profile."*

Another [unstated by Edenhofer at al] is the requirement for Developed Country per capita emissions e.g. US to go below Developing Country per capita emissions [inverting injustice is not justice].

http://global-contract.eu/content/file/GlobalContract_Backgroundpaper.pdf

The "equal-per-capita rights" proposal emphasizes the egalitarian principle by allocating an equal amount of emissions to each citizen in the world. Dividing the global cap by world population yields per capita allocation, and countries receive emission rights according to their population size. Given the high disparity of per capita emissions today, immediate implementation of this rule means that industrialized countries need to buy large amounts of permits from less developed countries. Therefore, some would object this rule on grounds of the sovereignty principle. Others, in contrast, will find that this approach does not take into account the ability to pay and historic responsibility and that developing countries should indeed be entitled to emit more than rich industrialized countries with high historical emissions.

By contrast, the "grandfathering" approach

allocates emissions according to the economic status quo, thus representing an operationalisation of the sovereignty principle. In each period, countries receive permits according to their fraction of global GDP. Countries need to reduce emissions proportionally to the global reduction effort. This rule gives rise to objections based on egalitarian, ability to pay and historic responsibility grounds: Those who are and have been major emitters building considerable economic wealth in this process are entitled to emit more emissions than developing countries, which – in a pure grandfathering approach – will even be asked to reduce their emissions from their low current levels.

The contraction and convergence (C&C) rule (Meyer, 2000)

combines these two approaches. In the beginning, allowances are grandfathered according to the status quo emissions. A long-term equal-per-capita emission target is defined (e.g. by 2050), and as illustrated in Figure 14, the allocation of each region then converges linearly towards the equal-per-capita allocation in a transition phase. This rule is also subject to criticism on grounds of historic responsibility: Rich countries have already used up a disproportional part of the global landfill atmosphere. Distributing the rest of the available resource according to the principle of equal utilization rights and sovereignty appears questionable in a perspective that emphasizes inter-temporal equity. From the latter point of view, historic emitters should receive fewer allowances. In this sense, contraction and convergence merely represents a minimum standard from the point of view of equity.

The historic responsibility approach

takes into account cumulated historic emissions. Countries that already have accumulated high per capita emissions receive proportionally less emission rights than regions with a low historic carbon stock. Critics of this rule will remark that the negative externality of greenhouse gas emissions has been widely recognized only recently and that developed countries cannot be punished for emissions produced in nescience while pursuing the legitimate goal of economic development. Therefore, it is important to define a base year from which on to count historic emissions as relevant for allocation.

This need not be the beginning of industrialization, but may be the date of the Rio Earth Summit in 1992, the Fourth Assessment Report of the IPCC (IPCCa, 2007) stating that climate change is anthropogenic with likelihood of more than 90% or the G8 summit in Heiligendamm 2007 where all major economies acknowledged the reality and challenge of climate change.

Finally, the common but differentiated convergence (CDC) rule (Höhne et al., 2006) represents one of the many compromise proposals combining several of the principles outlined above. Like contraction and convergence, initial allocations are based on Grand-fathering. Also, there is a long-term equal-per-capita target. The difference is in the transition phase: Developing countries below a certain threshold are enabled to increase their emissions until reaching the gliding threshold (which may be defined relative to the global average of per capita emissions). In turn, developed countries need to adopt more stringent reduction targets to ensure that a global emissions budget in line with the overall climate policy goal is achieved.

This alternative transition path may be substantiated both on the grounds of ability to pay and historic responsibility: Economic growth in developing countries shall not be limited by stringent emissions targets, especially given their low ability to pay and low historical use of the atmosphere. On the other hand, developed countries are richer and can afford financing larger shares of emission reductions and have already used up considerable shares of the atmosphere. Thus, the CDC rule incorporates elements of all four principles – egalitarianism, ability to pay, historic responsibility and sovereignty.

The drawback of this approach is in the complexity of calculating consistent allocation trajectories for developed and developing countries and making sure that it is compatible with a predefined global emission profile.”

http://global-contract.eu/content/file/GlobalContract_Backgroundpaper.pdf

World Church Council again behind C&C Nov 12, 2008

Developing a framework for the period beyond 2012:

“ We once more point to the Contraction and Convergence Model as a valuable starting point for deliberations and negotiations.”

<http://wcc-coe.org/wcc/what/jpc/pa-booklet-climate1.pdf>

“We would like to light a candle because by burning down the candle we want to remind us all that time is running out. We pray that an agreement may be reached for negotiating equitable and sustainable targets for post-2012. To respect our pledge to prevent dangerous human interference with the climate system – which according to a broad consensus would amount to limiting temperature rise to 2 degrees C – we are at a critical moment now.

We have used little over one century to come to this situation of crisis. Radical changes have to take place in order to make the transition to sustainability within the current century. This is the moment to decide on these changes. Let us acknowledge that the use of the atmosphere - being a Global Commons - has to be shared equally and justly. Let us conclude therefore that we cannot let political power, the market and technology based economic competition decide on how the use of the atmosphere will be distributed.

Therefore we once more point to the Contraction and Convergence Model as a valuable starting point for deliberations and negotiations. We are convinced that a much more principle-based approach is crucial for reaching an effective, equitable and justifiable global climate policy regime after 2012, which is the end of the first commitment period of the Kyoto Protocol (e.g. principle of equal entitlements; precautionary principle; priority for the poorest/weakest).

Scenarios need to be negotiated that might provide for a range of emission limitation commitments for developed and developing countries depending on their level and pace of industrialization while not jeopardizing sustainable development. Looking towards these upcoming negotiations, the basic framework of the Contraction and Convergence Model 3 is an important starting point for deliberations and negotiations directed to finding a justice-based global approach to climate change.”

C&C from German National Council Nov 16, 2008

"Position of lasting advice to current questions of the climatic and energy policy from the German National Council on Sustainability." (RNE)

Published position paper at: -

http://www.nachhaltigkeitsrat.de/uploads/media/Nachhaltigkeitsrat_zur_Klima-_und_Energiepolitik_Oktober_2008.pdf

First paragraph on page 12 states: - ***"The Council supports the long-term vision of an equal amount on CO2 emission per capita."***

This is in line with what Chancellor Merkel has already said earlier. Noteworthy considering the mixed composition of this 14 member top-level advisory board: -

Council Members

Dr. Volker Hauff

Member of supervisory board of BearingPoint GmbH, Chairman of the German Council for Sustainable Development (RNE)

Prof. Dr. Klaus Töpfer

Former Undersecretary General, UN Former Executive Director of the United Nations Environmental Programme (UNEP) Deputy Chairman of the German Council for Sustainable Development (RNE)

Horst Frank

Mayor of the City of Constance

Dr. Hans Geisler

Sächsischer Staatsminister für Soziales, Gesundheit, Jugend und Familie a.D.

Prof. Dr. Ute Klammer

Professor for political sciences, in particular social policy at the University of Duisburg-Essen

Prof. Dr. Edward G. Krubasik

Honorary professor at the TU Munich former Corporate Executive Committee of Siemens

Thomas Loster

Leiter der Münchener Rück Stiftung

Prof. Dr. Jürgen Rimpau

Chairman of the German Agricultural Society e.V.

Prof. Dr. Georg Teutsch

Scientific Director Helmholtz Centre for Environmental Research - UFZ

Marlehn Thieme

Member of the Council of Lutheran Churches in Germany (EKD), Director of the Deutsche Bank AG

Christiane Underberg

Mitlinhaberin Underberg KG

Michael Vassiliades

Member of the Board of the industrial union of Mining, Chemical and Energy (IG BCE)

Hubert Weinzierl

President of the German League for Nature and Environment (DNR), the umbrella organization of German conservation and environmental protection organizations

Dr. Angelika Zahrnt

Chairwoman of "Friends of the Earth Germany"

C&C Now? UK Gov! Nov 20, 2008

A meeting took place next to the UK Treasury on Monday morning last week [10 11 2008]. Convened by the Fabian Society, the main speaker was Michael Jacobs, now heading the climate and energy directorate under Gordon Brown at 10 Downing Street. The audience was 40/50 NGOs, academics, activists etc whose role was to receive bouquets/brickbats from Mr Jacobs for their performance on climate change and to accept exhortation to do better in rousing public support for the Government's efforts to secure an effective global deal on climate change at the Copenhagen meeting a year from now.

The rules were 'Chatham-House' The 20 minutes of Michael Jacobs was followed by an hour or more of exchanges with him from the likes of Paul Ekins [demonstration projects needed] Christian Aid [social justice needed] etc. Towards the end I asked Mr Jacobs, why - when there was obviously so much support for it [RCEP on which the climate bill and its revisions are based; the letter from Adair Turner to Ed Milliband www.gci.org.uk/correspondence/Interim_report_letter_to_DECC_SofS.pdf]

- and much more] - why was the Government still so shy about admitting that it supported the principle of Contraction and Convergence?

"Well", he started his reply ". . . the reason we are not paid-up members of GCI is" [Oh dear I thought, we're not a membership organisation] ". . . well as a matter of fact we do support it" "Can I quote you on that?" I asked

A chorus of NGO noes ran round the room - "Chatham House Rules Aubrey!!" [Phew]

Michael Jacobs continued, "well . . . in fact it is a matter of public record; not only the Adair Turner's letter, but the Garnaut Report . . . indeed the Prime Minister spoke to it on his visit to India in January this year! But [he said] what you've got to understand is that if we were open about it now that would mean that it applies now and you've got to understand that we are in a negotiation!"

I told him I didn't understand his answer. He said, see me afterwards. I did offering him a copy of Countdown: -

http://www.gci.org.uk/kite/Carbon_Countdown.pdf

"What's this; something new is it?"

I said, "we've never met and I have no idea of what you may have seen and read about C&C." He took the document. I then said, what I want you to think about is that the US Constitution was *pre*-ceded by a bill of rights and left.

[Chatham Rules include the right to ask 'may I quote you?' - Jacobs waived them by saying it was a matter of public record that . . .].

Brazil Proposes C&C at Poznan? Dec 04, 2008

Brazil proposals are based on the contraction and convergence principle. Their plan has secured tentative support from a number of developed economies as it is seen to offer a fair means of sharing out emission reductions.

BusinessGreen.com staff, BusinessGreen, 04 Dec 2008

<http://www.businessgreen.com/business-green/news/2231998/emerging-giants-small-islands>

Developing economies have upped the pressure on the developed world to agree to deeper emission reduction targets at the UN's climate change talks in Poznan, Poland this week, claiming that current proposals from both the EU and US president-elect Barack Obama do not go far enough.

Officials from the both the Chinese and Indian delegations, whose position on the long-running negotiations are widely held to be of critical importance, told Reuters yesterday that they wanted to see the US agree to deeper emission cuts than are currently being considered by Obama's transition team. Commenting on the president-elect's proposals for a US cap-and-trade scheme that would see carbon emissions cut to 1990 levels by 2020 before falling 80 per cent by 2050, the Chinese delegation's He Jiankun said that while it represented an improvement on the Bush administration's proposals "it is not enough to achieve the urgent, long-term goal of greenhouse gas reductions". Similarly, Dinesh Patnaik, a director at the Indian Foreign Ministry, told the news agency that Obama's plans are "not ambitious enough considering the Kyoto Protocol targets, but given the eight-year Bush administration it is progress".

The comments are significant as both China and India have long maintained that they will only sign up to long-term emission reduction targets for their growing economies if developed nations such as the US agree to significantly deeper cuts, on the grounds it is these nations that are historically responsible for the vast majority of carbon emissions.

The US, meanwhile, has said it will not sign up to targets that could give the two emerging economic giants a competitive advantage unless they too agree to reasonable targets – a position observers claim is unlikely to change significantly under an Obama administration, despite the president-elect's pledge to take a more constructive role in future climate talks than the Bush White House did. The comments come as Brazil reportedly put the finishing touches to proposals apparently based on the contraction and convergence principle that would see countries agree to per-capita emission reduction targets. Under the proposals, emission targets would be set on a per-head-of population basis, meaning that developing economies with low-carbon emissions per capita such as China would face less-demanding targets, while those countries with the highest level of emissions per person would have to deliver the deepest cuts.

The plan has secured tentative support from a number of developed economies as it is seen to offer a fair means of sharing out emission reductions. However, any per-capita scheme will most likely have to be adapted to take account of large countries with relatively small populations, such as Canada and Australia, which have high per-capita emissions as a result of high-carbon transport infrastructures. Meanwhile, a delegation of 43 small island states yesterday made an impassioned plea for developed economies to sign up to deeper emission cuts than those currently being considered, warning that without more ambitious targets they could be inundated. In a joint statement the nations warned that the two degree centigrade temperature rise above pre-industrial levels that is now widely seen as inevitable by developed nations, "would have devastating consequences on small island developing states". They are calling for industrialised nations to agree to cuts of more than 40 per cent below 1990 levels by 2020 and more than 95 per cent by 2050. However, even the most ambitious targets currently on the table – that of a 30 per cent cut by 2030 in the event of other countries agreeing to deep cuts – is still well short of this goal.

Speaking to Reuters, Selwin Hart of Barbados and a co-ordinator of the alliance, hinted that the island states were willing to adopt a tough negotiating position to ensure demanding targets are set. "We are not prepared to sign a suicide agreement that causes small island states to disappear," he said.

C&C - COP-14 Poznan Dec 05, 2008

To friends and colleagues at or going to COP-14 in Poznan Poland.

There will be a side-event on Monday the 8th of December 2008 between 18.00 and 19.30 in the 'Grebe' room of the Conference Centre. With a range of speakers and chaired by Colin Challen MP, chair of the UK All Party Parliamentary Group on Climate Change, it is entitled: - "Putting together the common but differentiated jigsaw". Common but differentiated responsibilities lie at the heart of the UNFCCC objective; C&C addresses these strategically with accelerated convergence to equal per capita emissions in a global emissions budget that stabilizes atmospheric ghg concentrations at a value low enough to avoid runaway climate changes.

Booklets of this emerging consensus will be available and the document is also posted at: - http://www.gci.org.uk/kite/Carbon_Countdown.pdf

Information re rates of C&C and 'coupled modelling' in AR4 is at: - http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

SLOVENIA MINISTERIAL AT COP-14

"Mr. President, Council of the European Union put in its conclusions of October this year that, to achieve our long term goal, global average greenhouse gas emissions per capita should be reduced to around two tonnes of CO₂ equivalent, and that, in the long term, gradual convergence of national per capita greenhouse gas emissions between developed and developing countries would be necessary, taking into account national circumstances. This means that those, whose emissions are high, should reduce them, while those, with emissions below 2 tonnes per capita, would be allowed to increase them to around 2 tonnes, which would enable their sustainable development. This approach is known also as "Contraction and convergence"."

www.gci.org.uk/briefings/Slovenia_High_Level_Segment_Poznan.pdf

MEXICO MINISTERIAL AT COP-14

Furthermore, we have set a long term aspirational vision aimed at achieving in 2050 a net emission reduction of 50% compared to our emission levels at the beginning of the Century. That would keep a national per capita emissions trajectory equivalent to what would be the world average, if every country fulfilled their share of responsibility.

www.gci.org.uk/briefings/Mexico_High_Level_Segment_Poznan.pdf

EU PRIOR TO COP-14

NOTES that, based on available elements such as current population projections, such a level of ambition means that, by 2050, global average greenhouse gas emissions per capita should be reduced to around two tonnes CO₂ equivalent, and that, in the long term, gradual convergence of national per capita greenhouse gas emissions between developed and developing countries would be necessary, taking into account national circumstances.

www.gci.org.uk/briefings/21_Oct_2008_EU.pdf

For the EU this means that the international community should pursue a pathway compatible with the limitation of global average temperature increase to not more than 2°C above pre-industrial levels. This will require a reduction in global emissions of at least 50% from 1990 levels by 2050, which means that global greenhouse gas emissions will have to peak by 2020 and decline thereafter. It should also define clear mid-term targets with fair contributions from all Parties, according to the principle of common but differentiated responsibilities and respective capabilities. The EU notes that, based on available elements such as current population projections, such a level of ambition means that, by 2050, global average greenhouse gas emissions per capita should be reduced to around two tonnes CO₂ equivalent, and that, in the long term, gradual convergence of national per capita greenhouse gas emissions between developed and developing countries would be necessary, taking into account national circumstances.

unfccc.int/resource/docs/2008/awglca4/eng/misc05a01.pdf

NICHOLAS STERN ON C&C AT COP-14

www.tangentfilms.com/SternPoznan.mp4

www.gci.org.uk/briefings/Stern_Challen_Poznan.pdf

www.gci.org.uk/Stern/Resume_on_C&C.pdf

www.tangentfilms.com/PoznanChat.mp4

TO NICHOLAS STERN BEFORE COP-14

"Nicholas Stern proposes a global cut in emissions of 50% by 2050, with an 80% cut in the emissions of the developed countries by then. While the principle of the contraction and convergence to world per-capita average of emissions is welcome, proposing it at a rate that is too slow is not. The coupled climate modelling in the fourth and latest IPCC assessment shows that a global cut in emissions of nearly 100% is needed by around 2060 to offset the accelerated rate at which emissions are now accumulating in the atmosphere. We need emissions contraction and convergence globally, but at roughly twice the rate he argues if we are to avoid greenhouse gas concentrations causing "a major climate disaster."

Aubrey Meyer - Global Commons Institute

www.guardian.co.uk/environment/2008/oct/24/carbonemissions-economics

SPAT ABOUT C&C IN AUSTRALIA

"Clive Hamilton v. Paul Kelly: climate death match" (11 December, item 4).

Secondly, Kelly praises Ross Garnaut for adopting a per capita convergence principle and chastises the "media-scientific-green position" (note the way he tries to discredit the science by squeezing scientists between the media and greens) for criticising this approach. In truth, Garnaut lifted the contraction and convergence proposal lock stock and barrel from London's Global Commons Institute, which has been pushing the idea hard since 1995.

As a long-term goal, equal per capita emission entitlements has enjoyed strong support from greens for years. I have been advocating it since 1997. In his report, Garnaut gave virtually no acknowledgement of his debt to the GCI and has been writing and talking as if he invented it the idea, allowing Kelly to claim that greens oppose it.

www.crikey.com.au/Politics/20081211-Paul-Kelly-Canberras-chameleon.html

Dr Frank Jotzo, former Economic Advisor, Garnaut Climate Change Review, writes:

Re. "Clive Hamilton v. Paul Kelly: climate death match" (11 December, item 4). Re. Clive Hamilton's claim that: In truth, Garnaut lifted the contraction and convergence proposal lock stock and barrel from London's Global Commons Institute, which has been pushing the idea hard since 1995. As a long-term goal, equal per capita emission entitlements has enjoyed strong support from greens for years. I have been advocating it since 1997.

In his report, Garnaut gave virtually no acknowledgement of his debt to the GCI and has been writing and talking as if he invented it the idea, allowing Kelly to claim that greens oppose it. This is rather misleading. The very first mention of contraction and convergence on page 203 in the Garnaut Review states: "9.4.3 Contraction and convergence. A precise version of the per capita approach, often referred to as 'contraction and convergence' (Global Commons Institute 2000), has figured in the international debate for some time."

www.crikey.com.au/Your-Say/20081215-Comments-corrections-clarifications-and-cckups.html

CHRISTINE MILNE LEADER OF THE AUSTR. GREENS ON C&C IN ABC NEWS

"Finally there is the question 'do we think we Australians deserve to pollute more than everybody else?' This is the vexed 'per capita' issue that Professor Garnaut so cleverly inverted - taking what had been a powerful argument for change and turning it into a weapon in the hands of climate naysayers. He took the 'contraction and convergence' model that is the only equitable basis for a global agreement, and perverted it by talking up future population while sidelining current per capita pollution, stretching out convergence - the point where all people have the same pollution allocation - to the far future, and ignoring historical responsibility."

www.abc.net.au/news/stories/2008/12/16/2447343.htm

EEM - New Mag fronts C&C Dec 19, 2008

Energy and Environmental Management

Beautifully produced, good looking, good news magazine launched: -

<http://www.eaem.co.uk/ebook/>

The current issue includes an appreciation of C&C . . . [p 15]

'Contraction and Convergence' the great global carbon compact? "Sometimes the questions are complicated and the answers are simple." Dr Seuss

In March 2007, the Board of The Society of the Environment (SocEnv) enjoyed a passionate guest presentation by Colin Challen MP, Chair of the All Party Parliamentary Climate Change Group (APPCCG). It was on the APPCCG's preferred solution to climate change pollution, a global emissions framework known as 'Contraction and Convergence' (C&C) as proposed by the Global Commons Institute. C&C is the heart of the 'plan' most governments now prefer.

The SocEnv Board immediately and some say boldly, agreed to back C&C joining in solidarity with the Royal Institute of British Architects whose Council had by then also adopted C&C.

Here, Dave Hampton of Carbon Coach, SocEnv Board member and CIOB Sustainability Spokesperson argues that for us humans, it is now a case of C&C or bust. We have a choice - live within environmental limits - as the maths, curves and logic of C&C provide - or die ignoring them. If we follow the path that C&C maps out for us, the future can be sweeter and less sour!

Over the last hundred years, burning fossil fuel in vast quantities made possible a rapid advancement phase - a hot-house of growth - the end of which is now coming into view. We can see a peak in fossil reserves. We are experiencing climate destabilisation caused by the volume of manmade CO₂ 'smoke' that accompanies the fossil blowout bonfire. We are seeing the end of an era, possibly much worse; the end of the road. Our addiction, to the instant gratification that a puff of fossil can release, is terminal.

Governments by and large play down the problem and work hard to maintain the illusion that the Titanic is unsinkable, or at least a long way away from any icebergs, when in truth we have already collided, and the old economy is badly punctured. It is time to face the music and to secure a global carbon reduction agreement - that all can live with. Literally! Many fear an end to our era of privilege, an end to the era of wealth at others expense. Some fear the discomfort of withdrawal from fossil support. Some just don't want to think about it.

One brave man, Aubrey Meyer, has come up with a fair, workable and transparent plan for setting the rates at which all nations need to reduce carbon, over the long term. Put plainly, this plan affords us to have a chance of species survival. The Plan is called C&C. It's complicated, but it's also simple.

Many are drawn to the idea of convergence (towards fair shares) as a matter of principle. Some are not. But the base principle of equal per capita rights does not have to be a moral concept. Anyone who has tried gaining agreement to un-equal slices of chocolate cake at a children's birthday party will recognise the issue is one of pragmatism - not idealism. Contraction is not a good word in marketing. Couldn't we call it 'positive inverse growth' some might say, but contraction is another pragmatic truth. We have to cut pollution faster than we create it! The Government of the day usually say they like C&C, but then wait to see if anything better comes along. That may sound sensible enough, until you realise C&C has been around 10 years, nothing better has come, and they are still waiting.

I can't see anyone improving on the idea that every human on the planet is entitled to their fair share of our atmosphere, and that no-one has a special right to pollute faster than nature can cope with CO₂ waste. I can't see anyone improving on the idea that a period of smooth transition, from current per capita carbon inequity - towards carbon justice - is a good one.

No-one is saying it will be easy. The task is akin to the eye of the needle that we need to pass through - to get to the other side - to regain a prospect of life for children. Sure it's difficult - but it will be worth it. And crucially no-one is saying it would be a mistake to rush into making carbon reductions. On the contrary, urgent cuts are needed. We have no time to await a better offer - The Climate Crunch approaches! If we had heeded earlier warning signals we could have started weaning ourselves off fossil fuel decades ago. But we didn't.

A number of Professional Institutions and Groups have united to demand Government adopts C&C, as its preferred pathway. These institutions are making these demands (outside of their normal sphere of influence and concern) in the face of governments that are dithering. Industry is telling Government: "Give us the targets, and we will finish the job, of decarbonising the economy." "A long term carbon reduction framework is not a problem, but uncertainty is."

C&C sets a clear rationale and context for target setting. We can choose how much more carbon we risk putting into the skies. We can decide the time period over which we converge to equal per capita rights. What we cannot decide - not by politics - is how fast each nation needs to cut the carbon. That is dictated by maths and physical limits alone. Or whether we feel lucky!

C&C projects a rational coherent carbon-costed budget for each nation for each year. Until a better plan comes along, let us demand that our representatives in Parliament demand C&C as a matter of course, in all international negotiations. In short, the risks of not adopting C&C far outweigh the risks of adopting it. www.gci.org.uk/kite/Carbon_Countdown.pdf

The AGE [Oz] - "C&C; no other viable way." Dec 23, 2008

The screenshot shows the homepage of theage.com.au. At the top, there are navigation links: NEWS | MYCAREER | DOMAIN | DRIVE | FINANCE | MOBILE | RSVP | STAYZ. Below these are links for member centre, login, and register. The main header features the theage.com.au logo and a promotional banner for O2 Pay & Go SIMs. A sidebar on the left lists categories: Blogs, Letters, Editorial, Cartoons, and Animation. The main content area displays the title of an opinion article: "One little word undoes the PM's claims on greenhouse gases". The article is by Tim Colebatch, Economics Editor at The AGE Australia. The page also includes a search bar and a "Show site sections" button.

Tim Colebatch Economics Editor The AGE Australia

Labour has tried to deflect criticism by focusing on the cuts in per capita emissions. That would be fine if the cuts really happened, and if, like Garnaut, it proposed that contraction and convergence to a global per capita emissions target by 2050 be the framework for an international agreement.

There is no other viable way for the world to cut emissions to levels that would end global warming. The greenhouse gases that threaten environmental catastrophe are not those already up there, but the far greater volume to be emitted in future, mostly from developing countries.

<http://www.theage.com.au/opinion/one-little-word-undoes-the-pms-claims-on-greenhouse-gases-20081222-73km.html?page=-1>

WE ALL think the Rudd Government's emissions trading scheme will cut Australia's greenhouse gas emissions by 5 per cent relative to 2000 levels — right? No, we're wrong.

Treasury modelling estimates that even with a cleaner, more effective model than the one now adopted, Australia's emissions in 2020 would rise 5.8 per cent above 2000 levels. We would pump out more emissions in 2020 than we do now.

It's an ugly reality that exemplifies why the Government's model is doomed to fail. It promises change, but tries to shield everyone from all the points that drive change.

As I have argued before, the problem is not the targets themselves. If we were to cut our emissions in 2020 to 5 per cent below 2000 levels, that would be a rapid cut of 25 per cent in emissions per capita from current levels. A cut to 15 per cent below 2000 levels, promised if we get a good international agreement, implies a cut of 33 per cent per capita between 2006 and 2020. If we achieved that, it would be real progress towards the ultimate goal of halving global emissions. The problem is that with Rudd's decision to shield companies and households from the changes the scheme is meant to drive, it's unlikely that Australia will reduce its emissions. Yet that is what he promised to do.

There's a crucial point we all overlooked. Labour has not committed Australia to cut its emissions by 5 per cent, but to cut its emissions allocation by 5 per cent. And that is very different. In 2000, Australia emitted 553 million tonnes of greenhouse gases. In 2020, the Government will allocate permits for 525 million tonnes of emissions. But even before last week's changes weakened the scheme, Treasury estimated that Australia would emit 585 million tonnes.

The key to it is that the scheme allows companies to use unlimited numbers of permits from other countries instead of our own. And the permits we import will be subtracted from our emissions tally.

They would come from other Western countries or (more likely) from developing countries, under rules such as the Kyoto Protocol's clean development mechanism (CDM), which allows Western companies to buy permits for emissions saved in developing countries by using cleaner technology. A noble idea, unfortunately it has proved easy to rort.

The Garnaut report proposed a tighter test, but the Government refused. Permits from CDM and "joint initiative" projects in countries with emission reduction targets are expected to be plentiful and cheap. That's why Treasury estimates that emissions trading will prove cheap.

On Treasury modelling, even with constraints that will no longer apply, Australia in 2020 would import permits for another 46 million tonnes from other countries. And by 2050, Rudd pledges, Australia will reduce emissions by 60 per cent from 2000 levels, to 221 million tonnes. But Treasury projects that in fact Australia would cut its emissions by only 24 per cent, to 420 million tonnes, and buy 199 million tonnes of permits overseas. Moreover, its modelling assumed Labour would limit the use of foreign permits, to supply at most half the cut in emissions. But Rudd threw out that constraint, allowing an even larger share of our "emissions cuts" to be bought overseas.

What's wrong with that? Nothing, so long as it really cuts emissions. But we have seen China sell "certified emissions reduction" permits for phasing out hydrochlorofluorocarbons, which it has to do anyway under the Montreal Protocol. The ease of rorting is one reason why economists such as Jeffrey Sachs plead instead for a carbon tax.

The Government's spurned climate change adviser Ross Garnaut spelt out eloquently in Saturday's Age how its scheme would waste the revenue from emissions trading in unjustifiable and/or extravagant compensation payouts to interest groups, rather than using it to drive change.

It's a sad picture of a weak Government that crumbles under pressure from big business. The net effect will be to reduce emission cuts in Australia, so the targets are achieved by buying dubious overseas permits. The scheme won't be a write-off, but it will be rorted, and it will not achieve what it claims to do.

Labour has tried to deflect criticism by focusing on the cuts in per capita emissions. That would be fine if the cuts really happened, and if, like Garnaut, it proposed that contraction and convergence to a global per capita emissions target by 2050 be the framework for an international agreement. But when Penny Wong addressed other environment ministers at Poznan, she did not mention per capita emissions. Why? Because Australia's per capita emissions are the sixth highest in the world — and under Garnaut's framework we would have to make (or buy) the sixth biggest cuts. Yet there is no other viable way for the world to cut emissions to levels that would end global warming. The greenhouse gases that threaten environmental catastrophe are not those already up there, but the far greater volume to be emitted in future, mostly from developing countries. - We need real leadership — not this.

C&C from UBC Guru Dec 23, 2008



Why 'Run-of-the-River' is no Solution

Written by William E. Rees, PhD, FRSC

The inventor of the "eco-footprint" concept, Dr. William Rees is one the world's foremost ecological and sustainability experts. He teaches at the UBC School of Community and Regional Planning.

www.ourrivers.ca/latest-news-mainmenu-38/environment/259-rees1

"Governments should be negotiating a global treaty on 'contraction and convergence' by which the First World would shrink its per eco-footprints to converge, at a sustainable level, with justifiably growing per capita EFs in the Third World. We should aim to de-carbonize the global economy completely by 2025. All this implies an 80% reduction in per capita consumption and waste production by North Americans."

Fact: Most public policy directed toward so-called sustainability, including alternative energy, is directly or indirectly oriented toward maintaining the status quo by other means—i.e., it emphasizes growth through efficiency or is geared toward increasing supply rather than reducing demand. This (along with kow-towing to the private sector) is what run-of-the-river hydro is all about.

Problem: Governments (and even most 'environmental' organizations) have yet to confront a contrary two-fold reality that demands a very different approach:

Scientists, particularly climate-change scientists, have grossly underestimated the scale and rapidity of climate change. Arctic warming/melting is 80-100 years ahead of the IPCC's business-as-usual scenario. The most recent peer-reviewed research suggests that the world will be hard-pressed to avoid stabilizing GHGs at less than 650 ppm CO₂ which implies a 50% probability of a catastrophic 4C° of warming.

Eco-footprint analysis shows that the world is in over-shoot, using 25-40% more of nature's goods and services each year than the planet can sustainably produce. We are depleting essential natural capital.

Solution: There is nothing for it but to GIVE UP GROWTH. The era of material exuberance in the First World is over. Public policy that does not reflect this reality merely accelerates ecosystemic—and ultimately societal—collapse.

In this light, the mad scramble by governments everywhere to re-establish 'normal' growth after the recent implosion of the world's greed-driven financial markets is tragicomedy on a global scale. Sustainability requires that we should, instead, be planning a stable way down for everyone while we still have the capacity to do so. Governments should be negotiating a global treaty on 'contraction and convergence' by which the First World would shrink its per eco-footprints to converge, at a sustainable level, with justifiably growing per capita EFs in the Third World. We should aim to de-carbonize the global economy completely by 2025. All this implies an 80% reduction in per capita consumption and waste production by North Americans.

The good news is that the implicit serious conservation effort would generate more energy from existing sources than can be derived by supply-side approaches. Ecologically hazardous run-of-the-river hydro is an unnecessary growthist strategy. By the way, 'zero growth' may be blasphemy today, but within a decade or so it will have become holy doctrine.

C&C & 'Climate Ethics' Jan 19, 2009

C&C a Framework for Ethically Closing the Mitigation Implementation Gap

The following is one of a series of posts that ClimateEthics.org is focusing on to encourage ethical analyses of post-Kyoto regime proposals that are getting attention in the international community. As ClimateEthics.org has argued in a recent post, all proposals to replace the Kyoto Protocol will need to satisfy two ethical criteria. See, Minimum Ethical Criteria For All Post-Kyoto Regime Proposals:

What Does Ethics Require of A Copenhagen Outcome,

<http://climateethics.org/?p=50>.

One, they must make sufficient reductions in global emissions to give the world hope that it can avoid catastrophic climate change. And second, the proposed regimes must put the world on pathway to equitable and just allocations of national emissions limitations. ClimateEthics.org now continues this analysis by looking at specific post-Kyoto regime proposals particularly in regard to how they satisfy the minimum acceptable ethical criteria of just national allocations. The following post is the first in this series on this theme. ClimateEthics.org will conclude these analyses by contrasting, comparing, and evaluating ethical claims made by each of these regime proposals.

<http://climateethics.org/?p=84>.

C&C As An Ethical Negotiating Framework

Contraction and Convergence (C&C) is a framework for mitigation negotiation that encapsulates the core elements of CDR in the context of climate change, namely (1) the common responsibility to protect and care for the community of life and (2) the differentiated capacities of nations to achieving this end. "Contraction" means reducing global green house gas emissions so that atmospheric greenhouse concentrations become stabilized at an agreed safe level. This safe level must be reached at a period of time which can be visualized as a contraction curve showing how emissions must be reduced over the specified time period. "Convergence" refers to distributing the permissible emissions under the contraction curve so that they are equalized on a per capita basis globally by the specified time (see fig 1).

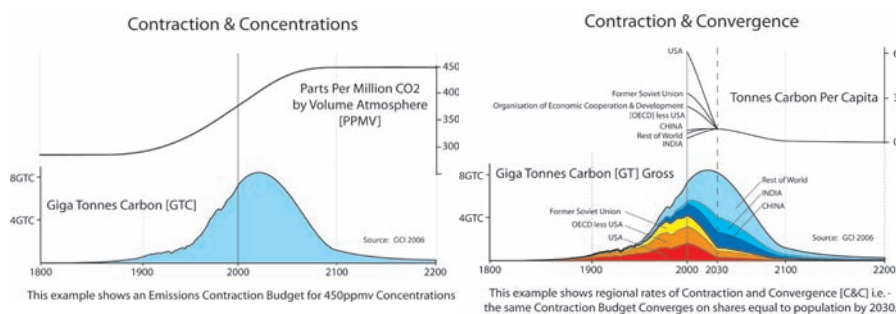


Figure 1. Visualization of "contraction and convergence" framed targets and timetable for global mitigation to stabilize CO₂ at 450ppmv. The top graph shows the permissible emissions and the lower graph their per capita distribution. Source: Global Commons Institute; http://www.gci.org.uk/kite/Carbon_Countdown.pdf

In its raw form, C&C raises ethical questions that must be answered including: what population levels at what time are used for the per capita allocation; will this differ for developed and developing countries; do we need to create a “development bubble” to allow for accelerated poverty alleviation in the short term; and of course the primary question of what is a safe level of atmospheric greenhouse gas concentrations? Such questions are part of the necessary negotiations around a C&C framed mitigation agreement.

However, we argue that obtaining agreement on these C&C framework issues will provide the context and direction needed to successfully negotiate the myriad of implementation issues associated with adaptation, technology and finance. Climate change treaty negotiations are being overwhelmed by debate around implementation issues. Rather than continuing to negotiate on all matters in parallel, we argue they should be dealt with sequentially – first resolve the C&C framework issues, then deal with the implementation problems.

Global justice - the big picture

<http://globaljusticeideas.blogspot.com/2009/01/obama-carbon-tax.html>

We can take individual action for global justice. But global problems also need global responses. Our leaders fear putting their own country at a disadvantage so international agreements seldom go far enough. The Simultaneous Policy (SP) campaign is a way to compel and empower our leaders to implement the policies we, the people, want. These are my own reflections on the campaign. Any proposals do not have official status until final voting by SP Adopters (sign up for free on the simpol sites). President Obama urged to use carbon tax, not carbon trading, to address climate change. As the era of President Obama dawns, the top climate change scientist in the US has warned he has to take decisive action in his first term. As I have suggested here before, the ‘carbon trading’ approach pushed by Europe is having little effect. For example, it is far cheaper to pay the Congo not to cut down trees than to invest in carbon capture development for power stations. The net result being that carbon dioxide in the atmosphere continues to rise.

See: - <http://globaljusticeideas.blogspot.com/2008/08/clean-coal.html>

Here’s what caught my eye in the Guardian report of the comments from Jim Hansen, described as “Nasa scientist and leading climate expert”:

<http://www.guardian.co.uk/environment/2009/jan/18/jim-hansen-obama>

. . . . these are the type of practical, national policy steps that could be taken within the framework of global commitments to contract total emissions, while converging the right each person on the planet has to produce greenhouse gases to be equitable. This ‘contraction and convergence’ approach is the best-supported proposal for inclusion in the Simultaneous Policy’s annual voting yet again.

See: - <http://www.simpol.org.uk/forum/index.php?board=14.0>

Medical Students January Campaign Action Pack – Healthy Planet

“Call on governments of the world to put in place a global framework such as the Global Commons Institute’s Contraction and Convergence to cap the emissions of greenhouse gases such that the atmospheric concentration of CO₂ does not rise above 450 ppm”

http://www.medsin.org/downloads/news_attachments/0000/0009/January_Campaign_Action_Pack_%E2%80%93_Healthy_Planet.pdf

Holistic Approaches – A Global Contract and the Global Marshall Plan

Franz Josef Radermacher - Director of the Research Institute for Applied Knowledge Processing, Ulm University, Germany - Global Marshall Plan Initiative

http://global-contract.eu/content/file/PPP_Radermacher.pdf

“The pressing global problems require more than a system of sovereign states as we have it today. The world needs a better global governance system, rule-based, a global contract, aiming at a global eco social market economy, climate justice and the perspective of worldwide citizen rights and a worldwide democracy.

How to address climate change - carbon justice, contraction and convergence

1. Global cap (cap decreases annually)
2. Justice: every human worldwide receives an equal share of emission rights (cost free) relative to the cap (equal access to this global common)
3. Equal share may be reached after a transition period, starting from a grandfather-type distribution in the beginning.
4. States are in charge of the free emission shares of their citizens.
5. States are free to use own emission rights internally or to trade them.
6. Emission rights are either used internally within states or traded between states.
7. This is the position of the Club of Rome, of the EU Information Society Forum and of the Ecosocial Forum Europe since at least ten years;"

* cf. also [www.nobel-cause.de/Potsdam Memorandum.pdf](http://www.nobel-cause.de/Potsdam_Memorandum.pdf)

IOE Sustainability Network Debate 10th December 2008.

Air miles and fair trade.

How can we be fair to the planet and to majority world farmers? Could alternative food policies promote greater well-being survival and justice? "The Kyoto Protocol recognises need for equity and economic development for developing countries, and paved the way for contraction and convergence".

Dr Bill Vorley, Head of the Sustainable Markets Group, International Institute for Environment and Development, London, www.iied.org

Tamsin Gane, Sustainable Procurement Manager, Sodexo UK, www.sodexo.co.uk

With Profesor Tim Lang, City University, www.city.ac.uk

and Dan Morey, Fairtrade Foundation www.fairtrade.org.uk

Chair: Dr Alun Morgan IOE.

http://k1.ioe.ac.uk/Sustainability/SN_Resources/Networkdebatefairtrade.pdf

US National Carbon Emissions Targets.

HILARY G. GRIMES-CASEY, GREGORY A KEOLEIAN, BLAIR WILLCOX

Center for Sustainable Systems, School of Natural Resources and Environment, University of Michigan, 440 Church Street, Ann Arbor, Michigan 48109-1041

"Having identified pathways for reducing emissions and meeting final GHG concentration targets, a system for distributing the global rights to emit CO₂ must be devised. Countries negotiated their emissions rights under the recent Kyoto Protocol agreements for reducing greenhouse gas emissions. However, countries' negotiating power and the relative costs and benefits of the outcomes varied greatly, leading to ethical controversy over the emission reduction expectations. Other methods for allocating emissions have been debated, including cap and trade emissions permits (20) or per capita based allotments (21-23). Neither of these addresses inequities in historic or future emissions rights (24-26). This model allocates US emission shares using the "contraction and convergence" concept (27 (27) Global Commons Institute. The Ideas and Algorithms Behind Contraction and Convergence and CC Options; 2003) based on the expected US share of world population by 2050. The US share of global CO₂ emissions decreases linearly from 16% in 2002 to a target level of 4.35% in 2050."

<http://pubs.acs.org/doi/pdf/10.1021/es801032b>

Climate Change : A Christian Perspective June 2008

Rev. Charmaine Braatvedt New Zealand

http://holytrinity.gen.nz/files/familyservicetalk_climate%20change.doc

"Within the world wide Anglican Community Archbishop Rowan Williams has been very outspoken on the matter of climate change. He has called for deep cuts in carbon emissions on the basis of contraction and convergence. By this he means aiming at equal per capita emissions worldwide. Clearly this would mean huge reductions for the rich countries. Even the evangelical churches of America seem to be voicing concern about this problem."

I read recently that Rick Warren and a number of other evangelical leaders have come forward and formed the Evangelical Climate Initiative and signed a statement saying “human induced climate change is real and calling on the Bush/ US government to urgently pass legislation establishing limits on carbon dioxide emissions which are widely believed to be the primary cause of human induced global warming. The statement goes on to say, “Christians must care about climate change because we love God the Creator and Jesus our Lord through whom and for whom the creation was made. This is God’s world and any damage that we do to God’s world is an offence against God himself.”

Enabling One Planet Living in the Thames Gateway

A report from Jane Durney and Pooran Desai,
BioRegional Development Group

“However, globally, CO₂ (and other greenhouse gas) emissions are increasing through increased use of fossil fuels and deforestation. In order to stabilise concentrations of CO₂ in the atmosphere, we need to reduce CO₂ emissions and converge on an equitable global per capita CO₂ “allowance”. This “Contraction and Convergence” greenhouse gas abatement methodology proposed by the Global Commons Institute is widely recognised as the only equitable approach that will stabilise greenhouse gas levels. It is supported by the UK’s Royal Commission on Environmental Pollution, the UN Environment Programme, the European Parliament and the German Advisory Council on Global Change, as well as many developing countries.”

<http://d.scribd.com/docs/1u8013mi5cjrdpvfjsdi.pdf>



International Climate Challenge

“Contraction and Convergence (C&C) is another proposed framework which aims to solve the problem of deciding who should reduce their emissions. C&C proposes that everybody in the entire world is entitled to exactly the same amount of emissions. However, because current per-capita emission levels are unequal, there must be a clearly defined timescale by which countries must reduce their emissions. It is a simple way of allocating emission rights: If country A has double the population of B, it can emit double the amount of greenhouse gases, by a given date. Idealised emissions from major global polluters under a C&C scenario that sets the target level of CO₂ at 500ppm.

The truth is that unless we radically reduce the amount of greenhouse gases released into the atmosphere, by whatever means, adaptation will be impossible in the long-run. Thankfully, the technology, international frameworks and creativity already exist to live in a carbon neutral world. All that is needed now is political action to save the world.”

http://www.interclimate.org/challenge/index.php?option=com_content&view=article&id=49&Itemid=96

Contact us - If you want to know more about the International Climate Challenge, wish to start a project or have a project you think could benefit from its involvement with ICC then please contact:

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Climate Freeloaders – Yale University 29 Jan 2009: Opinion

Key developing countries have long been exempt from efforts to reduce greenhouse gas emissions. Now, as global climate talks move forward, that policy must change.

<http://e360.yale.edu/content/feature.msp?id=2114>

Now that George W. Bush is not around to misinterpret, it is probably safe to point out something climate negotiators rarely mention. There are quite a few countries out there that don't have targets to cut their carbon dioxide emissions, but who really ought to. They are not poor, and they are not low emitters. They are climate freeloaders.

I am not talking about large Asian countries like India or Indonesia or even China, where national emissions may be large but per capita emissions remain very low by rich-world standards. The average Indian is responsible for roughly a tenth the emissions of the average American. Even the average Chinese has emissions only around a quarter those of the average American (as I mentioned in a previous article here), and a good proportion of that is produced while making goods to sell to the West.

We, the big emitters, have to engage countries like China and India in taking action, if we are to stave off climate change. But we have to do that from a position of humility — admitting that, sorry, but we have used up most of the available atmospheric space for greenhouse gases.

What I am talking about here, however, is a growing list of rapidly industrializing countries that don't have targets under the existing Kyoto Protocol, but have emissions rates that are now often above those of many longtime industrialized nations that do have targets. Moreover, while the Kyoto countries are cutting emissions, the non-Kyoto countries are mostly raising them — and fast.

These are places as different as Malaysia, Saudi Arabia, Israel, and South Korea. None of these countries currently seem likely even to be asked to adopt targets in Copenhagen later this year, when the successor agreement to the 1997 protocol is set to be decided. And that seems increasingly crazy — not only unfair, but also damaging to any real effort to tackle climate change.

When the Kyoto Protocol was signed in 1997, it set targets for industrialized countries, including member nations of the Organization for Economic Cooperation and Development, the former Soviet bloc and Japan. But emerging industrial countries were left out, partly through political expediency and partly because their emissions didn't seem to matter much. Now they do.

The trend is revealed in disturbing detail in estimates of national emissions for 2007 recently published by the U.S. government's Oak Ridge National Laboratory in Tennessee, a widely respected international monitor.

Take Malaysia, which for all intents and purposes is now an industrialized country and has carbon dioxide emissions that reflect that Malaysia's per capita emissions of carbon dioxide exceed the rates of China, India and France produced from the energy used to run factories, vehicles, and air-conditioning systems. By 2007 Malaysia had increased its total emissions fourfold since 1990, from 15 million tons of carbon to 68 million tons. (1990 is the base year used for calculating emissions reductions for countries under the Kyoto Protocol.)

Malaysia — which has a GDP greater than many European countries — now emits slightly more carbon dioxide per capita than Britain, which at 2.47 tons per head is a fairly middle-range European country. But while Britain is on course to meet its Kyoto target of a cut of 12.5 percent from 1990 levels, Malaysia can carry on raising its emissions as much as it likes.

U.S. per capita emissions, incidentally, are currently 5.3 tons of carbon, according to Oak Ridge. At the other extreme, those of Bangladesh are 0.08 tons.

A host of other Asian countries that we used to call "tiger economies" are in the same situation as Malaysia, and for similar reasons — they continue to increase their emissions above the levels of Kyoto countries that are trying hard to reduce theirs.

Taiwan's emissions have doubled since 1990. Its per capita emissions are ahead of most of Europe. But it has no targets. Likewise South Korea, which recently nudged above its neighbour Japan in per capita emissions. Yet while Japan has targets, South Korea does not. South Korea has been in the OECD club of rich nations since 1996, but on climate it still conveniently sits with the poor countries. This must be a trifle embarrassing for South Korea's most famous envoy, UN Secretary-General Ban Ki-moon, who is fast winning a personal reputation on climate change.

Unlike his predecessor, Kofi Annan, he regularly turns up at climate negotiations, as he did in talks in Poznan, Poland, in December. In Bali in late 2007, his aggressive intervention saved the process from possible collapse. Perhaps it is time he devoted some energy to getting his home country on board.

A second group of countries with soaring emissions are in the Gulf region, where the huge energy demands from desalinating seawater often add to the emissions from industrialization, affluence, and profligate use of all the cheap local oil. This month, Abu Dhabi held a much-heralded world future energy summit. Tony Blair was there. Part of its purpose was to showcase a new "green city" Abu Dhabi is building called Masdar. Well, it's a badly-needed start. Abu Dhabi is part of the United Arab Emirates, whose emissions have gone from 15 million tons of carbon in 1990 to 37 million tons in 2007. Its per capita emissions are now above those of the United States.

Since 1990, Saudi Arabia has doubled emissions, which at 4.5 tons of carbon per head are close to those of the United States. Bahrain, at 7.4 tons per head, is well ahead of the U.S. And Kuwait, which similarly has more than doubled emissions, has a per capita figure double that of the U.S. (Not far away, in Israel, emissions have doubled since 1990 and, per head, are now edging past Britain's).

Qatar Liquefied Gas Company Ltd Qatar, which has increased its carbon emissions nearly five-fold since 1990, is the world's largest exporter of liquefied natural gas. But the super-performer in the Gulf, the country that should rightly be crowned as the world's worst carbon criminal, is Qatar. It is small — occupying a sand spit in the Gulf about the size of Connecticut. But its emissions in 2007 were 16 million tons, compared to 3.3 million tons in 1990. Most of the emissions come from its huge gas extraction industry, which is largely for export. But shared out among its population of 825,000, the emissions come to 19.3 tons of carbon per head, or almost eight times those of Britain, and considerably more than three times those of the U.S. That's a record — well, unless you count the U.S. Virgin Islands, which Oak Ridge records show emitted more than 25 tons of carbon per head in 2002, the most recent year for which figures are available. Much of the Virgin Islands' emissions are from one of the world's largest petroleum refineries.

Clearly we have a problem here. To label countries like Qatar and Taiwan as "developing" is a myth. It is certainly true that they have been emitting carbon in substantial amounts for far less time than Europe or North America. But it is increasingly untenable for them to hide at international negotiations with the nations of Africa and poor parts of Asia, piously opposing any emissions cuts for the developing world.

Give us a break. Kuwait and Saudi Arabia and South Korea and the rest are not poor nations. In any international negotiations, we need fairness in allocating emissions targets. And that, I believe, means allocations based on population size. We might need some separate rules for nations that still have fast-rising populations (though I can't believe that any country would surreptitiously boost its population to get a few more emissions permits). But long term we should be headed for national entitlements based on population.

My favourite formula is called "contraction and convergence," developed by a splendidly single-minded, violin-playing South African living in London named Aubrey Meyer, and publicized through his NGO, the Global Commons Institute.

Under his concept, we would listen to what scientists are saying and contract global emissions so as to stabilize concentrations of greenhouse gases in the atmosphere. But then we would apportion emissions entitlements according to a formula that gradually would converge national targets toward a level based strictly on population.

Of course, countries would be free to trade their entitlements — so the U.S. could buy from India, and so on. But the initial allocations would be transparent and equitable. It would take all the horse-trading out of the international negotiations.

I recommend you check out the graphs of how this could happen on Meyer's web site <www.gci.org.uk> especially if you work for the Obama team that is deciding how to approach climate change negotiations this year. Like me you may be left wondering why the world didn't adopt this simple formula long ago.

In London this week, the UN's chief climate diplomat, Yvo de Boer, said he thought that "in the long run," emissions targets based on population were the way to go. So why not now? My proposal for Copenhagen is that governments grab the chance to think afresh on climate, and adopt this long-term solution that does away with the ridiculous anomalies that currently exist.

Linking Trade & Climate Change Bernard I. Finel American Security Project 27 Jan 2009

<http://www.americansecurityproject.org>

World Politics Review

<http://www.worldpoliticsreview.com/article.aspx?id=3212>

While few can predict exactly what new policies will be implemented by the incoming Obama Administration, it is clear that addressing climate change will be among its top priorities, and that any successful approach to the challenge will involve international cooperation.

The outlines of a solution are relatively simple. Over time, global carbon emissions need to be reduced, which means that current emitters -- largely in the developed world -- will need to reduce their emissions. Countries in the developing world, meanwhile, will need to limit the increase in their emissions as their economies grow and modernize, so as not to offset the reductions by the developed world. In the long run, carbon emissions per capita around the world will equalize, with total emissions below current levels.

This approach is both workable and fair, even if there remain many details to negotiate: Over what time frame will the process unfold? Will emissions targets be equalized on a strict per capita basis, or instead roughly converge? Should targets be linear or weighed over time?

Unfortunately, we never get as far as resolving these thorny questions because many countries in the developing world, such as China and India, cite their poverty to reject any binding targets. Their resistance in turn feeds reluctance in the United States to make reductions that amount to costly sacrifices with little global impact.

Contraction and Convergence University of Oldenburg

The need for a significant reduction (English "contraction") of global greenhouse gas emissions - before all energy-related carbon dioxide emissions - over the next decades is generally recognized. What remains controversial, how the resulting tight emission budget would be distributed to the world's population? In Autumn 2007, German Chancellor Angela Merkel - as an important protagonist of global climate change - attended an International Symposium on Climate Change with 15 Nobel laureates in Potsdam which pronounced that all the people same right to carbon dioxide emissions and therefore deserve the long term global per capita emissions which should converge (English "convergence"). It proposed carbon dioxide emissions per person by 2050 to reduce to no more than two tonnes, which is about a halving the current average per capita Emissions.

Economists know this proposal as, "Contraction and Convergence".

<http://www.presse.uni-oldenburg.de/download/einblicke/47/6-8-boehringer.pdf>

SIMPOL votes for C&C again: -

"These are the type of practical, national policy steps that could be taken within the framework of global commitments to contract total emissions, while converging the right each person on the planet has to produce greenhouse gases to be equitable. This 'contraction and convergence' approach is the best-supported proposal for inclusion in the Simultaneous Policy's annual voting yet again."

See: <http://www.simpol.org.uk/forum/index.php?board=14.0>

The Ecologist A contract for convergence

http://www.theecologist.org/pages/archive_detail.asp?content_id=2039

"Personal carbon trading as a national policy is echoed on the international stage by a concept called contraction and convergence – the idea that Western countries must reduce (contract) their emissions, while certain developing countries can be allowed to increase theirs until the world converges on a sustainable per capita footprint (between 1 and 2 two tonnes annually at current population levels). The steady reductions made by the CRAG movement are evident from the front-page of its website (www.carbonrationing.org.uk), where a graphic illustrates how the average footprint of a CRAG member drops by around 30 per cent after the first year of carbon accounting."

Haribon Foundation/OXFAM Climate Negotiations Learning Event and Forum

<http://www.haribon.org.ph/?q=node/view/709>

"Oxfam International sponsored a Learning Event on Climate Negotiations last September 8-11 in Bangkok, Thailand "to help partners and allies increase their understanding of international climate change negotiations and opportunities for influencing at both national and international levels, and, to provide a platform for exchange of ideas and plans for engagement in key milestones of the negotiations (national and global)." About 24 participants within Southeast Asia participated in the training activity. Net Dano of the Third World Network provided the participants an inside look on the "Politics of Negotiations" where she presented the different blocs within the Kyoto Protocol negotiations, actors, positions including the North-South differences in negotiating positions of ASEAN countries. Also discussed were prominent climate policy frameworks and proposals such as Contraction and Convergence (cap and trade), Greenhouse Development Rights, and the Global Climate Certificate System. Academicians, non-profit organizations (NGOs), business and governments, put these proposals forward either as "points for negotiation, or merely inputs to negotiators and other parties." These proposals were intended to address Article 3.1 of the United Nations Framework Convention on Climate Change (UNFCCC) where "The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed countries should take the lead in combating climate change and the adverse affects thereof."

Progressive London conference January 2009

Ken Livingstone starts by thanking conference volunteers and sponsors With reference to Heathrow, he says there will never be an environmentally friendly plane, but also says when he was Mayor, BAA failed to demonstrate a coherent business case for the expansion of Heathrow He praises the contraction and convergence approach to green development. He praises the conservative French President for saying that no new motorways would be built for green reasons. Next, Ken praises Obama for his first few days, especially in closing secret prisons, and sticking to a move towards a green economy.

http://www.labourlist.org/progressive_london_conference

Scottish Parliament Briefings

"This principle of contraction and convergence is beginning to be played out in some developed countries, for example those listed in Table 2 at the link below."

<http://www.scottish.parliament.uk/business/research/briefings-09/SB09-03.pdf>

Der "Greifswalder" Ansatz in der Umweltethik Konrad Ott

7. Spezialkonzepte:

- Differenzierte Landnutzung
- Sichere biologische Grenzen in der Fischerei
- "Contraction and Convergence" für die Klimapolitik

<http://www.uni-rostock.de/andere/wvu/Seiten/Veranstaltungen/Ringvorlesung/RV%202008-09/Prof.%20Dr.%20Konrad%20Ott.pdf>

The John Ray Initiative - President John Houghton

Connecting environment, science and Christianity
Global Warming, Climate Change and Sustainability
Briefing Paper 14, third edition 2009

Challenge to Scientists, Policy Makers and Christians
http://www.jri.org.uk/brief/Briefing_14_3rd_edition.pdf

"One of the biggest 'sharing' challenges faced by the international community is how emissions of carbon dioxide can be shared fairly between nations. Fig 7 illustrates the great disparity between emissions by rich nations compared with poorer ones. The UNFCCC has now started negotiations including all countries regarding emissions allocations. One proposal is that the starting point is current emissions, so that it is reduction levels from the present that are negotiated. That is called 'grandfathering' and tends to perpetuate current inequities.

A proposal by the Global Commons Institute [called Contraction and Convergence - for more details see www.gci.org.uk] is that emissions should first be allocated to everybody in the world equally per capita, then transfer of allocations being allowed through trading between nations. The logic and the basic equity of this proposal is in principle quite compelling – but is it achievable?

Sustainability will never be achieved without a great deal more sharing. Sharing is an important Christian principle that needs to be worked out in practice. John the Baptist preached about sharing (Luke 3 v11), Jesus talked about sharing (Luke 12 v33), the early church were prepared to share everything (Acts 4 v32) and Paul advocated it (2 Cor 8 v13-15). The opposite of sharing - greed and covetousness - is condemned throughout scripture."

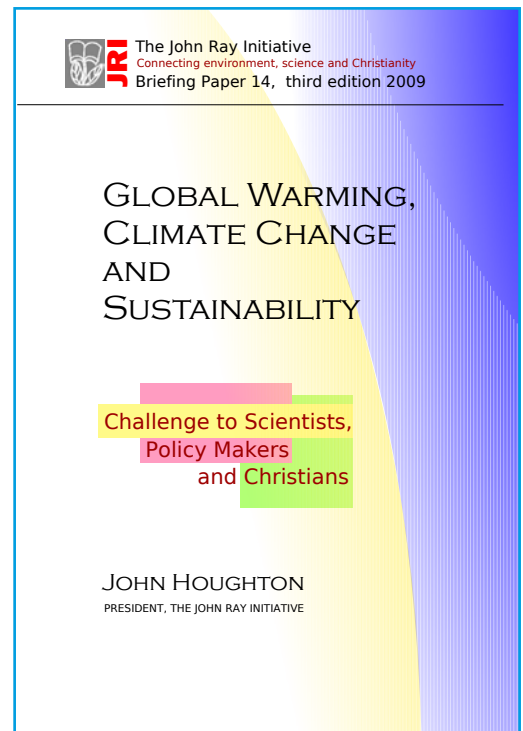
Scottish Action on Climate Change John Riley 06/26/2008

"I am simply a parent, concerned about my children's future. I began this journey in 2003, giving presentations to local groups. After one talk, the local Rotary Club agreed to organise an Eco Forum in the town to educate our residents on the subject. A spin out from this first Eco Forum in 2004 was the establishment of Scottish Action on Climate Change. This group soon linked up with the largest coalition of NGOs ever assembled in the UK: "Stop Climate Chaos". SAOCC aims to provide practical tips and solutions to help mitigate the problem. We also lobby politicians, media people and celebrities to get involved in the campaign and assist us to spread the message to a wider audience.

After reading Mayer Hillman's book, "How we can save the planet," it became very clear to me that we will never solve this problem quickly enough or fairly enough, unless we have international carbon rationing. The framework which Hillman promotes is "Contraction & Convergence (C&C)", as proposed to the United Nations by Aubrey Meyer of the Global Commons Institute in 1992.

As a result of this, our primary aim has since been to promote and educate people on how C&C works, so that they can show support for it and encourage our politicians to adopt it as the UK's policy stance in future international negotiations on climate change. Reassuringly, the C&C principles are being accepted by a growing number of international leaders and organisations across the world, including the All Party Parliamentary Climate Change Group, here in the UK.

Here are the basic principles of C&C: - To stay safe and avoid Catastrophic Climate Change, everyone on the planet will need to move towards an equal entitlement to emit carbon dioxide. It's the only fair, long term solution. Persuasion to reduce green house gas emissions is not working quickly enough and increased taxation just means that those who have plenty of money will continue to pollute the atmosphere at the expense of the poor. That cannot be right.

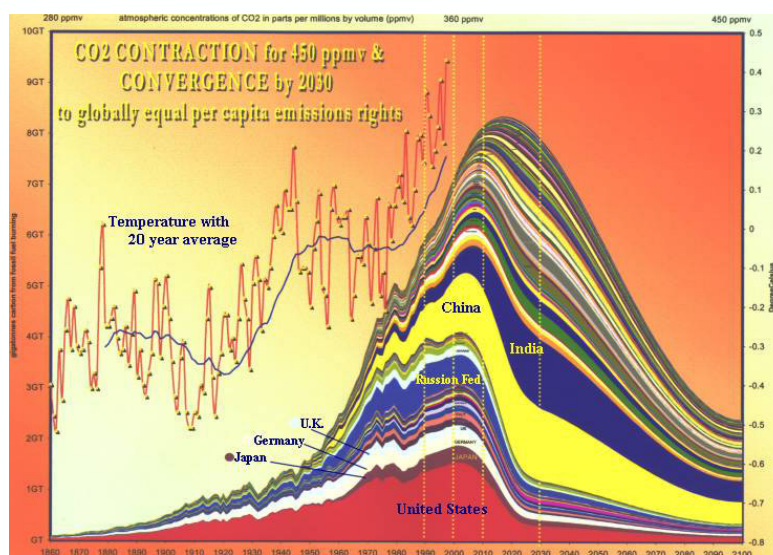


With a knowledge of a safe level of carbon dioxide, we can work out how much can be emitted by all the people on our planet in total, and we already know that this amount will have to reduce significantly year on year to keep us all safe. The C&C computer model can adjust the rate of total emission reductions as the planet's ability to absorb carbon dioxide reduces, due to things like the disappearing rainforests etc. The next step is to decide what share each country will get of this total safe amount. The C&C system proposes that each country is given a ration the same as their current carbon dioxide emissions but agrees to adjust this level every year until, by an agreed date, they reach a level where everyone on the planet has an equal ration or entitlement to emit carbon dioxide. This could be controlled by means of carbon credit cards or maybe carbon coupons in the less sophisticated countries.

Along the way, the rich countries will have to significantly reduce their entitlements each year whilst some of the poorer countries will benefit from temporarily increased entitlements until they reach the equal per person level. If the poor countries do not use their allocated amount, they can sell them to the richer countries and earn an income, which will help them to buy clean, renewable energy technologies to assist their development. The overall effect will be to help relieve poverty at the same time as reducing world emissions in a controlled fashion. It will encourage all countries to become significantly more energy efficient, knowing that they will benefit financially if they do.

<http://www.350.org/en/about/blogs/scottish-action-climate-changes-way-350>

Satu Hassi MEP



"In the next rounds of climate policy negotiations it will be discussed whether it is possible to form a system that sets emission quotas for all countries. Simple and logical solution would be a model that is based on sustainability and global equality per capita. In this system, countries would get emission quotas on relation to their population."

<http://www.satuhassi.net/contractionANDconvergence.htm>

http://www.satuhassi.net/puheet/ilmasto_engl.htm

Final Report - Scottish Climate Change Programme Review:

Analysis of Consultation Responses to The Scottish Executive "In determining the cap for Phase II of the EU ETS, five suggested that the UK cap should be determined with reference to national targets or 'contraction and convergence' baselines. In addition, three responded to the previous question by stating that the cap should be lower (more challenging)."

<http://openscotland.gov.uk/Resource/Doc/921/0019446.pdf>

Ian Hamilton responds to Janet Daley in the Daily Telegraph

"If Janet Daley feels that climate change can only be combatted by "socially divisive" measures allowing only the rich to enjoy travel, then how about Aubrey Meyer's concept of "Contraction and Convergence?" This system envisages an internationally agreed carbon allocation for every individual on the planet, to be achieved over a limited period, which would result in a kind of ecological egalitarianism, rather than the elitism she rightly criticises in her piece. The role of government in this is to plan and coordinate the necessary fiscal and investment policies to encourage the scaling up of sustainable industries and the scaling down of the destructive ones. Regarding population, it is surely unconvincing to argue that because Malthus got it wrong in 1798, then we do not have a problem, when in 50 years the world population has grown from 2.5 to 6.5 billion, and rising. It seems that Janet wants to cling to the idea that we can carry on as usual, leaving our children and their children to survive in a dustbowl, where life will amount to little more than an increasingly desperate struggle for physical survival."

www.telegraph.co.uk/comment/3636074/If-the-eco-snobs-had-their-way,-none-of-us-would-go-anywhere.htm

OPINION of the Committee on Development

For the Committee on Foreign Affairs on external relations in the field of energy - from principles to actions
Draftsperson: Anders Wijkman -Commission on International Trade
calls on the Committee on Foreign Affairs, responsible for that matter, to include in the final text of the draft resolution:

- 1. stresses the important role of the international trading system and trade agreements to ensure a stable regulatory framework conducive to creating the appropriate environment to explore new and innovative solutions to energy, especially in the field of renewable and sustainable sources of energy;*
- 2. encourages cross-border investment, the reciprocal opening of markets, respect for the principles of competition and strategic plans in the field of long-term contracts;*
- 3. supports the principle of extending the Energy Community in order to create a pan-European energy community, functioning on the basis of a transparent market economy;*
- 4. Calls on the Commission to promote fair competition at the international level through activities within the World Trade Organization (WTO) for specific rules relating to the transparency of the energy market, particularly in the trade-distorting measures;*
- 5. recommends that the Commission's assessment of the potential for the WTO to negotiate multilateral agreements on specific energy markets, as the market for bio-fuels, and as soon as possible to inform the European Parliament on the results of this evaluation;*
- 6. considers it necessary to include in all new trade agreements concluded by the EU's energy;*
- 7. Calls on the Commission to organize a high-level meetings involving the State's major importers and suppliers of state for the EU, ranging from oil and gas;*
- 8. expects that, as a result of higher energy prices will increase in global demand in the field of research on energy, believes that, in light of the acquisition by European manufacturers to play a leading role in technology, they are specifically placed to meet this demand, therefore, calls on the Commission, in conjunction with producers and the Member States to make initiatives to promote research in the field of energy and, in particular, research on the wider use of renewable energy and hydrogen, and to promote the ITER (International Thermonuclear Experimental Reactor) - the project will combine, in addition to the EU, United States, Japan, Russia, China , India and Korea;*
- 9. stresses that the main priority for European foreign policy in the energy field must be to reduce dependence on fossil fuels from a number of large suppliers and the need to define a long-term strategy aimed at diversifying sources of energy;*
- 10. is convinced that a global system of reducing CO₂ emissions and emissions trading provided for in the Kyoto Protocol will contribute to slowing growth in demand for energy on a global scale and emphasizes that such a system should draw on the principles supported by the United Nations and the reduction of convergence (called contraction and convergence), through which all countries have reached the same time the rate of emissions per capita, also believes that to achieve the above-mentioned will contribute to reducing emissions from ships and aircraft;**

11. asks the Commission to take into account to a greater extent in its trade policy is the relationship between energy policy and climate;

12. Emphasizes the need to maintain and promote the use of all locally available sources of clean energy, in particular, by converting part of the European agricultural production in order to support the use of renewable biomass and the development of second-generation bio-fuels, as a contribution to reducing dependence on imported energy, as well as through the dissemination of the hydroelectric power plant and adopt the welcomes the recent Commission proposal for the establishment of a binding minimum target for bio-fuels, according to which their share in the total amount of fuel consumed by vehicles would increase to 10% by 2020;

13. Stresses the importance for the EU is to further strengthen the international level, the single European position in support of its objectives on energy policy.

<http://www.europarl.europa.eu/sides/getDoc.do?language=PL&reference=A6-0312/2007>

"The Weather Makers" by Tim Flannery

<http://semantalyzr.com/term/lookup/Tim-Flannery>

"Flannery also concedes that the most damning criticism of Kyoto is that is a "toothless tiger," with such modest objectives as to be irrelevant to the problem---if it is as severe as he believes. He urges strengthening the goals by a factor of twelve, but also recognizes the political difficulties of getting acceptance---a dilemma wrapped in an enigma! Flannery describes another kind of international agreement that he sees ultimately replacing Kyoto, known as Contraction and Convergence, or C&C. It is based on the idea that every human being ought to have an equal right to emit greenhouse gases, a right that could be traded. Americans now emit three times more CO₂ per person than Europeans, and over a hundred times the undeveloped nations. Under C&C the civilized nations would have to buy from undeveloped nations the carbon credits to cover this extreme difference. It would constitute a massive transfer of wealth from the developed nations that produced it to the undeveloped nations that produce little and therefore emit little. Flannery asserts that this would provide an "enormous" spur for the productive and wealthy to reduce emissions, and "force" the average CO₂ emissions of each world citizen to "converge"---and overall emissions to "contract."

The World Premiere of "The Age of Stupid" is March 15th.

The big do will be in our specially-constructed solar cinema tent in Leicester Square in London, but there'll be other stuff happening round the country too.

<http://www.ageofstupid.net/>

Response to Climate Ethics C&C

"A useful contribution from Mackey and Hassan who use C&C to both raise and answer the fundamental questions that are key. However, in the references, substituting the Garnaut Report for the Stern Review is a good idea. Ross Garnaut is the clearer thinker and recognises that proposals should add up to their stated outcome and that if they don't they should be rejected immediately. Taken seriously, this is the integrity of the C&C proposal - at different rates of sink-failure, the path integral of C&C adds up to its stated atmospheric outcome; see: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

While Lord Nicholas Stern stresses what he calls the 'simple arithmetic' of his - repeatedly changing - proposals, this point seems to have escaped him. What he calls 'the biggest market failure in history' is destined to worsen until he actually does the simple arithmetic. When he does the gap between himself C&C/GCI and Professor Ross Garnaut."

<http://climateethics.org/?p=84>

Nation Master Encyclopedia Contraction and convergence

<http://www.nationmaster.com/encyclopedia/Contraction-and-convergence>

1. "Contraction & Convergence" (C&C) is the science-based calculus for a 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:
3. 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. GCI sees higher than 450 parts per million by volume [ppmv] CO₂ equivalent as 'not-safe'.
4. 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 and [b] that a population base-year in the C&C schedule is agreed).
5. 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.
6. 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.
7. 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.
8. 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.
9. 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).
10. 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 Year to year percentage change of Gross World Product, GWP (measured in US\$) and Global Carbon emissions South European Parliament passed a resolution in favour of C&C in 1998. [13]
11. 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, with or without the Kyoto Protocol entering into force.

[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

[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

- [8] http://www.gci.org.uk/Archive/1989_2004.pdf
- [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
- [12] <http://www.gci.org.uk/briefings/C&C&ByrdHagel.pdf>
- [13] <http://www.gci.org.uk/consolidation/UNFCCC A Brief History to1998.pdf> [7-32]

The vernacular use of the phrase 'contraction and convergence' with a qualitative and non-specific meaning has come a little into use since the introduction of the formal C&C calculus in 1996. The formal use of phrase indicates the formal use of the calculus and relates to the formal position-taking of parties to the UNFCCC.

KROFIRE

Contraction and Convergence ("C&C") is a method of dealing with the causes of Climate Change. It was proposed in 1995 by the Global Commons Institute (www.gci.org.uk). It's aim is to provide a mechanism for the phased reduction in the emission of man made Greenhouse Gasses ("GHG"). Since all previous agreements have fallen down over problems of equity then the C&C solution is delightfully simple: every member of the human race has equal ownership of the atmosphere. Hence all humans should have an equal Carbon Footprint. Today they do not. Since Western, Northern and Industrialised Nations have per capita Carbon Footprints exceeding those of people in poorer countries (often by a factor of a 100 or more) then the first aim of a GHG Emission Treaty should be to drive that to an even share.

C&C plans for the Carbon Footprints (as calculated per person) of each Nation to Converge to the same level, then that level will slowly decline over time. This approach has broad support across Governments, Parties and Countries and is likely to form a cornerstone of future negotiations. Per capita equity is planned for 2045. In the meantime Countries will be able to trade their Carbon Quotas in a system called "Cap and Share" (www.capandshare.org). Since the poorer less-developed World has a per capita Carbon Footprint much lower than the planned convergence level then they will be able to sell a portion of their allowance. Since richer industrialised Nations are exceeding their allowances then they will have to buy further rations from the poor. Hence the flow of income is reversed and flows from rich to poor. Since the poorer countries are those most likely to be worst hit by Climate Change, yet are those who are contributing the least the GHG emissions, then this is an appropriately just measure.

http://www.krofire.com/Contraction_and_Convergence.htm

Fair Shares, Fair Choice: Voluntary Carbon Rationing for C&C

by Sami Grover, Carrboro, NC, USA on 05.11.07

"We've written about voluntary carbon rationing before. Now we've come across another effort that seeks to encourage individuals and businesses to work towards greatly reduced carbon footprints. Fair Shares, Fair Choice is a new movement, based in the South West of England, that is advocating personal and societal moves in support of 'contraction and convergence.'

Contraction and convergence is basically the concept of the developed world agreeing to reduce it's CO₂ emissions year-on-year, while developing countries agree to limit their increases in emissions as they grow their economies - the ultimate goal being that the countries converge at a mutually agreed sustainable level of global emissions. Members join the movement by agreeing to live within a 'fair share' of carbon emissions, and this fair share is gradually reduced year-on-year.

It doesn't end there, however, as the movement offers coaching and advice to help people reach their targets both at home, at work, at school or in the wider community. The website also offers an online community of like-minded souls, where folks can share their stories of success and failure, and learn from each other. Fair Shares, Fair Choice is clearly thinking beyond the impact of each individual's action as it seeks to show government and decision makers that widespread support for carbon rationing is possible. Joining the FSFC movement is a way to show your support for the principle of living within a globally fair and safe share of CO₂ emissions (it isn't for anyone who feels that they will benefit from catastrophic climate change!)."

C&C critic [Bell; Newcastle] gets a response [from Stallworthy; Swansea].

<http://jel.oxfordjournals.org/cgi/content/full/eqn031>

"The Case against 'a Universal Right to Equal Carbon Emissions' [Dr Derek Bell - Newcastle] offers a critique of the generally shared view (for instance in relation to discussions of personal carbon trading) that any recognition of carbon emission 'rights' should assume an equitable basis. It is a thoughtful argument, drawing from liberal political theory in questioning the logical implications of contraction and convergence; although the conclusion - that this being 'a complex good' we must rather find answers in re-shaping the global economic and political system - by virtue of its very contingency, risks taking valuable theorising a step too far: for what a long wait that might be." - Mark Stallworthy - Swansea University

Climate change and rising energy costs will change everything:

A new mindset and action plan for 21st Century public health

G. McCartney, NHS Greater Glasgow & Clyde, St Vincent St, Glasgow G3 8YZ, UK

P. Hanlon, University of Glasgow, 1 Lilybank Gardens, Glasgow G12 8RZ, UK

F. Romanesc NHS Lanarkshire, 14 Beckford Street, Hamilton, Lanarkshire ML3 0TA, UK

"However, the new discourse will need to achieve 'contraction and convergence'. This is the phrase used to describe the process by which rich countries must reduce (contract) their carbon use to achieve sustainability, and the world moves towards a more equitable (convergent) level of consumption. Conventional economic growth must therefore cease to become the central purpose of the world's economies. To achieve this, action will be required at the level of the globe, nation state, region, community and individual."

http://eprints.gla.ac.uk/4446/1/Enlighten_copy4.pdf

Competitiveness Issues in Climate Change Policy November 26, 2008

Gernot Klepper, Sonja Peterson - Kiel Institute for the World Economy

Contributions from the TranSustScan (TSS) Team In association with the Centre for European Policy Studies (CEPS) European Commission, Brussels

"Until 2012 same as [ETS]. From 2013 on, non-EU countries face emission reduction targets with per capita emission rights converging until 2050 - 'Contraction and Convergence' - and global emissions reduced by 50% relative to 2005. The EU ETS and non-ETS targets are 30% instead of 20%. The non-ETS sectors are allowed to cover 50% of the extra reduction by CDM credits."

http://www.transust.org/docs/TranSust-Brussels_Klepper.pdf

Food Climate Research Network Karen Leach - Localise West Midlands

What do you see as the big questions for the food climate research community at the moment?

I think the whole question of global equity and how we must, where possible in our research, look beyond impacts within the UK. While action on climate change is, in itself, a positive for people across the world, it could be done in a way that causes economic damage in poorer countries; or it could be economically beneficial. So it is important that we liaise with academic and activist interests in other, poorer countries for mutual benefit and cooperation.

Can we make food supply chains work towards contraction and convergence? The whole-system CO₂ impacts of growing bio-fuels instead of food need to be understood; likewise a full analysis of livestock farming in its very different forms.

<http://www.fcrn.org.uk/interviewSeries/interviews/archives/lwm/index.htm>

Michael Meacher, House Magazine

"Three new initiatives are urgently needed to keep Britain's strong record on climate change firmly headed in the right direction. We need a global policy of Contraction and Convergence in carbon emissions between developed and developing countries. Only then will we have a fair, equitable way to get countries like China and India on board. A global problem needs a truly global response. Fossil fuel industries enjoy enormous subsidies which should be steadily phased out and the savings transferred into a massive expansion of renewables."

And the prodigious waste of energy by both industry and domestic households should be addressed by much stronger incentives to maximise energy efficiency. Unlike new nuclear power stations, energy efficiency addresses itself to all electricity generated, not the small proportion currently provided by the nuclear sector. For the UK to reduce its carbon dioxide emissions, energy efficiency has to be given a far greater emphasis."

<http://www.epolitix.com/mpwebsites/mparticles/mparticledetails/newsarticle/house-magazine-nuclear-article-clean-green-within-our-means///mpsite/10851/>

The EDGE Futures Debates

Comment about lights on in the room: on the basis of the chandelier there is £2k saving in 5 years for £200 unit of bulbs Not helpful to set up narrative that permits confusion with stabilisation of concentration and stabilisation of emissions Talked about a 2°C rise in temperature – the average global temperature has already risen by 1°C therefore only 1°C left to go The comment was made that the UK RCEP report was 'broadly consistent with contraction and convergence (C&C)'. It was 'not broadly consistent with C&C, it was C&C. The UK target of 60% was the product of C&C analysis. Defra reconverted RCEP report into 'something to do with C&C'. However, If 60% was right then, it is wrong now. In the past 50% of emissions have been retained in the atmosphere. Not any more, not for last 2 years. 100% being retained. The situation is much worse. Does it help to change the narrative if you are not helping them understand what is happening? Where is it going with concentrations? It is not an approach that can knock down C&C The call is for 'framework-based markets' not 'market-based frameworks'. The cake is much smaller than we have been led to believe.

http://www.edgedebate.com/?page_id=658

Japan Scientists report Official Views on Long Term Climate Targets

Germany (International Negotiation) Contraction and convergence approach (until 2050)

France (International Negotiation) Contraction and convergence approach (until 2050)

Sweden (International Negotiation) Discussed about after 2012 target Climate change and equity - Ideas for sharing the global effort (Flat rate targets, Equalising Per Capita Emissions, Contraction and Convergence) Framework for global action

http://jsa.gr.jp/jsaact/org/jsa-act/englishversion/m_ltbl123eng.pdf

Green Party Climate Change Plan

"The Green Party have a twelve-point plan to deal with climate change. It supports the ratification of the Kyoto Protocol but does not see that as anything more than a first step. It is strongly behind the 'Contraction and Convergence' model as a method of reducing carbon emissions. Within Britain it supports tradable carbon quotas. A proportion of the quotas would be distributed on a per head basis. The remainder would be sold to firms and organizations. The quotas would be reduced on a year by year basis in line with the 'Contraction and Convergence' model."

http://en.wikipedia.org/wiki/Green_Party_of_England_and_Wales

New Zealand Herald

Gwynne Dyer: Double standards on people's car

"If the total number of people who can afford cars exceeds the number of cars that the planet can tolerate, then we will just have to work out a rationing system that everybody finds fair or live with the consequences of exceeding the limits. "Contraction and convergence" is the phrase they need to learn. It was coined almost 20 years ago by South African-born activist Aubrey Meyer, founder of the Global Commons Institute, and it is still the only plausible way that we might get global agreement on curbing greenhouse gas emissions worldwide."

http://www.nzherald.co.nz/gwynne-dyer/news/article.cfm?a_id=153&objectid=10487560

NEW STATESMAN - How Our 10 Choices of Heroes from 2005 have Fared

Nick Stokeld and Cassie Metcalf-Slovo

Mo Ibrahim The mobile-phone mogul has now launched a foundation that awards an annual \$5m Prize for Achievement in African Leadership.

Anton Zeilinger The physicist, renowned for his work on quantum optics and entanglement, became the inaugural winner of the Isaac Newton Medal from the Institute of Physics (UK) last year.

Sania Mirza The 22-year-old Indian tennis pro formed a successful doubles partnership with an Israeli, further infuriating Muslim critics already upset by her "revealing" sportswear.

Victoria Hale Her company OneWorld Health is close to completing clinical trials on its first drug for visceral leishmaniasis. Awarded a \$42.6m grant from the Gates Foundation, OneWorld Health has chosen malaria as its next target.

Samira Makhmalbaf Last year, the Iranian director's *Asbe du-pa* (or "Two-Legged Horse") won the Jury Special Prize at the San Sebastián International Film Festival.

Brewster Kahle The internet entrepreneur's goal of providing "universal access to all knowledge" by creating a huge digital library suffered a setback when his challenge to the constitutionality of US copyright laws failed.

Aubrey Meyer The environmentalist is still running his think tank, the Global Commons Institute. He was nominated in 2008 for the Nobel Peace Prize.

Kierra Box In 2006 the young campaigner was awarded a Sheila McKechnie Foundation award for her work on social inclusion. Still only 23, Kierra is a patron of the National Youth Agency.

The Emir of Qatar Under the enlightened reforms of Sheikh Hamad bin Khalifa al-Thani, the first Roman Catholic church in Qatar was dedicated in 2008. He also mediated a peace deal between Lebanon's Shia, Sunni and Christian factions.

Barack Obama In 2005, we thought Obama might be running mate to Hillary Clinton in last year's elections. As we know, he did even better . . .

<http://www.newstatesman.com/politics/2009/01/barack-obama-change-qatar>

United We Act - October 2008

On the 15th of September I took part in the Inter-faith Conference 'United We Act' at Bournemouth University. This was led by IDEA, the Inter-faith Dorset Education and Action group set up last year by our local Reform Rabbi Neil Amsych. The conference was attended by local faith leaders and opinion shapers, including our Mayor. After the Workshops we all listened to our guest speaker, Aubrey Meyer. Aubrey is a musician - he proved that by playing Bach to us on his violin - but he is not famous for that.

He is the founder of The Global Commons Institute, GCI, and at the forefront of the fight against the growing threat of global warming. GCI lobbies scientists, the media and politicians to listen to its ideas about how best to tackle the problems and costs of reducing climate change. His ideas are summed up by the phrase Contraction and Convergence. We must find a method to contract our polluting carbon dioxide production and converge - come closer together- in agreeing solutions for paying for it. Aubrey bases his solution on the just proposition that every human being on earth has the same right to clean air. (Some other formulae assume that one westerner is worth 15 Chinese.) The 20% of us who are causing 80% of the CO₂ should help pay the other 80% of humankind to invest in low carbon emission technology so that they don't end being as polluting as us.

The Archbishop of Canterbury, Rowan Williams, has said that the church can support this model because it is based on justice, and told doubters that those who thought it Utopian simply hadn't looked honestly at the alternatives. The German Chancellor Angela Merkel is one of the latest big-name politician to support Contract and Converge.

So valuable are Aubrey Meyer's analyses and ideas that The Guardian recently named him as one of its 50 'heroes of the planet', and The New Statesman placed him among the 10 people most likely to change the world - for the better! He has also been nominated for the 2008 Nobel Peace Prize. Al Gore won it last year for showing the world that there is a problem. Aubrey Meyer should get it, many believe, for showing us how to solve the problem.

The alternatives solution to Contract and Converge is to expand and diverge and that cannot be the way forward. To quote from my article for the IDEA web-site, www.eco-faith.com.uk

'Many Christians believe that our material survival, our essential need to care for every link in the Chain of Being, our understanding of God and our relationship to God and to creation as stewards of this planet all require of us the deepest possible response. Christians, recognising the divine nature of God in Jesus, the human being, ought not to dismiss or devalue the earth or humankind or anything else that lives upon it. All are sacred, part of God's gift. The Hebrew Prophets say that without vision the people shall die, and we are beginning to see the truth and dreadful urgency of this need for a spiritual vision and a thought-out science-based response to our looming catastrophe.

It is a commonplace that spirituality unites us, religion divides us. Spirituality is so much deeper than religion. That is why I see hope in a common spiritual response to Creation that reaches across and beyond all our religions. In it is the possibility that we can work together.'

<http://revbobsblog.blogspot.com/2008/12/bobs-sermons-and-articles.html>

Best Article Environmental policy instruments

<http://best-article-info.blogspot.com/2008/12/environmental-policy.html>

"Environmental policy instruments are tools used by governments to implement their environmental policies. Governments may use a number of different types of instruments. For example, economic incentives and market-based instruments such as taxes and tax exemptions, tradable permits, and fees can be very effective to encourage compliance with environmental policy. Voluntary measures, such as bilateral agreements negotiated between the government and private firms and commitments made by firms independent of government pressure, are other instruments used in environmental policy. Another instrument is the implementation of greener public purchasing programmes.

Often, several instruments are combined in an instrument mix formulated to address a certain environmental problem. Since environmental issues often have many different aspects, several policy instruments may be needed to adequately address each one. Furthermore, instrument mixes may allow firms greater flexibility in finding ways to comply with government policy while reducing the uncertainty in the cost of doing so. However, instrument mixes must be carefully formulated so that the individual measures within them do not undermine each other or create a rigid and cost-ineffective compliance framework. Also, overlapping instruments lead to unnecessary administrative costs, making implementation of environmental policies more costly than necessary.

In order to help governments realize their environmental policy goals, the OECD Environment Directorate studies and collects data on the efficiency of the environmental instruments governments use to achieve their goals as well as their consequences for other policies.

The current reliance on a market based framework is controversial, however, with many prominent environmentalists arguing that a more radical, overarching, approach is needed than a set of specific initiatives, to deal coherently with the scale of the climate change challenge.

For an example of the problems, energy efficiency measures may actually increase energy consumption in the absence of a cap on fossil fuel use, as people might drive more efficient cars further and they might sell better. Thus, for example, Aubrey Meyer calls for a 'framework based market' of contraction and convergence examples of which are ideas such as the recent Cap and Share and 'Sky Trust' proposals."

C&C and WWF 'climate-science'? Jan 31, 2009

To: AUBREY MEYER <aubrey-@btinternet.com>; Aled Jones <Aled.-@cpi.cam.ac.uk>

30 January, 2009 - Late Abstract Re: Climate change congress

Dear Aubrey,

I'm sorry this has taken so long. I have discussed this with my co-chair, Aled Jones, and we agree that your proposal is surely relevant and important from a campaigning and communications perspective, but we failed to see its scientific substance. We therefore agreed to not accept your proposal for the congress.

Yours sincerely
Kim Carstensen
Leader, Global Climate Initiative
WWF International
Ryesgade 3 F
2200 Copenhagen N

Dear Mr Karstensen

Your reply to me about C&C reminds me of how Crispin Tickell responded to David Pearce in 1997 when Pearce and Nordhaus lost the battle over the value of life in the IPCC SAR Global Cost Benefit - [below].

It is extraordinary that you and your colleagues organising the up-coming Copenhagen-Climate-Conference - including Aled Jones of the Cambridge Programme for Industry [CPI] - needed more than a whole month to arrive at your conclusion about C&C and your conference, namely that you: - "failed to see the scientific substance" in the C&C proposal and so made these the grounds for rejecting presentation of C&C at the conference. [In the case of the role of Aled Jones of CPI in this, it is worth noting that at the request of the UK Treasury, GCI lectured on the international British Council course, CPI organised on this very theme last year - he is still but a young man].

Dissatisfied with your letter, I am copying my reply to you widely. I am including C&C support, comments and references and a third-party reaction to your response to GCI below. Your response reflects badly on your organisation and deepens my impression of the questionable role that WWF has played in this climate debate over the last twenty years. I suspect that this now tangibly negative view of WWF will be increasingly shared by third parties as a result of it.

In the words of Sir Crispin Tickell to David Pearce, "I reply to you in the words of Oliver Cromwell to the General Assembly of the Church of Scotland in 1650, 'I beseech you, in the bowels of Christ consider that it may be possible that you may be wrong'."

http://www.gci.org.uk/Archive/Mega_Doc_1989_2004.pdf [page 128]

Yours sincerely
Aubrey Meyer
GCI

Over twenty years, GCI has established C&C as the global benchmark model of scientific relevance as it uniquely relates and calculates different rates of ghg emissions contraction to different rates of ghg atmospheric accumulation [concentrations] with different rates of sink failure. Coupled with convergence the C&C model is now arguably the most widely known, trusted, supported and recommended proposition in the entire climate debate. [I attach some support references below]. Sir John Houghton, the former Chair of IPCC Science-Group [WG1], for this reason, has actively and openly supported C&C since the formal model was introduced in 1996.

"Since the formulation of 'Contraction & Convergence', Aubrey Meyer has tirelessly and selflessly argued for and promoted it with great energy and tenacity in scientific, economic and political fora. Admiration is frequently expressed regarding its elegance and simple logic and it has been widely accepted by policy makers and by NGOs as a basis that should underlie the next stage of policy formulation. There is no other proposal in play that meets so many of the required principles and criteria or that has any real chance of succeeding. It is bound to be strongly influential in the crucial round of international negotiations in the FCCC that is about to begin. The personal dedication of Aubrey Meyer, born of a deep concern for global humanity and its future, is what has brought the Contraction and Convergence proposal to the influential position it holds today."

Sir John Houghton Former Chair of the Science Group of the Intergovernmental Panel on Climate Change & Former Chair of the UK's Royal Commission on Environmental Pollution

On behalf of the All-Party Parliamentary Group I sent two graphics

http://www.gci.org.uk/images/IPCCaaa_and_ask_for_images/IPCC_FAR_WG1_C4MIP_Correct_Uncorrect.pdf to the TSU of WG1 for IPCC AR4 to get clarification of the material/images they published in Chapter 10 relating to the so-called 'coupled modelling'.

The response from them was, "in fact we wish that our own authors had been as clear as this." All this work was subsequently animated: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

and the response to this from them was, "Thank you very much for passing on the very nice animation. On burden sharing issues the new work on C&C in the UK is of interest".

The point I am making relates to the well-recognised science-base of C&C. The responses to this from UK Insurance Industry experts are quoted in full below.

The following response to your letter of yesterday rejecting C&C, comes from a very senior well-placed [who shall be nameless] colleague today and reads: -

"Have they read the Garnaut report? Have they read the RCEP report etc. etc.? Since the 'scientific substance' of C&C is so obviously the connection between human-induced carbon emissions and global warming, are we to infer that WWF don't understand the science of climate change, or that they haven't taken the trouble to understand C&C. If they fail to see the scientific substance behind C&C, how they can say that it 'is surely relevant and important from a campaigning and communications perspective'. (Although if they feel that is the case, they should help promote it...) If they don't 'get' C&C, whose version they've been listening to...? Either way a deeply worrying/confused response from an NGO with considerable clout." [Nameless]

If you are still under the impression that the model lacks "scientific relevance" I suggest you ask why it has so much authoritative support as here: -

http://www.gci.org.uk/kite/Carbon_Countdown.pdf

If you still not convinced then try here: -

<http://www.gci.org.uk/Endorsements/UNEPFI5f.pdf>

The consider the views of these insurance industry experts: -

"This animation of C&C and risk is brilliant. The Kyoto Protocol is having negligible effect. If successful, Kyoto will result in a slowdown in the rise of global temperatures by 0.02C to 0.28C. That isn't going to help a great deal and we must decide what comes after Kyoto. It has to have the US, India and China on board. The best hope is a system called contraction and convergence, which works on the premise that everyone on the planet has the right to produce the same amount of greenhouse gas. A level is set for the planet and it is divided by the number of people, so that each country knows how much it can emit per head of population. The overall level is then brought down by agreement."

Bill McGuire, Director - Benfield Hazard Centre, UCL

"Even if we do not know the speed or severity of feedback effects, we must consider the probabilities of disastrous acceleration in climate change within very short time-scales. Risk assessment is the core activity of the insurance industry, the biggest industry in the world. Assessment of risk must fully include feedback effects. Insurers are the leading experts in risk and risk modelling. C&C demonstrates how this can be done. C&C already has a high profile with insurers. Governments need to listen to the insurance industry and make C&C central to government policy around the world. From a risk management point of view, C&C produces an important assessment of the risks we face from human-induced runaway climate change and how to frame a response at the policy level."

Prof David Crichton- Benfield Hazard Centre UCL

"C&C is so open and transparent. Within the insurance sector it is recognised by CEOs who know they need a long-term global framework within which they can assess their risk. Without C&C they're stuck with a guesswork approach. A stable insurance industry is essential for a stable economy and a stable financial sector. Insurance needs a long term global framework so it can plan for the future. C&C will help bring this about. It needs to be adopted at the highest level, from the UN down through every business sector."

Dr JULIAN SALT - Director of Climate Solutions

"Aubrey Meyer's insight into the problem of mitigation of climate change bears the true hallmark of genius: it is simple and robust. His "Contraction & Convergence" model provides a transparent framework that incorporates the clear objective of a safe global level of greenhouse gases, and allocates the responsibility for achieving this internationally with the irresist-

ible logic of equal shares. At the same time, the model recognises the practical need for an adjustment period to permit nations to conform to the new logic and prepare for a climate-friendly economy. It is no doctrinaire solution, but a brilliantly pragmatic and elegant solution."

**Dr Andrew Dlugolecki - Advisory Board Director, Carbon Disclosure Project
Adviser on Climate Change to UNEP Finance Sector Initiative**

In fact the list goes on to more C&C GCI Links

Publications

<http://www.gci.org.uk/briefings/zew.pdf> [Springer Verlag]

http://www.gci.org.uk/briefings/UNFCCC&C_A_Brief_History_to1998.pdf [GLOBE]

http://www.gci.org.uk/Book/Surviving_Climate_Change.pdf [PLUTO]

http://www.schumacher.org.uk/schumacher_b5_climate_change.htm [Schumacher]

Briefings

<http://www.gci.org.uk/briefings/ICE.pdf>

<http://www.gci.org.uk/Endorsements/UNEPFI5f.pdf>

<http://www.gci.org.uk/briefings/CPI.pdf>

www.gci.org.uk/briefings/RSA_Occasional_Paper.pdf

Articles/Interviews

<http://www.gci.org.uk/articles/LEXUS.pdf>

<http://www.gci.org.uk/articles/React.pdf>

http://www.gci.org.uk/articles/New_Scientist_Interview.pdf

http://www.gci.org.uk/articles/Green_Futures_CandC.pdf

http://www.gci.org.uk/articles/BMJ_Stott.pdf

http://www.gci.org.uk/articles/Actuary_McGuire.pdf

http://www.gci.org.uk/articles/British_Medical_Journal_22_December_2007.pdf

http://www.gci.org.uk/articles/Argus_C&C_Interview.pdf

COP-3 1997 UNFCCC [Transcript] - C&C nearly agreed in 1997

http://www.gci.org.uk/temp/COP3_Transcript.pdf

http://www.gci.org.uk/briefings/AFRICA_GROUP.pdf

The UNFCCC administration has said since 2003, "Contraction and Convergence is inevitably required to achieve the objective of the convention": -

http://www.gci.org.uk/UNFCCC/C&C_Janos_Pasztor_UNFCCC.pdf

A C&C Booklet 13 languages from COP-11 12/2005: -

<http://www.gci.org.uk/briefings/MONTREAL.pdf>

Archives covering twenty year history of this campaign: -

http://www.gci.org.uk/Archive/Mega_Doc_1989_2004.pdf

http://www.gci.org.uk/Archive/All_2000_2007_reduced_file_size.pdf

The C&C framework is supported by manifesto commitments from the Welsh Nationalists, the Scottish Nationalists, the Liberal Democrats, the Greens and the Respect Party.

www.gci.org.uk/presentations/RSA_C&C_G-8_Quotes.pdf

Many individual UK Labour Party MPs advocate C&C, some Conservative MPs do too.

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=29500&SESSION=875>

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=27350&SESSION=873>

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=27080&SESSION=873>

An issue to some is that C&C merely describes generically an 'outcome' of many future aspirational phases of the Kyoto Protocol. This is what the corporations collectively call 'an inadequate patchwork', see slides 20/1 here: -

http://www.gci.org.uk/presentations/RSA_C&C_G-8_Quotes.pdf

To cure this very randomness, C&C formally means the structure of a full-term, concentration-target-based framework endowed by GCI from the outset, as accepted for example by DEFRA:

http://www.gci.org.uk/correspondence/Meacher_15_11_02.pdf

and in 2004 by the House of Commons Environmental Audit Committee and result: -

http://www.gci.org.uk/correspondence/EAC_response_GCI_300904.pdf

House of Commons Environmental Audit Committee and result 2004: -

http://www.gci.org.uk/correspondence/EAC_response_GCI_300904.pdf

http://www.gci.org.uk/briefings/EAC_Final_C&C.pdf

C&C briefing to All-Party enquiry into climate-consensus and result May 2006: -

http://www.gci.org.uk/briefings/APGCCC_Evidence_single_A4_pages.pdf

http://www.gci.org.uk/briefings/Consensus_Report.pdf

The UK House of Commons All Party Parliamentary Group on Climate Change [APPGCC] adopted C&C. A DVD commissioned by the Group presenting Contraction & Convergence was distributed to all UK MPs and Peers. Eminent spokespersons interviewed on the DVD.

http://www.gci.org.uk/images/Contraction_and_Convergence_Challen_et_al.mpg

APPGCC Tribute here: -

<http://www.martin-caton.co.uk/news?PageId=4ec8ff91-07dd-e3d4-5d47-57362266c35c>

C&C Promotional material is here: -

http://www.gci.org.uk/Movies/Contraction_and_Convergence_Promo.mpg

Key C&C Animation with coupled models/sink-failure here: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

Meyer CV here: -

http://www.gci.org.uk/AubreyMeyer/CV_Aubrey_Meyer_1.pdf

Aubrey Meyer

GCI

37 Ravenswood Road

LONDON E17 9LY

WEF wavers on C&C Feb 04, 2009

A statement from the "Members of the Global Agenda Council on Climate Change" [MGACC] in DAVOS [members below]: -

<http://www.undp.org/climatechange/docs/GACmessage.pdf>

. . . argues for deeper faster contraction i.e. they are now calling for 80% emissions cuts globally but [to me incredibly] they are not accelerating convergence. This C&C combination will be a red-rag to the Developing Country bull.

Previously members of this MGACCC group jointly and severally said that 80% for Developed Countries with convergence to per capita equalization globally by 2050, i.e. under a 50% cut globally was "the emerging consensus" [Dervis].

Now they revise it - as good as pro rata - to 80% globally.

The greater sense of urgency is completely justified, but sensibly [surely], MGACCC should have called for this again accompanied by accelerated convergence. The truth to me is that they didn't because they haven't done - or even thought to do - the work. A very highly zoomable graphic pdf file where you can see a detailed e.g. of how this does calculate out is here [Adobe zoom technology is worth its weight in gold for big-picture to detail & back]:

http://cid-de0ea255e7dd07f9.skydrive.live.com/self.aspx/.Public/yyy%7C_pcc%7C_2020%7C.pdf?ccr=368

[1] The global contraction rate shown gives the 80% by 2050 [that MGACCC call for] with different rates of atmospheric accumulation [shown as ppmv and weights of carbon]

[2] The accelerated convergence of that same rate of contraction is on page two at the top, compared with no accelerated convergence of that same rate of contraction below. Surely this is the systematic way to discuss this matter?

The recent Solomon, Friedlingstein et al paper :

www.pnas.org/content/early/2009/01/28/0812721106.full.pdf

in the Proceedings from the National Academy of Sciences, saying climate change is now irreversible no matter what, doesn't really help and is strictly nothing new. The Berne Model [which they quote and wholly depend on] was turning results like this ab initio [i.e. since at least before 1996].

However, Friedlingstein led the group that published the revised-reduced [coupled] carbon output integrals [budgets] in Chapter 10 WG1, IPCC AR4 [2007] for the same atmosphere ghg concentration reference sets.

This was relevant. It gave us chance. It shrank all contraction events by over 30% for the same atmosphere concentration outcomes. It is modelled/animated here: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

and note, it is approaching the '2%/yr sink-failure' [100 failure in fifty years] that is roughly equal to the rates compensated for in the revised-reduced [coupled] carbon budgets in IPCC AR4 [2007]. Aubrey

Atul Arya, Chief Advisor, Climate and Energy Policy, BP, United Kingdom

Tony Blair, Founder, Breaking the Climate Deadlock initiative and Prime Minister of the United Kingdom (1997-2007)

James Cameron, Vice-Chairman, Climate Change Capital, United Kingdom

Yvo De Boer, Executive Secretary, United Nations Framework Convention on Climate Change (UNFCCC), Bonn

Kemal Dervis, Administrator, United Nations Development Programme (UNDP), New York

Harish Hande, Managing Director, SELCO Solar Light, India

Connie Hedegaard, Minister of Climate and Energy of Denmark

William W. Hogan, Raymond Plank Prof of Global Energy Policy, John F. Kennedy School of Gov. Harvard Uni, USA

Steve Howard, Chief Executive Officer, The Climate Group, United Kingdom

Kevin S. Leahy, Managing Director, Climate Policy, Duke Energy Corporation, USA

Gerd Leipold, International Executive Director, Greenpeace International, Netherlands

Anthony Leiserowitz, Research Scientist & Dir, Yale Project on Climate Change, Yale School of Forestry & Env. USA

Richard C. Levin, President, Yale University, USA

David MacKay, Professor of Natural Philosophy, Department of Physics, University of Cambridge, United Kingdom

Dan Reicher, Director, Climate Change and Energy Initiatives, Google, USA

David Sandalow, Senior Fellow, Foreign Policy, The Brookings Institution, USA

Hans Joachim Schellnhuber, Director, Potsdam Institute for Climate Impact Research (PIK), Germany

Robert N. Stavins, Albert Pratt Professor of Business & Gov, John F. Kennedy School of Gov. Harvard Uni. USA

Nicholas Stern, IG Patel Chair, London School of Economics, UK

Björn Stigson, President, World Business Council for Sustainable Development, Switzerland

Solomon D. Trujillo, Chief Executive Officer, Telstra Corporation, Australia

David G. Victor, Professor of Law and Director, Program on Energy and Sustainable Development, Stanford Uni. USA

Timothy E. Wirth, President, United Nations Foundation, Washington DC

Moving clearly in the direction of Jim Hansen on urgency, their statement says: -

"Growing scientific evidence suggests that failure to limit global warming to 2°Celsius (3.6° Fahrenheit) above pre-industrial levels would make it impossible to avoid potentially irreversible changes to the Earth's ability to sustain human development . . . According to the most advanced climate system models, there is a 5 in 6 chance of success in holding the 2°C-line if worldwide greenhouse gas output is reduced by 80% by 2050, relative to 1990."

Then it says: -

"In light of this scientific evidence, cuts in emissions of 50% by 2050 relative to 1990 should be the absolute minimum for target reductions and the aim should be to make cuts as close to 80% as possible if the cost is not prohibitive. For richer countries - as per recent announcements by US and European leaders - the aspiration should be at least an 80% reduction by 2050 relative to 1990 levels, along with appropriate nearer-term targets such as in 2020 or 2025."

To C&C or not to C&C Feb 06, 2009

You couldn't make it up . . . !

[But well done Joan Walley MP].

Below is a transcript of a 'bit' of 'evidence' from Adair Turner to the Environmental Audit Committee Wednesday related to derivation of the UK Climate Change Bill . . .

<http://www.parliamentlive.tv/Main/VideoPlayer.aspx?meetingId=3365>

Martin Horwood [LibDem] on the contraction-event relating to emissions: concentrations, shows that Lord Adair Turner is not really up to speed with current science and coupled-modelling on feedbacks. It is clear that he has not caught up with Lord Nicholas Stern's new demand for an 80% cut in emissions by 2050 globally [i.e. across the board - see WEF Wavers on C&C before/below].

However, Joan Walley [Labour] certainly nailed Lord Turner on C&C!

Here is an overview image: -

http://www.gci.org.uk/images/Poster_Oil_Coal_Gas_350_450_550.pdf

which helps - as she so rightly said - *understand* the situation.

She said, "If that's the case and what you are doing is more-or-less contraction and convergence, given the scale of the need for education and for the whole planet really to understand the scale of the challenge, wouldn't it just make sense for you {your committee Lord Turner} to come out publicly and actually endorse it properly?"

Lord Turner said well actually they did. But Lord Nicholas Stern didn't, and apparently he still doesn't understand this.

In this graphic image, he started off [Stern Review 2006] advocating the third column [a faster rate of contraction]; he then revised 18 months later to the second column [the slowest rate of contraction]; and now his new 80% by 2050 globally across the board [see WEF Wavers on C&C before/below] is practically at column one [a faster rate of contraction, originally associated with returning to 350 ppmv].

Joan Walley's point to Lord Turner is right and crucial: - C&C really helps to communicate globally. It will *calculate and make visible*, any and all rates of C&C i.e. all rates of accelerated contraction with all rates of convergence accelerated relative to all rates of accelerated contraction. Using this can absorb 'rationally' the 'shocks' of the continual revisions on 'urgency'.

At the end of the exchanges, I was truly nonplussed to hear that Lord Adair Turner thinks C&C is somehow 'emotive' on all this; who has he been talking to . . . ?

Martin Horwood

I am just getting a little nervous about this balance between two degrees and four degrees [22.39] in your assumptions. I mean surely the whole issue of feedback mechanisms and irreversibility with some of the things like the collapse of the [22.48] rainforests and the ice-sheets over two degrees, is that the thing that will increase the risk of going to four degrees is actually going to two degrees [22.57] and therefore you can't actually separate the two things in the way that you seem to be doing. It's almost like saying that you're going to aim to get off the toboggan half way down the hill. [32.04]

Adair Turner

No I don't think that is right because I mean you're absolutely right to identify that one of the things that you have to be very aware of is the process of going to two degrees or three degrees in itself produces feedback loops that [23.19] which increase the chance of going to a higher level, but those feedback loops should be in the scientific models to start with. Right, so that is precisely what the scientists are attempting to get to grips with.

So when the scientists say this emissions trajectory, we believe, has a 99% chance of keeping us below 4 degrees, they have embedded their best judgement of the feedback loops within it. They haven't produced a model without feedback loops and then you have to add feedback loops as a separate thing; those feedback loops are in there already. [23.55] Um I think what gets very complicated is whether there is anywhere you know what people call 'tipping points' or thresholds - does it become totally irreversible or do we simply have feedback loops without absolute irreversibility and I think the scientists vary on that [24.17] But We did highlight that both in the - it was possible that some of the feedback loops became very strongly reinforcing above a certain temperature and that there were some physical [24.30] things which might be irreversible; you know the melting of the Greenland ice-sheets etc.

So I think we have taken fairly rigorously those into account in the way that we did it, and that [24.43] was . . . it was a sense of those feedback loops and that irreversibility that made us believe that the crucial thing is to limit the increase to two or slightly above two degrees and to make very likely that we don't go above three and almost certain that we don't go above four [25.00].

Martin Horwood

And you think there are scientific models which can take global temperature safely above two degrees at which the risk of going on to four degrees is less than 1%?

Adair Turner

Yes I think there are or that is what the Hadley Centre models say. The Hadley Centre models say that there are certain trajectories which will produce let us say a mean expectation of 2.2 degrees, a chance of going above two degrees of 55% but that still say the chances of going above four degrees are less than 1%; that is what the models from the scientists actually say.

Joan Walley

How consciously does your method for working out the 2050 target resemble contraction and convergence?

Adair Turner

Umph, um . . . the answer is that [25.45] when we proceed from the global target to the UK target, we are suggesting something which is reasonably pragmatically close to [26.01] contraction and convergence. And I think that it is important to realize that [26.05] actually, although people get very worked up about precise methodologies - contract and converge or other variants, or Triptych etc - its is very difficult to imagine a long-term path for the world which isn't somewhat related to a contract and converge type approach, and I think that [26.28] Nick Stern has put this very well indeed when - and its a way of cutting through the complexity of some of these models - if the world in 2050 has got to be down to something like two tonnes per capita or somewhere between two and two and a half tonnes per capita, unless you can tell me that there are going to be large numbers of people who aren't going to be significantly below two to two and a half tonnes per capita, there can't be large numbers of people who are above two to two and a half tonnes per capita. China is on a path which is taking it - well it is above there already; India is on a path which is going to go above there; might be the case that a large slice of Africa might still be below it but unless you can credibly show up at an international negotiation and try and persuade other people that where they are going to be in 2050 is still significantly below two to two and a half tonnes per capita, then the only credible negotiating stance is for you to come down to two to two and a half tonnes per capita.

Now then I think there are all sorts of variants of that; of course there are some variants that are argued sometimes by emerging countries which believe that in 2050 the Developed World ought to be below the present Developing World in order to make up for historic responsibility um and because we have greater economic resources. There are other people who argue that you know the whole thing should work on a long-term contract and converge and we won't be fully contract and converge by 2050; you know America will still be well above India because its starting point is higher. But I do think those are sort-of variations on the basic theme. We couldn't see how in the long-term at some date, you could imagine a global deal that isn't heading towards contract and converge. Now again, there may be variants.

There are parts of the world that are sufficiently cold that there are requirements for household heating and there are others where there aren't. There are some where air-conditioning needs to be used in summer and some where it doesn't and that may mean that permanently - and this may be achieved by global trading - some will you know it makes more sense to cut the emissions in one place than another, but I think the core of it is contract and converge.

Joan Walley

But what I don't understand is that if that's the case and what you are doing is more-or-less contraction and convergence, given the scale of the need for education and for the whole planet really to understand the scale of the challenge, wouldn't it just make sense for you to come out publicly and actually endorse it properly?

Adair Turner

Well I think that . . .

Joan Walley

. . . or have you just done that in your report?

Adair Turner

Well I think we have really - we have - we didn't call it contract and converge partly because apart from anything else for some reason which I don't quite understand and this has ended up in a slightly emotive sense to one and it also gets interpreted in particular ways . . . I think we have made a very clear statement that we cannot imagine a global deal which is both doable and fair which doesn't end up by mid-century with roughly equal rights per capita to emit and that is clearly said in the report.

Joan Walley

I'm sorry can I just . . . so if Aubrey Meyer were producing a sequel to the book that he has already written, would he have something written by you on the back page endorsing contraction and convergence?

Adair Turner

Splutter - Ur ur I - - - I'd have to think about that -

Joan Walley

Uh . . .

Adair Turner

I mean Broadly speaking the principle that we are at is that we are in favour of that. Now the other thing to say is that you know we've set out that - I ur we are not the agency the UK agency that is directly involved in the Copenhagen negotiations and I think it is probably unhelpful for us to be extremely precise about negotiating stance because what you want to do in principle and what the UK is committed to, there is a slightly separate thing about the whole processes of international diplomacy that try to corral people to a decision and that's as-it-were a different bit of the British Government machinery is responsible for that. But I am sort of . . . I think if Aubrey Meyer read the words that I have said he'd be willing to put those on the back of his book because they're pretty strong support in principle for what he's saying . . .

Tim Yeo

Well I think that's been clear and helpful.

Adair Turner to HoC Climate Energy Committee 03 09

Below is the relevant section of Adair Turner to Climate Energy Select committee where he concedes that if Contraction has to be accelerated [vide Stern/DAVOS etc did do, as above] then Convergence has to accelerated relative to that [which Stern/DAVOS etc didn't do].

For reasons of 'political realism' with respect to the internationally asymmetric path-integral of historic emissions, the principle is now that convergence [to equal per capita globally, as now embedded in the UK Climate Bill], must accelerated relative to the rate of contraction, whatever accelerated rate of global contraction is required to stabilize the atmospheric concentration of ghg so as to avoid runaway rates of climate change: -

Colin Challen

"I heard what you said to Dr Whitehead about the budget and I just wanted to delve into that a little bit further because I'm quite concerned that there could be a divergence between what the scientific community is saying and Government policy which your committee [which is bound by legislation of course] doesn't seem terribly able to help us out with very much. And the problem with politics of course is that once you get the budget, no matter how wrong it is, as long as you meet it, you can say 'oo-la - we've achieved our objectives' [laughter] even though you guys will be saying 'just wait till you get next year because we're going to be telling you you're way off course'. Don't you see that there is perhaps a function here for the committee, over and above its pure statutory requirements - I mean you may have a statutory remit but that doesn't mean that you can't provide information"

Adair Turner

"No"

Colin Challen

" . . . so we have to be kept on track. We have to be held to the reality and not simply the budget."

Adair Turner

"Well - I - I accept that point, and I think in relation to Dr Whitehead's question, you know, I think we haven't fully thought that through and we need to think that through. And you are quite right. If it became apparent to us in next year's analysis of the science with the help of the Hadley Centre, that the consensus point of view on the risks had shifted not just marginally but very significantly, we would have to think of some process of flagging to Government and flagging to parliament that this shift was sufficiently large that together you know we had to think about that even the third budget was adequate rather than simply saying we're going to take this into account in the fourth budget. So I think I am accepting that we have to flexibly look at how significant the shifts in scientific understanding are. And you are quite right that we have a broad enough remit that we can play a role in simply highlighting that something that has occurred, which may raise questions about whether parliament and Government should consider shifts in the pre-set legislative approach and we can do that in parallel, whilst still saying that our core function is to monitor progress against the three budgets which have already been set and to set about recommending what the fourth budget should be."

Colin Challen

"You can see what's going to happen, and this will be true of any Government and not just this one, is that they will say that we have this committee to guide us. So the other people that are obviously very active in this field, and let's take just one example of Lord Stern who gave his name to a report that went to Davos in January saying that global emissions - global emissions - should be reduced by 80% by 2050, not 50% by 2050, that would have an immense impact. That report was backed up by other scientists and renowned experts in the field. That's going to have a significant impact on what you are going to recommend. And any Government could say well that's fine, that's what they're saying, but we'll just listen to the committee. So this responsibility is very significant isn't it?"

Adair Turner

"Well I take that point and I think obviously it would not be sensible for us to observe that scientific evidence had very significantly shifted and to simply to proceed on an auto-pilot as if nothing had occurred. And therefore what I am agreeing with is that if that is the case, we will need to flexibly decide what is our responsible you know role that should be played there, as indeed the role of committees like this [indicates with hands Climate-Energy-Committee] could well be alerting to parliament in general and the Government that they wished the committee at that stage to come back and re-look at you know even the trajectory that is in the first three budgets."

Colin Challen - [key question]

"Just lastly Chair if I may, I think your pragmatic support for Contraction and Convergence is very welcome. Certainly for me and that is on the record from a meeting with the EAC that you do see this as being roughly the way we're headed. Would you accept that as the speed of Contraction accelerates, as it seems likely that we'll have to go down that route, that the speed of the acceleration of Convergence will also have to pick up because there's always been a presumption at the International Climate Change negotiations that Developing Countries will be allowed to increase temporarily their emissions to help development. But that's going to be a concerted process - is that really how you'd see it?"

Adair Turner - [key answer]

"Well I think you are right and it does raise a very a very complicated - ur complex - issue of international negotiations I think in particular in relation to China. The broad figures are that if you take our figures, not Nick Stern's more aggressive figures, but our figures then the whole world has to be at something like an average of 2.2, 2.3 tonnes per capita by 2050. We are somewhere at the moment at the 9-10 level, America is at the 20 level, but China is already at the 5-6 level and rising fast and that means that the issue of at what stage China stops rising and actually starts falling towards the level where the whole world needs to be by 2050 is very important and you are quite right to identify that the more that one is concerned to get down the global average by 2050 the more that has to include engaging in particular China - and I focus particularly on China because India is still below that level of 2 and Africa is way below the level of 2 so its China more than any others - now obviously within that we have to engage in a fashion which sensibly understands their desires to achieve rapid economic growth and also which recognises the complexities of the debate between a production and a consumption focus where they legitimately point out that quite a lot of their emissions are coming from factories that are producing goods that we import. But in general you must be right - yes."

www.publications.parliament.uk/pa/cm200809/cmselect/cmenergy/uc309-i/uc30902.htm

It is important to note Turner was wrong on feedbacks being in the models and that indeed the opposite was true with regard to the modelling of carbon cycle feedbacks. This is precisely the omission that was addressed [in the modelled image attached] which comes from page 791 of Chapter 10 WG1 IPCC AR4: -

http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Ch10.pdf

. . . where, as reported by ITN on IPCC AR4 coupled-carbon-cycle models [i.e sink-failure], all the rates of C&C necessary to accommodate these developments were embedded in the C&C animation done for Hilary Benn: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

Royal Institute of Chartered Surveyors REPORT

TOWARDS A LOW CARBON BUILT ENVIRONMENT:

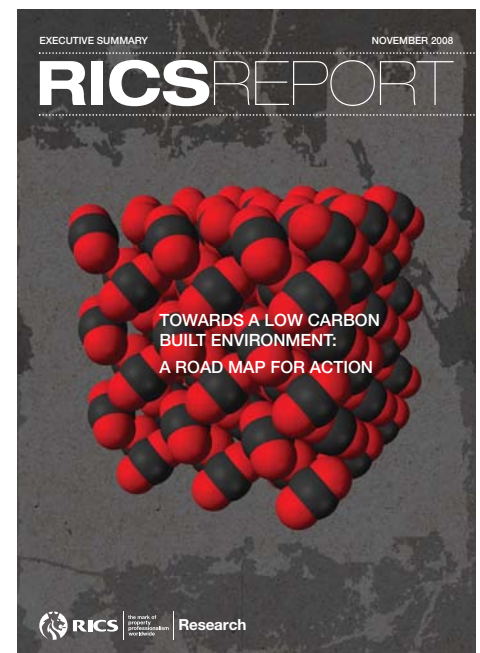
EXECUTIVE SUMMARY NOVEMBER 2008 ROAD MAP FOR ACTION

We can then have a comprehensive global agreement on allocation of national emissions allowances. If this was achieved, then it would enable global agreement to be reached, setting out how the total quantity of allowable global emissions in each defined period would be divided up between countries.

This agreement needs to be comprehensive. It must cover developed nations, those with transition economies, and developing countries and it must cover all sources of greenhouse gas emissions.

An equitable basis for allocation of future emissions will be important to obtaining the agreement of transition-economy and developing nations – particularly China and India. Ideally the agreement could adopt 'Contraction and Convergence' as the model for determining national emissions allocations.

<http://www.rics.org/NR/rdonlyres/2F18D4BC-5E97-4067-87FF-F55CE5EBBC93/0/ExecutivesummaryTowardsalowcarbonbuiltenvironment.pdf>



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Journal List > Philos Trans R Soc Lond B Biol Sci > v.363(1491); Feb 12, 2008

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Shrink and share: humanity's present and future Ecological Footprint

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Contraction and convergence - The current state of global overshoot highlights the need for analysis and strategy to bring the human economy within the limits of the biosphere. Similar concerns about global emissions of carbon dioxide have led to a conceptual framework for reducing these emissions known as 'contraction and convergence'. First described by the Global Commons Institute (Meyer 2000), contraction and convergence proposes a framework for stabilizing atmospheric carbon dioxide concentrations through two complementary approaches:

Contraction. The need to reduce humanity's carbon dioxide emissions to a level that will result in the eventual stabilization of atmospheric carbon dioxide at an agreed-upon level (e.g. 550 ppm).

Convergence. The need to collectively negotiate how this reduction in greenhouse gas emissions will be allocated between nations.

Since its initial debut, the contraction and convergence framework has gained increasing recognition and sponsorship from decision makers, particularly in Europe. Influential organizations such as the European Parliament have passed resolutions using contraction and convergence as a basic principle.

Contraction and convergence, as originally conceived, focuses exclusively on the need to reduce global emissions of carbon dioxide and proposes only a single allocation scheme for convergence — an equal allocation of emission rights to each person on Earth. While climate change is a central and important sustainability challenge, the scope and scale of human impacts on the biosphere are larger than emissions of greenhouse gases alone, as evidenced by ongoing and increasing pressures on cropland, forest land, fisheries and biodiversity.

Additionally, there are likely to be trade-offs between different types of pressure on the biosphere that must be considered, such as increasing demand for cropland to produce bio-fuels in order to alleviate pressures of carbon dioxide emissions from fossil fuel combustion. An additional, more comprehensive framework is therefore needed to fully address the broader sustainability challenge and measure progress towards reducing the material and energetic throughput of the human economy to a level that can be supported by the biosphere.

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2610164>

Global Warming, by Ashok Khosla CEO Development Alternatives

Countries like India wanted a fairer approach. So while they are of course parties to the more general United Nations Framework Convention on Climate Change, they have insisted on a change in the terms of the specific provisions of the Kyoto Protocol to put the onus on all countries to converge to a level of emission that the planet can tolerate. Some countries are big and others are small: the aggregate measurement of carbon emission at the country level is misleading, it should be based on per capita emission.

What they should have been actually negotiating was what is now being called as the contraction and convergence: set a limit to which everyone has to converge. People who are consuming too much should come down; people who are using too little should go up. Equity offers the only solution that can be acceptable in the long run. A viable future depends on widespread recognition that everyone in the world should be entitled to the same environmental space – in this case quantity of carbon emitted. This can only be achieved if the emissions in the industrialized countries are contracted and the emissions in the developing ones are allowed to rise so that both converge to a limit that is below the threshold above which climate change becomes unacceptable.

<http://www.khosla.in/pdf/Global%20Warming.pdf>

CONVERGENCE OF HEALTH & SUSTAINABLE DEVELOPMENT A MANIFESTO

Action to reduce substantially carbon emissions in a way that is fair and equitable for all countries around the globe. - See the Global Commons Institute's policy of Contraction and Convergence, which is a carbon cap and trade policy designed to reduce CO₂ emissions:

<http://www.scotland.gov.uk/Resource/Doc/259367/0077094.pdf>

Contraction and Convergence as a global model for reducing carbon emissions Each person has an equal right to carbon emissions Determination of the maximum acceptable amount of greenhouse gases, with a Transition to the needed reduction To be achieved in 2050 Allocation of allowances to states Trade among states: -"The international climate regime should be based on legitimate principles of equity, such as long-term convergence of emission levels per capita in the various countries." Joint statement by M. Nicolas Sarkozy, President of the Republic, and Mrs Angela Merkel, Chancellor of Germany, 9 June 2008.

www.iucnael.org/component/option,com_docman/task,doc_download/gid,241/Itemid,/lang,english/

In the annual vote in 2008, the issue voted to be the second most important facing the planet was the power of transnational corporations. It came second to climate change. The second most popular policy was for a World Transnational Corporation Regulatory Authority. It came second to the 'Contraction and Convergence' proposal for addressing climate change.

<http://www.jussempier.org/Resources/Corporate%20Activity/Resources/MBradyWTNCRA.pdf>

CII - Coping with Climate Change

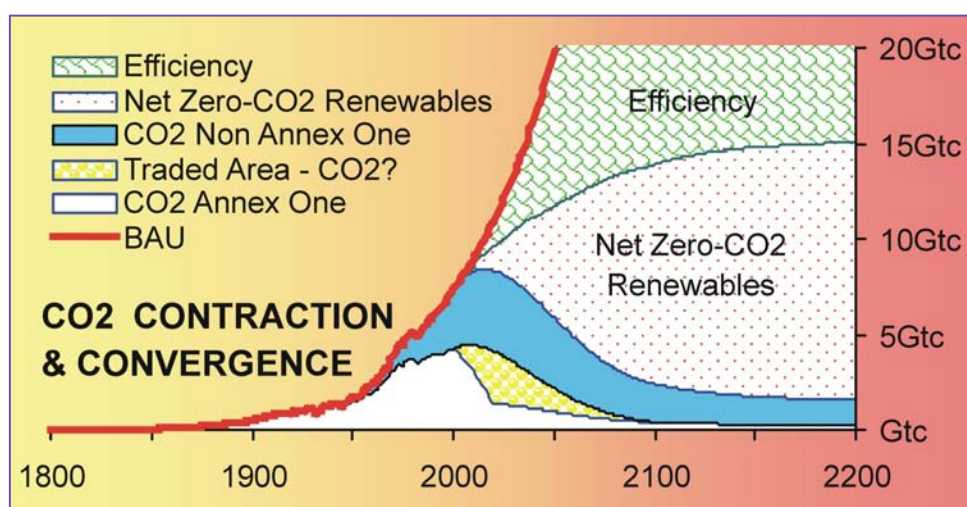
5.6 Mitigation Author Andrew Dlugolecki - The most important strategy to preserve insurability is to reduce GHG emissions. Insurers can play a role as underwriters and investors, through internal environmental management, and by lobbying for action on policies like 'Contraction and Convergence'. Specific strategies for underwriters to support the reduction of emissions by insuring clean energy are discussed in more detail in Chapter 12. Chapter 18 considers how the claims process can play a part in reducing GHGs by climate friendly procurement, and also the question of embedding sustainability into every business process. The important role of asset management (investment) is examined in Chapter 16. Finally, there is the question of what role insurers should play in formulating policy about climate change. Many leading scientists are now very concerned that climate change could lead to irreversible dangerous changes in the Earth's climate system, through such processes as rapid melting of the icecaps, a shutdown of the Gulf Stream, extensive dieback of tropical forests, and acidification of the oceans (see Chapter 3 for more detail).

Despite the gravity of the threats, the will to act is weak. There are powerful lobbies ranged against mitigation. Politicians fear to act, because making energy dearer, or constraining consumerism are potentially vote-losing. Insurers themselves have been reluctant to become involved, while the chain of accountability in asset management is confused and priorities are short-term.

Contraction and convergence

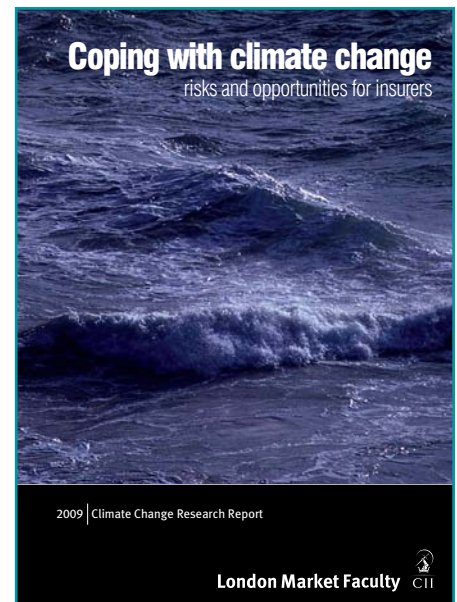
From a risk management perspective, the costs of being too lax about emissions could be very high, due to a breakdown in the climate system. It therefore makes sense to aim for tough limits, which can be relaxed later if appropriate. There is ample guidance from scientific sources on this. Many scientists believe that an atmospheric level of 450 ppmv (parts per million by volume) of carbon dioxide should be the initial target for prudence; already we are at 380. For long-term allocation, the "Contraction and Convergence" model (C&C) seems appropriate (see Figure 5). This consists in choosing (1) a "safe" global annual emissions level and (2) a date at which it will be shared out globally on a per capita basis at national level. The other element is (3) a start date from which time the actual, unequal per capita emissions that currently exist at national level start to move towards their final, equal per capita levels. The name C&C reflects the facts that the annual emissions contract to a safe level, and the per capita shares converge to become equal.

Figure 5: Contraction and Convergence (C&C)



Key: Vertical axis is billions of tonnes of carbon emitted annually. Horizontal axis is the year. Source: Global Commons Institute

The solid line 'BAU' or Business as Usual shows the path that emissions will follow on historical patterns. The 'CO₂' segments of the chart show how actual emissions could develop under C&C.



The gap between BAU and actual emissions would be solved by energy efficiency and RE. In the short run, since the C&C emissions allocation is based on equal per capita allowances, that gives the developing world a surplus of emissions credits to trade, as they have lower per capita emissions generally. This elegant policy has been recommended to policy-makers by numerous bodies, including the Church of England, the World Council of Churches, the Royal Commission on Environmental Pollution, and the German Scientific Advisory Committee to Government (WBGU), and was commended by UNEPFI in 2002. It has the advantages of simplicity and fairness, gives long-term confidence in emissions reduction, and in the short-term can accommodate a variety of 'fixes' as well as facilitating the flow of funds to developing countries.

MODEL UN - 'UNESCAP' commits to C&C Mar 23, 2009

Model UN Economic & Social Commission for Asia Pacific [UNESCAP] commits to C&C

http://mun.uni-mannheim.de/resolution08_unescap.pdf

Section D: Climate Change

19. Declares its determination to take the lead on addressing global climate change;
20. Resolves to create the Asia-Pacific Carbon Trading System (APCTS) under the supervision of UNESCAP along the lines of the Global Climate Certificate System (GCCS): -
 - a. which is based on the principle of contraction and convergence,
 - i. starting off at status quo level to be established along the lines of the of the UNFCCC baseline,
 - ii. converging towards equal per capita emissions rights for all countries by 2030, taking into account different climatic conditions and contexts beyond governmental control,
 - iii. incorporating all greenhouse gases (GHGs) as established by the UNFCCC, and
 - iv. allotting emissions rights in line with the 2°C scenario of the 5th IPCC report;
 - b. where states are allocated their respective emissions certificates, which they will then use to allocate to the private sector as well as to cover their citizens' emissions;
 - c. provides for the creation of a carbon certificate exchange market as a mechanism to freely trade emission rights between the private and public sectors;
 - d. includes a forest bonus as incentive for reforestation and to reduce emissions from environmental degradation and deforestation is part of a nation's allowances;
 - e. further includes an Asia-Pacific Climate Change Adaptation Fund (APCCAF):
 - i. that receives a 2% of each transaction under APCTS,
 - ii. that disburses to all countries in the region adversely affected by climate change following an application procedure;
 - f. calls for additional sources of funding for the Adaptation Fund such as the Asian Development Bank and World Bank and all other willing able states; and
 - g. which integrates all UNESCAP members, except non-region members;

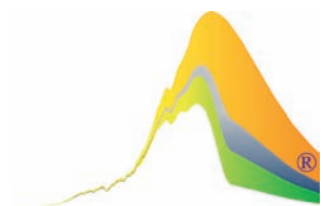
The Copenhagen Challenge March 10 2009

Prof. Tim Flannery, Chairman of the Copenhagen Climate Council, advised employees of Tata Group that though chances of failure of arriving at an agreement at COP15 in Copenhagen this year are real, negotiations are leading to a global treaty that will be stronger and more binding than the Kyoto protocol. He said that the treaty is likely to adopt a contraction and convergence model to accommodate interests of developing nations.

<http://www.tataquality.com/UI/SPage.aspx?contentid=031009123351686322>

CARBON COUNTDOWN

THE CAMPAIGN FOR
CONTRACTION & CONVERGENCE®

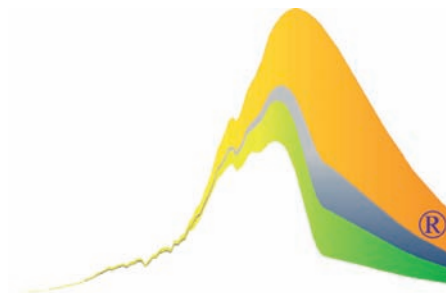
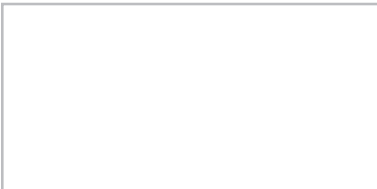
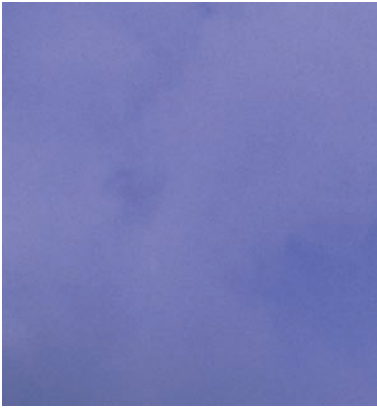


THE GLOBAL COMMONS INSTITUTE



CONTENTS

- 1 Approaching the point of no return
- 2 Global action on climate change
- 3 Contraction & Convergence - the proportionate response
- 4 Corporate action on climate change
- 5 Carbon Countdown campaign
- 6 Global Commons Institute
- 7 Links
- 8 Climate risk assessment
- 9 C&C technical definition
- 10 C&C support
- 11 Insurance industry views of C&C



DECLARATION FOR CONTRACTION & CONVERGENCE[®]

- 1 The United Nations Framework Convention on Climate Change (UNFCCC) has the objective of safe and stable greenhouse gas concentrations in the atmosphere based on the principles of precaution and equity.
- 2 Contraction & Convergence[®] (C&C) is the rights-based, global climate mitigation framework, proposed to the United Nations by the Global Commons Institute (GCI) to achieve that objective.
- 3 It enables greenhouse gas scenarios for a safe climate to be calculated and universally shared by negotiation, enabling policies and measures to be organised internationally at rates that avoid dangerous global climate change.
- 4 Rates of contraction and convergence may be revised periodically as scientific understanding of the relationship between rising concentrations and their impacts on our world develops.
- 5 C&C PROPOSES: -
 - (a) 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 by the UNFCCC
 - (b) The international sharing of this budget as a pre-distribution of entitlements that result from a negotiable rate of linear convergence to equal shares per person globally by an agreed date.
- 6 These entitlements will be internationally tradable.
- 7 We, the undersigned, endorse the above and encourage members of the international community to do likewise so that adoption of the Contraction & Convergence[®] strategic framework is achieved as soon as possible.

1 APPROACHING THE POINT OF NO RETURN

The scientific evidence is now overwhelming: global climate change presents very serious social, environmental and economic risks and it demands an urgent global response. This was the message sent by leaders of over one hundred and fifty global business organisations to the United Nations Climate Change Conference in Bali in December 2007.

The International Panel on Climate Change (IPCC) had just published its Synthesis Report, in conclusion of the Fourth Assessment Report (AR4) on the science of climate change. It issued a warning that, with current climate change mitigation policies and related sustainable development practices, global GHG emissions will continue to grow and that, without urgent action, anthropogenic global warming could lead to impacts that are abrupt or irreversible.

The IPCC has sent a clear and unequivocal message to us all: we are not doing enough soon enough to avoid dangerous climate change and time is of the essence. James Hansen, one of the world's leading authorities on climate change, has warned that the Earth's climate is nearing a point of no return beyond which it will be impossible to avoid climate change with far ranging undesirable consequences.

We must have a global agreement on emissions control that is sufficient to solve the problem faster than we are creating it. Unless we do, sustainable development is impossible. Concentration and emissions reduction targets must be embodied in an international agreement framed to meet the objective of the United Nations Framework Convention on Climate Change (UNFCCC) if the markets and new technology are to become the mainspring of the new low-carbon economy. In the absence of this agreement, we will continue to struggle under the "greatest market failure ever seen" diagnosed in the Stern Review of 2006.

Contraction & Convergence (C&C) is the foundation of a remedy for this failure. With this strategic framework, it will be possible to secure a safe and stable level of GHG concentrations in the atmosphere and avert the greatest threat facing humanity.

CONTRACTION & CONVERGENCE*

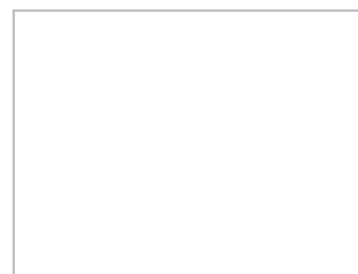
C&C is founded on IPCC climate science and embraces the UNFCCC principles of equity, precaution and sustainability. It has wide international support amongst businesses, professional bodies, academic institutions, faith groups, national, regional and local governments.

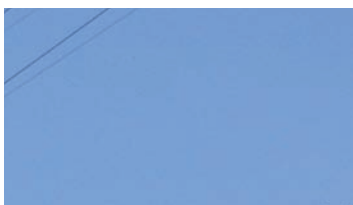
C&C schedules a global reduction of emissions (contraction) that keeps CO₂ concentrations from rising beyond an agreed safe level. It proposes emission entitlements for every country and a scheduled convergence to equal per person entitlements by an agreed date. In this way, convergence reduces the carbon shares of the developed over-emitting countries sharply until they converge with the (temporarily rising) shares of developing under-emitting countries. The latter will have the right to sell their surplus carbon shares to wealthier nations. Carbon emissions trading will encourage rapid investment in technology and infrastructure for low-carbon energy.

C&C forms the basis for the comprehensive United Nations agreement that corporate leaders are demanding. It is fully UNFCCC-compliant, giving us the capability to:

- Constrain the level to which GHG concentrations and the consequential damages will rise in the future.
- Bring together developed and developing countries under a common full-term action plan.
- Address the worsening asymmetry of global economic development.

"Carbon Countdown* is an international campaign to avert dangerous rates of climate change. It focuses corporate support for Contraction & Convergence* (C&C) on the UNFCCC decision-making process throughout the present critical period of negotiation. Corporate leaders are called on to endorse the campaign on behalf of their organisations and to encourage others to join as well."





CARBON COUNTDOWN CAMPAIGN

The Carbon Countdown international campaign focuses corporate support for C&C on the UNFCCC decision-making process throughout the current critical negotiations.

The campaign displays the C&C logo and seeks the commitment of organisations carrying the logo to propagate the case for C&C by endorsing the C&C Declaration shown on page four.

The campaign's essential message is that treating climate change as a global emergency is now long overdue and responding proportionately is vital; that it is imperative to go beyond the merely aspirational character of the current UNFCCC debate and focus on the rationale for solving the problem faster than we are creating it. Declaring for C&C demonstrates this.



CORPORATE LEADERSHIP AND SUSTAINABILITY

The science is clear that the future of our society is at risk. Climate damages are already growing at twice the rate of the economy. This has been described as the biggest market failure in history and our common future security and prosperity are increasingly vulnerable. To correct this we must start making deep cuts in our emissions within the next five to ten years in an internationally coordinated manner and this will see the start of what has been termed the biggest infrastructural change in human history.

However, individual and collective actions to mitigate climate change will remain inadequate unless we enact completely the full-term international agreement proposed by the UNFCCC to which our governments are signatories. There is a real and growing danger that any local successes are hostage to global failure. Our corporate social responsibility and sustainable development programmes, indeed our own organisations and institutions themselves, are compromised by this.



We could have as little as fifty years left to reduce our carbon emissions to net-zero globally to achieve the full-term objective of the UNFCCC. Whatever the rate, this will inevitably require a complete contraction and convergence event for greenhouse gas emissions if we are to achieve the objective. With so little time left, we can no longer afford the aspirational patchwork approach followed so far by many powerful policy-makers, their advisors and others.



Corporate leaders need a clear and rational framework for targets and the enabling measures now needed in order to lead their organisations along the right path. Corporate leaders are justified in demanding a timely and proportionate international response from governments. They understand markets and their potential for driving a low-carbon economy. They are in a strong position to influence government policy-makers and convince them of the need for a global framework within which the markets must operate.

Corporate leaders have a duty of care to act and supporting the Carbon Countdown campaign enables them to demonstrate this collectively. Those who are seen to act now in this way, show international leadership for their organisations. They will set an example with clear insight and strong ethical standards for organisations everywhere.

By supporting the Carbon Countdown campaign the emerging coalition of subscribers focus this influence. In turn, the campaign supports its members by giving wide visibility to this competence and their commitment to it. Campaign reports and promotions will display their identities to UN organisations, national governments, trade and professional bodies and many others around the world, helping to demonstrate that it is in every one's interest so to act if continuing market failure is to be overcome.

2 GLOBAL ACTION ON CLIMATE CHANGE

The United Nations Framework Convention on Climate Change (UNFCCC) was agreed by 165 governments in 1992, with the objective of halting the rising concentration of greenhouse gas (GHG) in the atmosphere to avoid dangerous rates of climate change.

The Global Commons Institute (GCI) has been a contributor to the UNFCCC process since its inception. The Institute is the originator of Contraction & Convergence (C&C), its proposed strategic framework for climate change mitigation. C&C has wide international support amongst businesses, professional bodies, academic institutions, faith groups, national, regional and local governments and others.

Governments who are signatories of the UNFCCC have an obligation to comply with the Convention. As members of the Conference of the Parties, they must determine a safe GHG stabilisation level and the associated emissions reduction pathways.

UNFCCC compliance therefore requires finite answers to the questions: 'what is a safe GHG concentration value for the atmosphere?' and 'what is the scale of the full-term emissions contraction event required to achieve it?'. Unless we accept a globally shared commitment not to exceed that safe concentration number, the probability increases that our separate efforts to avoid dangerous rates of climate change will remain collectively too little too late.

ARE WE DOING ENOUGH SOON ENOUGH?

The Kyoto Protocol, based on the IPCC Second Assessment Report of 1995, does not target a maximum level of concentrations. It includes only six of the world's twelve largest emitting nations and expires at the end of 2012. Any CO₂ emissions avoided under Kyoto have already been outweighed by increases in carbon accumulating in the atmosphere at an accelerating rate, due to changes in the climate system as a whole. The European Union has gone beyond its Kyoto commitment by targetting 20-30% emissions reduction by 2020 and a 60-80% reduction by 2050. As with Kyoto, these unilateral reductions cannot lead to a safe and stable level of global concentrations.

The UK government's Climate Change Bill [2007/8] targets a unilateral 60% emissions reduction below 1990 levels by 2050. This is based on the science of the IPCC Second Assessment Report of 1995 and a notional level of concentrations of 550ppmv CO₂. The target is under review.

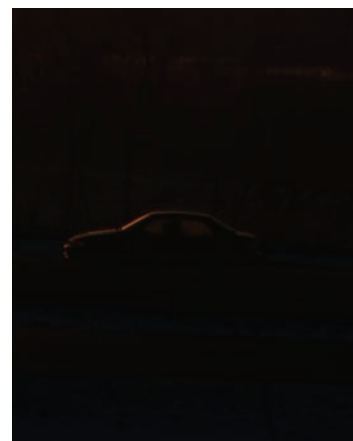
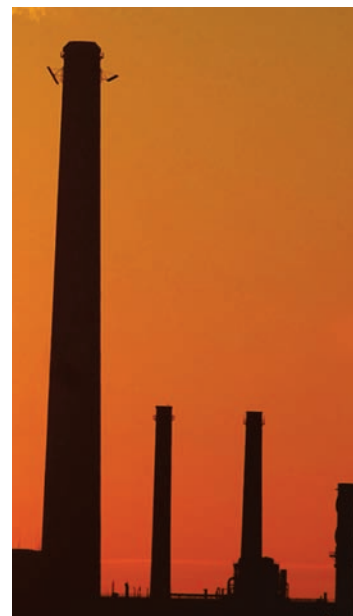
The US did not ratify the Kyoto Protocol, nor has the federal government set any targets for emissions reduction. However, individual states have taken the initiative. California has set a unilateral target of 25% reduction in emissions by 2020 and about twenty other states, along with a number of Canadian provinces, have signed agreements to reduce emissions by various amounts. More than 700 US cities have signed an agreement to meet or beat the Kyoto targets by 2012.

Australia, following the election of a new government in November 2007, has now ratified the Kyoto Protocol.

These planned actions will make no significant contribution to solving the problem without global targets. At best they represent a statement of intent, but urgent further action is required. Meanwhile, the position is deteriorating rapidly. Because of weakening carbon sinks, analysis now indicates that stabilising GHG concentrations in the atmosphere below the level that prevents dangerous rates of climate change, requires a rate of overall emissions control that is faster than was previously assessed. We are now advised that we might have only the next 50 years to reduce human GHG emissions to zero globally (IPCC AR4 and Hadley Centre, 2007).

[See GCI IPCC AR4 http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe]

'Unless we accept a globally shared commitment not to exceed that safe concentration number, the probability increases that our separate efforts to avoid dangerous rates of climate change will remain collectively too little too late.'



As the original authors of the UNFCCC understood at the outset, embracing the issue of a sufficient and proportionate response to climate change is fundamental to the whole global engagement. We must have a global agreement on emissions control that is sufficient to solve the problem faster than we are creating it. Unless we do, sustainable development is impossible. The opportunity still exists to create such an agreement for acceptance by the UN meeting scheduled for Copenhagen at the end of 2009, to replace Kyoto in 2012. It must be based on current climate science and have global support.



TALKS ABOUT TALKS

Today, over fifteen years after the UNFCCC was agreed, efforts to this end are demonstrably inadequate and the danger of 'runaway' rates of global climate change taking hold is mounting. We are still far from agreeing a safe level of concentrations, from which all else stems. Until very recently, there was no agreement in principle to global emissions reduction on any basis.

The G8 summit in Heiligendamm in June 2007 took a promising step forward. The US and five growing economies, China, India, Brazil, Mexico and South Africa all accepted for the first time the principle of an international agreement to cut greenhouse gas emissions. None of these countries is bound by the Kyoto Protocol.

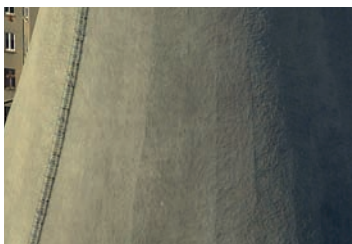
In September 2007, when mediating between supporters and opponents of the Kyoto Protocol, the German Government went further by proposing the Contraction & Convergence approach as the basis of the post-Kyoto agreement.



At the Bali conference (UNFCCC COP13) in December 2007, the world's nations agreed to sign up to a deal setting out a two year road map to a new treaty to replace the Kyoto Protocol, due to be agreed in Copenhagen in December 2009. Developed countries accepted that deep cuts will be needed in their emissions, while developing countries agreed to undertake "measurable, reportable and verifiable mitigation" of theirs. Although no firm targets or commitments are included, it is the first time that industrialised and developing countries, including the US, China and India, have jointly signed up to an undertaking to act together to control their emissions.



At the G8 meeting in Japan in July 2008, G8 leaders reaffirmed commitment to reaching a global agreement in the UNFCCC process by 2009. They seek to consider and adopt in the UNFCCC negotiations, the goal of achieving at least 50% reduction of global emissions by 2050, recognising that mid-term goals and national plans are required to achieve this. Leaders also at the summit from Brazil, China, India, Mexico and South Africa want the G8 countries to commit to reducing greenhouse gas emissions by 80% to 95% below 1990 levels by 2050. They also want developed countries to commit to a medium-term target of a 25% to 40% cut below 1990 levels by 2020. The question remains: can these differences be resolved in time?



CONTRACTION & CONVERGENCE - THE PROPORTIONATE RESPONSE

3

Contraction & Convergence is GCI's proposed UNFCCC-compliant climate mitigation strategy for an equitable solution to cutting carbon emissions through global collective action.

The ultimate objective of the UN climate treaty is safe and stable greenhouse gas concentrations in the atmosphere and C&C starts with this. C&C recognises that subject to this limit, we all have an equal entitlement to emit greenhouse gas to the global atmosphere, simply because continuing its globally unequal use will make it impossible to get the global agreement needed for success. The Kyoto protocol cannot be the basis of this success because it is not science-based and, because of divergent national interests, it does not include all countries. Scientists have advised on the safe concentration of CO₂ in the atmosphere and on the global cap on emissions necessary to achieve



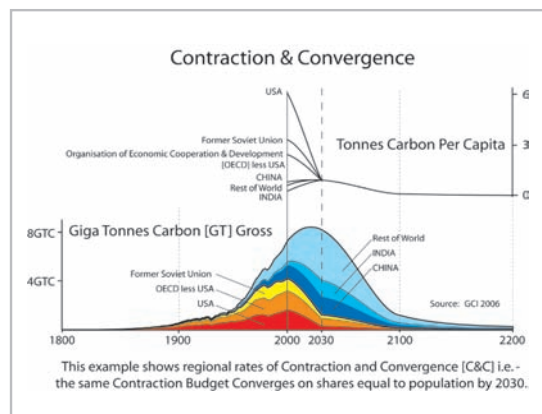
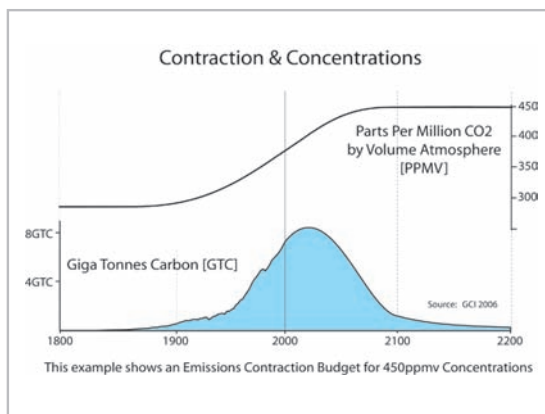
it. A level of 450 parts per million has until recently been regarded as the upper limit for keeping under the maximum global temperature increase of 2 degrees centigrade above the pre-industrial average. A science-based limit must be set by international agreement within the UNFCCC process.

C&C BASICS

From inception of a global agreement, C&C schedules the mandatory annual global contraction (reduction of emissions) that keeps CO₂ concentrations from rising beyond the agreed safe level. This rate of contraction must be periodically adjusted to take account of the increasing release of greenhouse gases caused by climate warming that accelerates the reduction of sinks and collapse of the planet's ecosystems, such as old-growth rain forests and peat-lands.

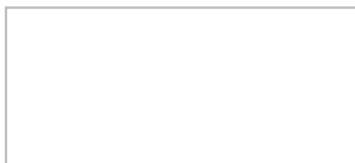
C&C also proposes emission entitlements to every country. While starting with current emissions, it proposes a scheduled convergence to equal per person entitlements for everyone on the planet by an agreed date. This way, convergence reduces the carbon shares of the developed over-emitting countries sharply until they converge with the (temporarily rising) shares of developing under-emitting countries. The latter will be able to sell their surplus carbon shares to wealthier nations. With emissions trading subject to this, rapid investment in renewable energy will be encouraged.

The date by which this equal per person entitlement is achieved is negotiable. However, justice suggests the sooner the better as the poorer countries, which are most immediately vulnerable to and least responsible for creating climate change, need a mechanism that addresses both climate change and poverty.



C&C is founded on IPCC climate science and embraces the UNFCCC principles of sustainability, equity and precaution. It holds the science-policy content together as a unity; science-based on the contraction side of the argument and rights-based or 'constitutional' on the 'political' side of the argument. C&C is in effect a bill of rights; it plots a full-term event for achieving equal per capita emissions rights globally (Convergence), governed by the overall emissions limit over time that stabilises the atmosphere concentration of GHG at a 'safe' value (Contraction). It is the proportionate response to climate change.

C&C captures the UNFCCC process in a structure of reconciliation. From this it becomes possible to go beyond the merely aspirational character of the current UNFCCC debate, to communicating a rationale and a constitutional calculus. A fuller technical definition of C&C is given on Pages 20-23.



'It is possible that we may need to contract emissions to zero globally by 2050 if we are to stabilise atmosphere GHG concentrations at a level that prevents change accelerating uncontrollably.'



ENABLING GLOBAL COLLECTIVE ACTION

C&C overcomes the stand-off where a one-sided agreement such as Kyoto is not an agreement that will yield a complete solution. It recognises that separate development is not sustainable development. It provides the foundation for unifying developed and developing countries under a common plan to contract and converge on equal per capita emissions. They will meet in the middle, as developed countries' emissions reduce and developing countries' emissions rise, along a path to a safe and sustainable level of GHG concentrations.

With the integrated C&C approach, we can more clearly define the challenge within a finite calculus of collective responsibility, and stay focused on the imperative of solving the problem faster than we are creating it.

EQUITY AND SURVIVAL

It is clear that the global majority most damaged by climate change are the poor in developing countries who bear least responsibility for damaging emissions. C&C addresses this worsening asymmetry of global economic development, or "Expansion and Divergence", at the same time as helping us mitigate climate change. It creates a sustainable basis on which to resolve this inequity.

PREVENTING RISING CLIMATE DAMAGES

According to the re-insurers, the weather-related damages trend is growing at twice the rate of the global economy. It is possible that we may need to contract emissions to zero globally by 2050 if we are to stabilise atmosphere GHG concentrations at a level that prevents change accelerating uncontrollably. This is projected by the latest climate modelling results from the UK Government's Hadley Centre, published in the IPCC Fourth Assessment. With C&C, we have the opportunity to exercise direct control over our GHG emissions, and thereby constrain the level to which GHG concentrations and the consequential damages will rise in the future.

A FRAMEWORK-BASED MARKET

The Kyoto Protocol seeks to interpose a partial and random market-based framework in support of the UN Convention. But such an evolutionary response to its objective and principles is guesswork by definition. There is no evidence to support claims that incremental activity at the margins will collectively generate a sufficient response fast enough to be effective. This approach has obscured the global objective of safe and stable concentrations and the urgent need for a trajectory to this objective by design.

We must put rational principle before expedient practice in order that the former guides the latter. This will make possible the framework-based market that is required, with the potential for a zero-emissions economy in a structure of convergence. It corrects and compensates for the asymmetric consumption patterns of the past, while averting dangerous rates of climate change.

C&C forms the basis for the ambitious international and comprehensive, legally-binding United Nations agreement that corporate leaders are demanding. Under this agreement, it will be possible for governments to introduce enabling measures for a low-carbon economy, with the ability to manage our performance against integral emissions targets. We will then have a clear and reliable path towards a safe and sustainable level of GHG concentrations.

CORPORATE ACTION ON CLIMATE CHANGE

Public awareness of the threat of climate change is increasing rapidly through media exposure, public meetings and events and the work of many dedicated campaigning organisations and groups, both local and national. This enlightenment is set to continue indefinitely, reinforced by behavioural change in energy use, recycling and other practical initiatives.

4

In 2006, the G8 Roundtable of Business Leaders at the World Economic Forum issued a memorandum stating: "Companies cannot determine the scale of needed investment without a stabilisation threshold for greenhouse gas concentrations. The short-term "patchwork" of the Kyoto Protocol is not cost-effective. A global long-term, market-based policy framework in a new partnership with China, India, Brazil, South Africa and Mexico is needed".

More recently, the Corporate Leaders Group on Climate Change, including leaders of over 150 global companies, has called for a sufficiently ambitious international and comprehensive, legally-binding United Nations agreement to reduce greenhouse gas emissions that will provide business with the certainty it needs to scale up global investment in low carbon technologies (Financial Times 30 November 2007).

CURRENT SUSTAINABILITY POLICY AND PRACTICE

Many organisations are committed to rigorous environmental policies addressing climate change, in response to growing public awareness and through a sense of public duty. They have also discovered that there are new opportunities arising from these good practices.

Some have been following voluntary codes of practice since the 1990's, as part of Corporate Social Responsibility (CSR) and Sustainable Development programmes. Guidance is available from government, trade and professional bodies. There are more specialised services addressing carbon footprint reduction, carbon disclosure and auditing.

The practice of off-setting is in common use, although its contribution to emissions reduction is uncertain. There are as yet few standards and further regulation will probably be required.

New methods and techniques are being developed to deal with embedded carbon. Product life cycle assessments are being developed on a pilot basis. These are intended to make it possible to account for carbon through complex supply chains, including the crossing of national or market boundaries. They could make an essential contribution in future to carbon accounting and attribution.

The immense corporate effort being made to reduce emissions is evidenced by the published records of the Global Reporting Index (GRI), the Carbon Disclosure Project (CDP) and others like them.

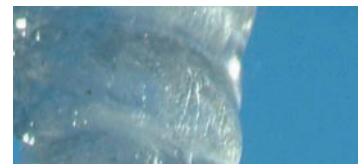
These initiatives are bringing new opportunities and improved competitiveness for those engaged in them, but are they helping to solve the climate problem?

DO THE NUMBERS ADD UP?

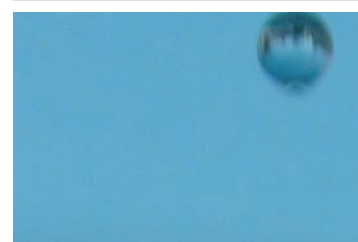
There are serious limits on the contribution to global emissions reduction by these means. We cannot know the impact of our efforts without having an ultimate global target for GHG concentrations and mutually agreed emissions reduction trajectories for achieving this. The Stern Review emphasised that a target range of concentrations would crucially anchor a global price for carbon that will provide markets with the necessary price signal. This signal would reflect our progress against global emissions targets.

These targets must be embodied in any international agreement framed to meet the UNFCCC objectives if the markets and new technology are to become the mainspring of the new low-carbon economy.

Under this agreement, governments will be able to legislate for meaningful national targets that aggregate to common global targets. They will also be able to introduce appropriate measures, such as taxation, regulation and cap and trade, to help us achieve them. This will provide the level playing field we need for our individual and collective efforts to count.



"Companies cannot determine the scale of needed investment without a stabilisation threshold for greenhouse gas concentrations. The short-term "patchwork" of the Kyoto Protocol is not cost-effective, a global long-term, market-based policy framework in a new partnership with China, India, Brazil, South Africa and Mexico is needed"





WHAT MORE CAN BE DONE?

More and more organisations are recognising the need for an internationally agreed global framework. Their leaders understand that we cannot solve the problem without one. They are concerned that their sustainability policies might be compromised and their considerable efforts to reduce emissions could count for nothing in the long run.

Their concern will be the greater for IPCC's warning that the shortfall in current climate change mitigation policies and related sustainable development practices could lead to damaging climate impacts that are abrupt or irreversible. However, there are signs of a more pro-active approach being urged by organisations who are leaders in their field.

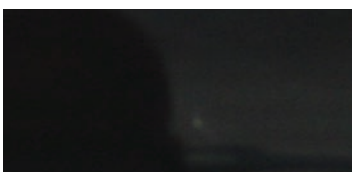
Calls by the G8 Roundtable and the Corporate Leaders Group on Climate Change for a legally-binding United Nations agreement were a promising start.

The FTSE organisation has announced that from 2008, eligibility for inclusion in the FTSE4Good series of indices will be expanded to include climate change. FTSE4Good is designed to measure the performance of companies that meet globally recognised corporate responsibility standards. Its constituents number about seven hundred major enterprises worldwide. FTSE have recognised that the previous criteria were not set at a level compatible with the substantial emissions reductions expected to be necessary to stabilise atmospheric GHG concentrations at a sustainable level. Instead, they reflected what was possible for leading companies within the then-current regulatory and business environment. In future, as international agreements, governments' policies and corporate responses mature, the criteria will re-align with the demands of long-term sustainability.

A key principle of the new criteria is that companies should participate in strengthening public policy frameworks to address climate risk and reduce GHG emissions. Further, they are urged to demonstrate public policy leadership by "active advocacy of public policy initiatives, including binding national and international targets, to reduce GHG emissions over the appropriate time frame in order to achieve an acceptable atmospheric CO₂ concentration".

As long ago as 2002, the UN Environment Programme (UNEP) declared that the international political process had been slow to grapple with the climate change issue, and the business community could legitimately seek to influence policy-makers towards more courageous decisions. The UNEP Finance Initiative was formed to work with the financial sector in addressing this problem along with other environmental and social considerations. UNEP FI called for higher priority to be given to long-range emissions targets "through the adoption of an approach like Contraction & Convergence".

Since then, support for C&C has continued to grow strongly whilst the political process has hardly moved on. The 2007 Bali agreement is little more than a statement of intent by policy-makers to make some of those "courageous decisions" by 2009. They will need all the help and encouragement they can get.



CARBON COUNTDOWN CAMPAIGN

GCI is conducting a global campaign for adoption of Contraction & Convergence as the UNFCCC-compliant strategic framework for combating dangerous climate change. The campaign will display the C&C logo and will seek commitment on the part of organisations carrying the logo to propagate the case for C&C. We believe that corporate leaders have an important part to play in determining how the global community addresses climate change. Moreover, government will depend on the organisations those leaders represent to contribute greatly to achievement of the ambitious national and international objectives that follow.

The campaign is open to a wide range of organisations including: business, professional bodies, academic institutions, local government, health services, NGO's and many others.

OBJECTIVES OF THE CAMPAIGN

The global community continues to generate dangerous rates of global climate change faster than it acts to avoid it. The international challenge is to reverse this.

The campaign supports the overall GCI objective of establishing C&C at the core of government climate change strategy in the UK and internationally, leading to formal adoption by the UN and its members.

The specific objectives are to:

- Promote awareness of Contraction & Convergence, extending and formalising the constituency of support
- Enlist and support organisations that commit to campaigning for C&C
- Encourage those organisations to adopt the highest standards of carbon reduction
- Support GCI's on-going research in climate change risk assessment and mitigation, as part of the UNFCCC process.

THE DECLARATION

Corporate leaders are invited, on behalf of their organisations, to sign the Contraction & Convergence Declaration shown below.

The organisation will agree to:

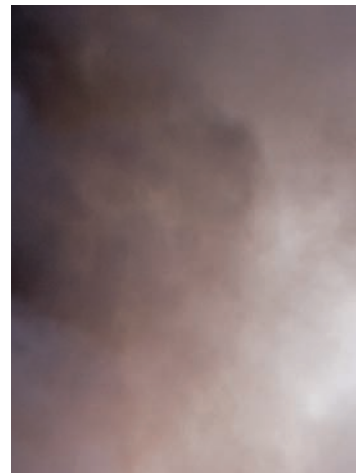
- Support Contraction & Convergence as the formal basis of UNFCCC negotiations for a global agreement on climate,
- Be entered on an open global C&C register,
- Informally advocate the Declaration to others within a sector-relevant community,
- Supply executive level signature endorsing these conditions and the Declaration.

The Global Commons Institute will: -

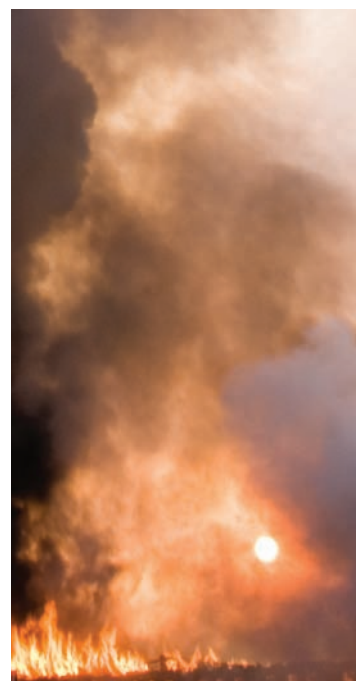
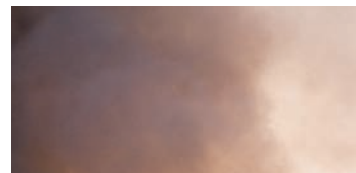
- Maintain a public register of signatory organisations
- Publish periodic research and survey materials related to climate change issues and the campaign
- Keep the UNFCCC and other relevant bodies periodically updated with progress
- Inform elected political representatives, forming cross-party consensus on climate change policy, of progress in developing the C&C constituency.

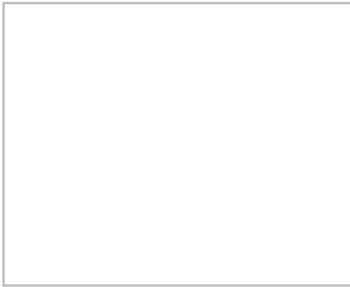
Organisations can also choose to display the C&C logo on house media, under licence.

The term "Contraction & Convergence" and the C&C logo are the Trade Mark of GCI. This is to protect the integrity of the concept and prevent dangerous compromise that places irrational aspiration above rational principle. The pressure to compromise in this way will increase as negotiations proceed. The Kyoto Protocol is an example; it has obscured the global objective of a clearly quantified safe and stable level of concentrations and the need for a trajectory to this by design. What follows in 2012 must be fit for this purpose.



GCI is conducting a global campaign for adoption of Contraction & Convergence as the UNFCCC-compliant strategic framework for combating dangerous climate change.





DECLARATION FOR CONTRACTION & CONVERGENCE®

- 1 The United Nations Framework Convention on Climate Change (UNFCCC) has the objective of safe and stable greenhouse gas concentrations in the atmosphere based on the principles of precaution and equity.
- 2 Contraction & Convergence® (C&C) is the rights-based, global climate mitigation framework, proposed to the United Nations by the Global Commons Institute (GCI) to achieve that objective.
- 3 It enables greenhouse gas scenarios for a safe climate to be calculated and universally shared by negotiation, enabling policies and measures to be organised internationally at rates that avoid dangerous global climate change.
- 4 Rates of contraction and convergence may be revised periodically as scientific understanding of the relationship between rising concentrations and their impacts on our world develops.
- 5 C&C PROPOSES: -
 - (a) 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 by the UNFCCC
 - (b) The international sharing of this budget as a pre-distribution of entitlements that result from a negotiable rate of linear convergence to equal shares per person globally by an agreed date.
- 6 These entitlements will be internationally tradable.
- 7 We, the undersigned, endorse the above and encourage members of the international community to do likewise so that adoption of the Contraction & Convergence® strategic framework is achieved as soon as possible.

THE GLOBAL COMMONS INSTITUTE

6

PARTICIPATION IN THE UNFCCC PROCESS

The Global Commons Institute is a London based not-for-profit organisation founded after the UN's Second World Climate Conference in 1990. Since then it has contributed to the work of the United Nations Framework Convention on Climate Change and the Intergovernmental Panel on Climate Change.

GCI made significant contributions to the original development of the UN Convention which was eventually agreed at the Earth Summit in Rio de Janeiro in June 1992. Its objective was defined as stabilising the rising greenhouse gas concentration of the global atmosphere. Its principles of equity and precaution were established in international law. Climate scientists had previously shown that a deep overall contraction of GHG emissions from human sources is a prerequisite to achieving the objective of the UNFCCC.

Negotiations to achieve this contraction began in 1995, administered by the specially created UNFCCC Secretariat. At the request of the IPCC, from 1992 to 1995 GCI contributed analysis highlighting the worsening asymmetry, or 'Expansion and Divergence', of global economic development. It became clear that the global majority most damaged by climate change were not those who were causing the damaging GHG emissions. GCI developed the Contraction & Convergence model of future emissions to provide a sustainable basis for resolving this inequity.



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 representatives stated, "C&C contains elements for the next agreement that we may ultimately all seek to engage in".

Since then C&C has been widely referenced in the debate on achieving the UNFCCC objectives. However, there has been no significant progress on a global agreement for the prevention of dangerous climate change since Kyoto was first penned over ten years ago.

GCI has continued to gain international support for C&C from UN organisations, national governments, business, academic and professional institutions as well as many others, as a suitable basis for a full-term UNFCCC-compliant agreement (see Section 10, C&C Support).

CLIMATE RISK RESEARCH

GCI is committed to on-going research into climate risk assessment. When the IPCC published its Fourth Assessment Report (AR4) in 2007, it included for the first time 'coupled' modelling for emissions control scenarios alongside the uncoupled modelling that has been shown in its Assessment Reports since 1994.

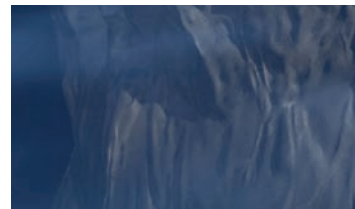
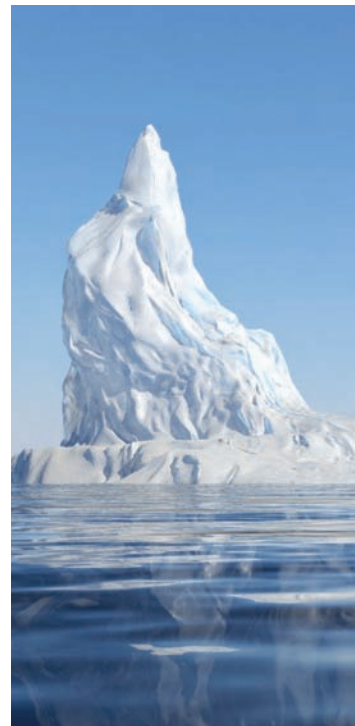
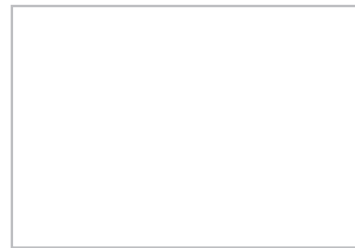
Coupled Atmosphere-Ocean General Circulation Models (AOGCMs) used by the UK's Hadley Centre are the most complex climate models in use, consisting of an Atmosphere General Circulation Model (AGCM) coupled to an Ocean General Circulation Model (OGCM). Some recent models include the biosphere, carbon cycle and atmospheric chemistry as well. AOGCM modelling introduces the effects of positive feedbacks from carbon sinks and can be used for the prediction and rate of change of future climate.

Following detailed investigation of the modelling results in IPCC AR4, GCI was able to confirm with IPCC and Hadley that the new evidence points to the need for zero emissions globally by about 2050 to keep below 450ppmv atmospheric CO₂ concentration. This level is the most frequently cited maximum within which it may be possible to arrest the rise in global temperature to within a 2°C increase above pre-industrial levels. These results corroborate the risk-analysis previously carried out by the GCI for the UK All-Party Parliamentary Group on Climate Change (APPGCC), shown in summary in Section 8 below.

There is now further evidence of increasing carbon sink failure, since publication of IPCC AR4. This is likely to give rise to greater acceleration in growth of GHG concentration levels.

GCI DIRECTOR

Aubrey Meyer is the Director of the Global Commons Institute responsible for formulation of Contraction & Convergence. His contribution to climate change mitigation has been recognised with awards including the Andrew Lees Memorial Award 1998, the Schumacher Award in 2000, the Findhorn Fellowship in 2004, a City of London Lifetime Achievement award in 2005. In 2007 he was made an Honorary Fellow of the Royal Institute of British Architects (RIBA) and received the UNEP FI Civil Society Carbon Leadership Award.



"There is now further evidence of increasing carbon sink failure. This is likely to give rise to greater acceleration in growth of GHG concentration levels."



7 LINKS

Carbon Disclosure Project (CDP):

<http://www.cdproject.net/>

Corporate Leaders Group on Climate Change:

www.cpi.cam.ac.uk/bep/clgcc

European Commission - Environment:

<http://ec.europa.eu/environment/climat/eccp.htm>

FTSE4Good:

<http://www.ftse4good.com/>

G8:

<http://www.g-8.de/Webs/G8/EN/Homepage/home.html>

Global Commons Institute

<http://www.gci.org.uk/>

Global Reporting Initiative (GRI):

<http://www.globalreporting.org/Home>

Hadley Centre:

<http://www.metoffice.gov.uk/research/hadleycentre/>

Hansen, James: Director of the NASA Goddard Institute for Space Studies and Adjunct Professor at the Columbia University Earth Institute, Member of the US National Academy of Sciences:

<http://www.giss.nasa.gov/staff/jhansen.html>

International Panel on Climate Change (IPCC):

<http://www.ipcc.ch/>

Kyoto Protocol:

http://unfccc.int/kyoto_protocol/items/2830.php

State of California:

<http://www.climatechange.ca.gov/>

Stern Review:

<http://www.sternreview.org.uk>

UK Climate Change Bill:

<http://www.defra.gov.uk/environment/climatechange/uk/legislation/index.htm>

UNEP Finance Initiative (UNEP FI):

<http://www.unepfi.org/>

United Nations Framework Convention on Climate Change (UNFCCC):

<http://unfccc.int/2860.php>

US Environmental Protection Agency:

<http://www.epa.gov/climatechange/policy/index.html>

World Economic Forum (WEF):

<http://www.weforum.org/en/index.htm>

GCI LINKS

<http://www.gci.org.uk/briefings/zew.pdf>

http://www.gci.org.uk/briefings/UNFCCC&C_A_Brief_History_to1998.pdf

<http://www.gci.org.uk/Endorsements/UNEPFI5f.pdf>

http://www.gci.org.uk/briefings/AFRICA_GROUP.pdf
COP-3 1997 UNFCCC

Transcript COP-3 C&C agreed in 1997

http://www.gci.org.uk/temp/COP3_Transcript.pdf

The C&C Booklet 13 languages from COP-11 12/2005: -

<http://www.gci.org.uk/briefings/MONTREAL.pdf>

Archives covering twenty year history of this campaign:

http://www.gci.org.uk/Archive/Mega_Doc_1989_2004.pdf

http://www.gci.org.uk/Archive/All_2000_2007_reduced_file_size.pdf

2004 House of Commons Environmental Audit Committee and result: -

http://www.gci.org.uk/correspondence/EAC_response_GCI_300904.pdf

http://www.gci.org.uk/briefings/EAC_Final_C&C.pdf

C&C briefing to the May 2006 all-party enquiry into climate-consensus and result: -

http://www.gci.org.uk/briefings/APGCC_Evidence_single_A4_pages.pdf

http://www.gci.org.uk/briefings/Consensus_Report.pdf

The UK House of Commons All Party Parliamentary Group on Climate Change [APPGCC] have adopted C&C and a DVD commissioned by the Group presenting Contraction & Convergence has been distributed to all UK MPs and Peers:

Eminent spokespersons interviewed on the DVD:

http://www.gci.org.uk/images/Contraction_and_Convergence_Challen_et_al.mpg

Some promotional material:

http://www.gci.org.uk/Movies/Contraction_and_Convergence_Promo.mpg

Key C&C Animation with coupled models/sink-failure:

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe



8

CLIMATE RISK ASSESSMENT

Centre-spread overleaf charts the UNFCCC Objective & Principles, the Development Benefits of Growth versus the growth of Climate Change Related Damage Costs.

It is online at: - http://www.gci.org.uk/images/Proportionate_Response.pdf
Columns one and two address the objective and principles of the UNFCCC.
Columns three and four compare the development benefit of growth with the growth of climate damage and costs. The left hand side of each graph shows:

- Expanding fossil fuel emissions of CO₂ measured in billions of tonnes of carbon between 1800 – 2000.
- Rising concentration of atmospheric CO₂ as parts per million by volume (ppmv) between 1800 – 2000.

The key questions for integration are in four columns:

- Column 1: Contraction and Concentration: what is a safe level of concentrations and, in the light of sink failure, how rapid must contraction be to avoid GHG concentration going too high in future?
- Column 2: Contraction & Convergence: what is the internationally equitable agreement necessary to ensure this level is not exceeded?
- Column 3: Damage costs and insecurity: what is the environmental and economic damages trend associated with this analysis?
- Column 4: Contraction and Conversion: what is the rate at which we must convert the economy away from fossil fuel dependency?

Each Row has a different level of Risk projected across the four columns:

ACCEPTABLE RISK:	C1 (bottom row) global GHG emissions contraction complete by 2050 so concentrations end up around 400/450 ppmv with damages potentially still under control.
DANGEROUS RISK:	C2 (middle row) global GHG emissions contraction complete by 2100 so concentrations keep going up through 550/750 ppmv with the illusion of progress maintained, while damages are going out of control.
IMPOSSIBLE RISK:	C3 (top row) global GHG emissions contraction complete by 2200 so concentrations keep going up through 550/950 ppmv while the illusion of progress is being destroyed, damages costs are destroying the benefits of growth very quickly and all efforts at mitigating emissions become futile.

In each graph, different futures are projected on the right-hand side as scenarios or rates of change that are linked to the objective of the UNFCCC where three levels of risk for stabilising the rising concentration of CO₂ are understood in the light of the rising fraction of emissions that stays airborne. 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]



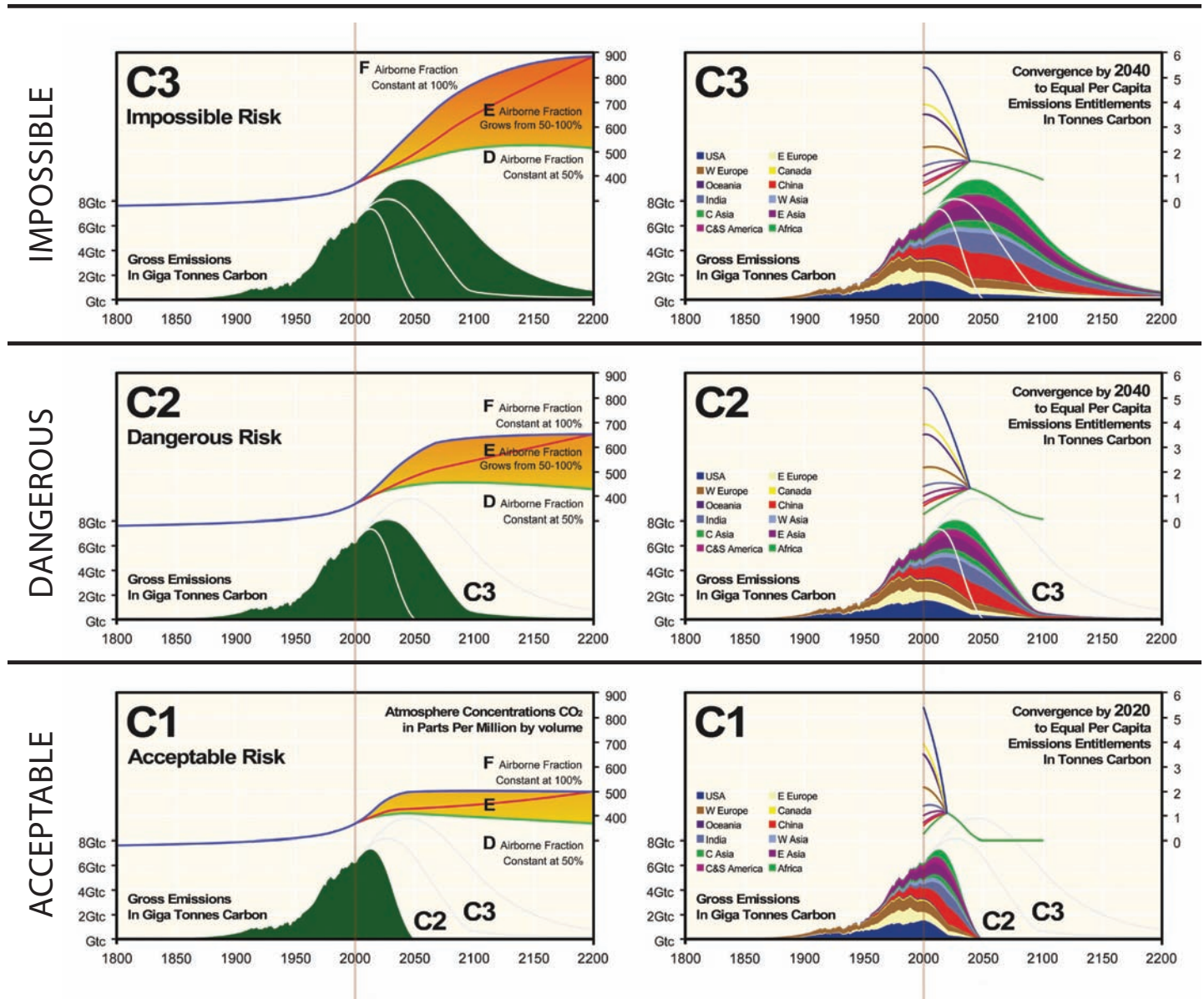
UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

OBJECTIVE

CONTRACTION & CONCENTRATIONS

PRINCIPLES: PRECAUTION & EQUITY

CONTRACTION & CONVERGENCE



This entire animation is on-line at: http://www.gci.org.uk/images/Final_presentation.exe

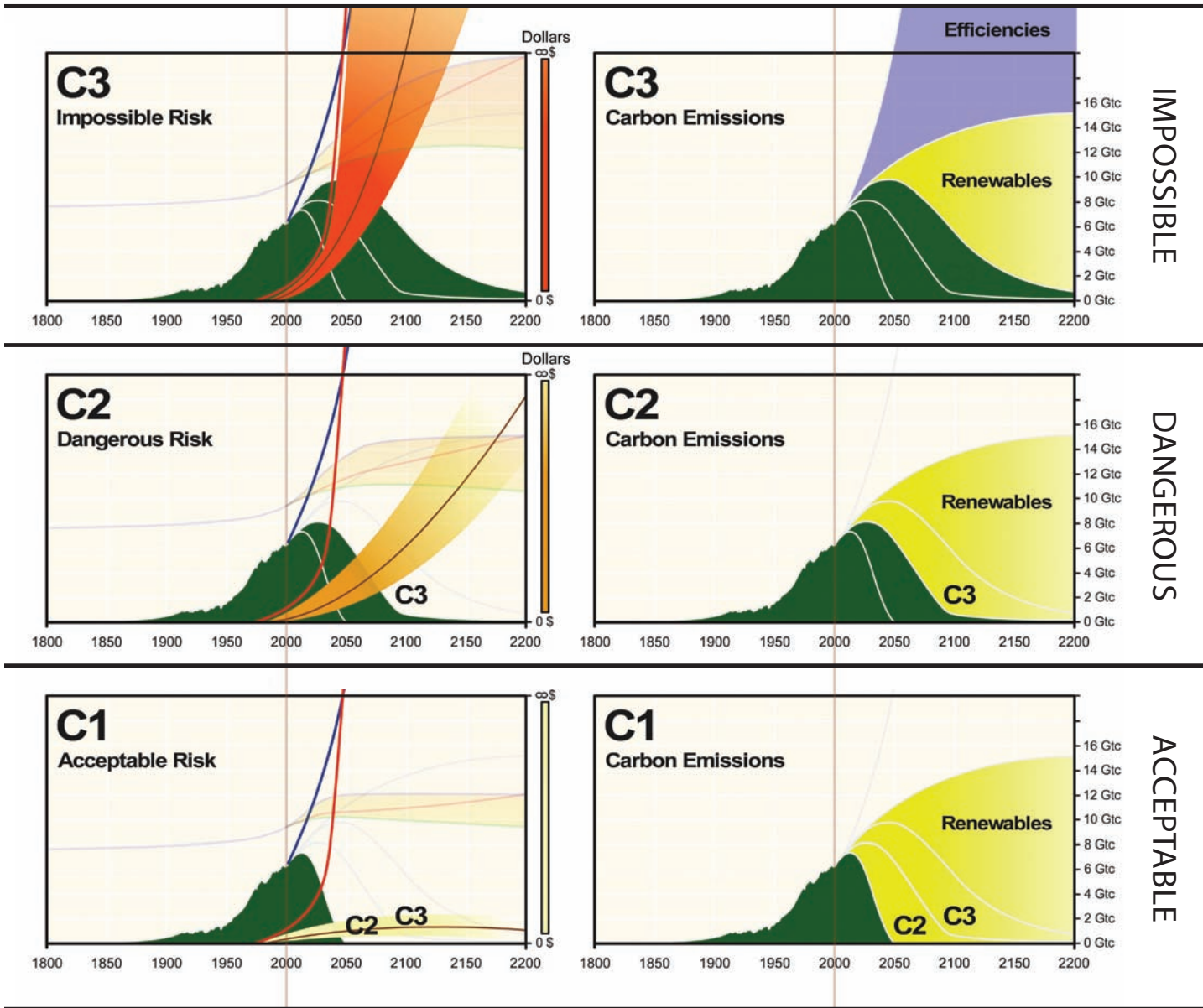
GLOBAL CLIMATE CHANGE DAMAGE-COSTS/DEVELOPMENT-BENEFITS



DANGEROUS CLIMATE CHANGE

UN/SUSTAINABLE DEVELOPMENT

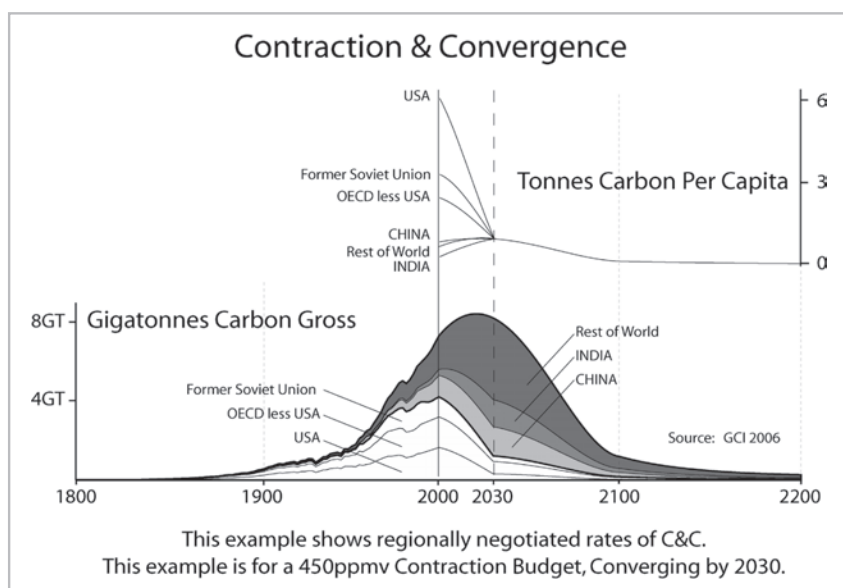
DAMAGE COSTS & INSECURITY

CONTRACTION & CONVERSION



Touch buttons  to advance within scenes and logos  to advance between scenes

9 C&C TECHNICAL DEFINITION



"C&C contains elements for the next agreement that we may ultimately all seek to engage in."

US delegation to Kyoto conference, December 1995

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 & 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

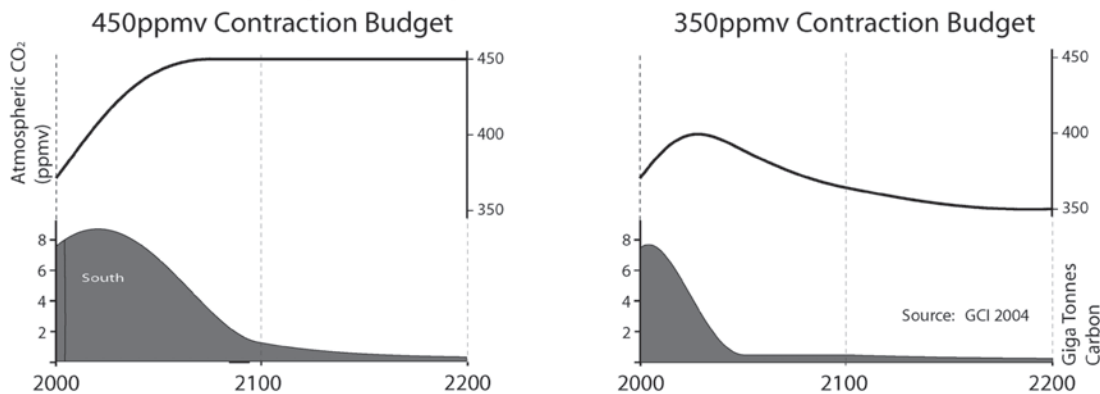
Council on Global Change in its recommendations. [7] In 2003 the secretariat of the UNFCCC said the objective of the UNFCCC, "inevitably requires 'Contraction & Convergence.'" [8] The Latin America Division of the World Bank in Washington DC said, "C&C leaves a lasting, positive and visionary impression 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 "Millennium Assessment." In 2005, the UK Government hosted the G-8 summit. The Government committed this event to deal 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 [page 116]
- [4] http://www.gci.org.uk/nairobi/AFRICA_GROUP.pdf
- [5] http://www.gci.org.uk/temp/COP3_Transcript.pdf
- [6] http://www.gci.org.uk/Endorsements/RCEP_Chapter_4.pdf
- [7] http://www.gci.org.uk/Endorsements/WBGU_Summary.pdf
- [8] 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>

1. "Contraction & 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

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.

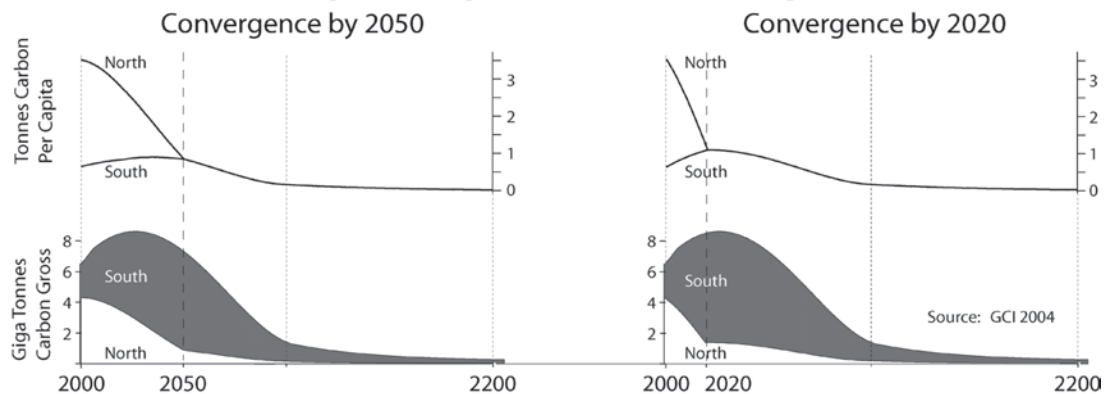
of precaution and equity, as already agreed in the "United Nations Framework Convention on Climate Change" (UNFCCC), provide the formal calculating basis of the C&C framework that proposes:

- * 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 above - 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 below) and [b] that a population base-year in the C&C schedule is agreed).

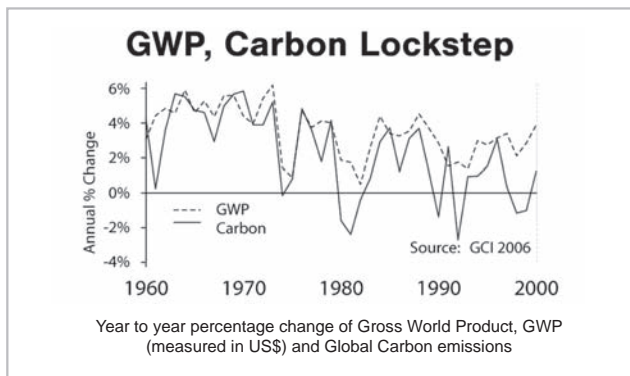
- * Negotiations for this at the UNFCCC should occur principally between regions of the world, leaving negotiations between countries primarily within their respective regions, such as the European Union, the African Union, the US, etc.
- * The inter-regional, inter-national and intra-national tradability of these entitlements in an appropriate currency such as Energy Backed Currency Units [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 [6].

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.

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. 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 images opposite).



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 (Image 3).
6. The UK's Royal Commission on Environmental Pollution [7] and the German Advisory Council on Global Change [8] both make their recommendations to governments in terms of formal C&C. Many individual and institutional statements supporting C&C are now on record. [9,10] The Africa Group of Nations formally proposed it to the UNFCCC in 1997. [11] It was agreed in principle at COP-3 Kyoto 1997 [12]. C&C meets the requirements of the Byrd Hagel Resolution of the US Senate of that year [13] the European Parliament passed a C&C resolution in 1998 [13] the UK Parliament has reported on C&C [15, 16, 17].
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, with or without the Kyoto Protocol entering into force.

- [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
- [5] <http://www.feasta.org/events/debtconf/sleepwalking.pdf>
- [6] http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe
- [7] <http://www.rcep.org.uk/pdf/chp4.pdf>
- [8] http://www.wbgu.de/wbgu_sn2003_engl.pdf
- [9] http://www.gci.org.uk/Archive/1989_2004
- [10] <http://www.gci.org.uk/consolidation/Sasakawa.pdf>
- [11] <http://www.gci.org.uk/papers/zew.pdf> [appendix C, page 16]
- [12] http://www.gci.org.uk/temp/COP3_Transcript.pdf
- [13] <http://www.gci.org.uk/briefings/C&C&ByrdHagel.pdf>
- [14] http://www.gci.org.uk/consolidation/UNFCCC&C_A_Brief_History_to1998.pdf [pp 27 - 32]
- [15] http://www.gci.org.uk/EAC/Climate_C&C_Report.pdf
- [16] <http://www.gci.org.uk/links/detail.pdf>
- [17] http://www.gci.org.uk/briefings/Consensus_Report.pdf

The charts on the page opposite 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.

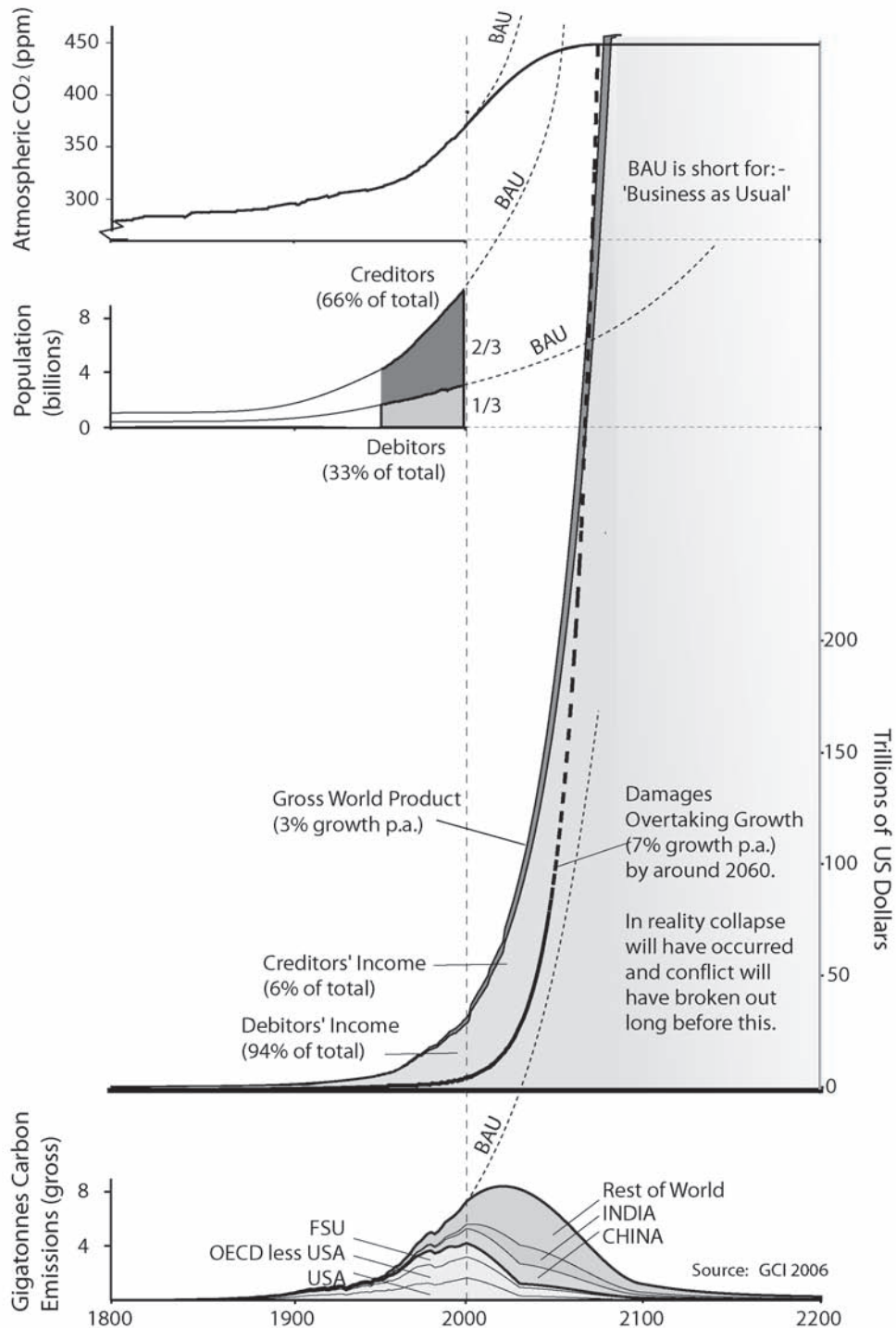
A new feature shown is the rate of economic damages from increasingly 'unnatural disasters' (measured as 'uninsured economic losses' by Munich Re) now rising at 7% per annum, twice the rate of global growth. Another is the devastating and worsening economic asymmetry of "Expansion and Divergence" (E&D). 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 & 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 un-economic. When damages are subtracted from this growth, it is clear the net-growth is increasingly negative.

Asymmetric and damaging net-negative growth is recipe for conflict. The bottom-line is that there is

no sustainable energy source that can realistically support this "Expansion and Divergence".

Contraction & Convergence can help cope with the limits-to-growth and structure and stabilise the transition to an equilibrium state based on:-

- (1) resource conservation,
- (2) global rights,
- (3) renewable energy and
- (4) ecological recovery.

10

C&C SUPPORT

	<p>"Long before the end of the UNFCCC negotiation, GCI presented a proposal on Contraction & Convergence. We all in this room know the model. Level of contraction and timing of convergence should be negotiated on the basis of the precautionary principle. Suggestions for emission reductions are well known and convergence should be achieved at medium term to satisfy legitimacy."</p> <p>RAUL ESTRADA – CHAIRMAN KYOTO PROTOCOL NEGOTIATIONS</p>
	<p>"Achieving the goal of the climate treaty [stabilize GHG concentrations] inevitably requires Contraction & Convergence."</p> <p>JOKE WALLER HUNTER - UNFCCC EXECUTIVE SECRETARY</p>
	<p>"Success in the Climate Change negotiations requires a deal between the 'Quad', the USA, China, India and the EU. This is possible around the principle of "Contraction & Convergence". The US insistence on India and China accepting targets was not always merely a negotiating tactic. The idea of per capita equity in the Contraction & Convergence analysis of the Global Commons Institute was seriously discussed in all four capitals in the mid-nineties and the Byrd-Hagel Resolution of the US Senate before Kyoto and the 94 – 0 vote was a statement that such a deal with India and China meant progress."</p> <p>TOM SPENCER - FORMER PRESIDENT GLOBE INTERNATIONAL</p>
	<p>"Equity guides the route to global ecological recovery. Tradable Emissions Quotas will make matters worse unless set as targets and timetables for equitable emissions reductions overall. This means convergence at sustainable parity values for consumption on a per capita basis globally."</p> <p>INDIAN GOVERNMENT - COP 1 1995</p>
	<p>"When we ask the opinions of people from all circles, many people, in particular the scientists, think 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."</p> <p>CHINA STATE COUNSELLOR DR SONG JIAN - COP 3 1997</p>
	<p>"We support India and propose Contraction & Convergence of global emissions. You cannot talk about trading if there are not entitlements; Contraction & Convergence comes into play when we talk about issues of equity"</p> <p>THE AFRICA GROUP KYOTO - COP 3 1997</p>
	<p>"It does seem to us that the proposals by India and others who speak to Contraction & Convergence are elements for the future, elements perhaps for a next agreement we may ultimately all seek to engage in."</p> <p>UNITED STATES OF AMERICA - COP 3 1997</p>
	<p>"A set of common principles must be based on a worldwide binding limit on global emissions consistent with a maximum atmospheric concentration [contraction] 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."</p> <p>EUROPEAN PARLIAMENT RESOLUTION 1998</p>
	<p>Per capita CO2 emissions meet in the middle. "In the final analysis the per capita emissions in emerging economies will meet those of industrialised countries. I cannot imagine the emerging economies will one day be permitted to emit more CO2 per capita than we in the industrialised countries. With this proposal, emerging nations with rapidly expanding economies could be on board the global climate negotiations scheduled for 2009."</p> <p>ANGELA MERKEL - PRESIDENT OF GERMANY 2008</p>
	<p>"The international climate regime should be based on legitimate principles of equity, such as long-term convergence of emission levels per capita in the various countries."</p> <p>NICHOLAS SARKOZY - PRESIDENT OF FRANCE 2008</p>
	<p>Attempts to deny C&C's pure logic - ecological, political, social and human - are ultimately futile. Nature won't be fooled. Acceptance of C&C brings not imprisonment, but new unfound freedom; 'Justice without Retribution,' as Nelson Mandela once demanded.</p> <p>DAVE HAMPTON - CARBON COACH</p>

<p>"Sweden strives for global emissions converging to equal per capita for all. KJELL LARSSON - ENVIRONMENT MINISTER 2000</p>	
<p>"Emissions should converge towards equal emissions per inhabitant." 3RD NATIONAL CLIMATE COMMUNICATION 2001</p>	
<p>"Contraction & Convergence secures a regime where all nations join efforts to protect our global commons without the risk that any country is deprived of its fair share of the common environmental emission space." SVEND AUKEN - DANISH ENVIRONMENT MINISTER 1999</p>	
<p>"We are conscious that in the end, we will have inevitably to evolve towards a more equitable partition between the North and the South of the capacity of our common atmosphere to support greenhouse gases by a gradual convergence of levels of emissions on a per capita basis." OLIVIER DELOUZE - BELGIAN ENVIRONMENT MINISTER 2000</p>	
<p>"If we agree to per capita allowances for all by 2030 [so that global emissions stay below 450 ppm 2o global temperature rise] then assigned amounts for Annex One countries would be drastically reduced. However, because all countries would have assigned amounts, maximum use of global emissions trading would strongly reduce the cost of compliance. In such a scenario Industrial Countries would have to do more, but it would be cheaper and easier." JAN PRONK COP6 2000 - DUTCH ENVIRONMENT MINISTER</p>	
<p>"We do not believe that the ethos of democracy can support any norm other than equal per capita rights to global environmental resources." PRIME MINISTER INDIA - COP 8 2002</p>	
<p>"To forestall further damage deeper cuts in greenhouse gas emissions than as presently contained in the Kyoto Protocol are urgently required and these must be organised as universal equal entitlements as engraved in the principles of the Contraction & Convergence Framework." KENYA GOVERNMENT - COP 11 2005</p>	
<p>"Conference recognises the urgent need for action to mitigate climate change given the potentially disastrous consequences for the planet. We pledge to achieve a low carbon emitting society and commit the SNP to supporting the adoption of the internationally-recognised principle of "Contraction & Convergence"" ALEX SALMOND - LEADER SCOTTISH NATIONAL PARTY</p>	
<p>Liberal Democrats argue for the principle of contraction and convergence with the long-term goal of equalising per capita emissions globally. CHRIS HUHNE - LIBERAL DEMOCRATS</p>	
<p>"I urge the UK Government to provide leadership on climate change by committing itself to Contraction & Convergence as the framework within which future international agreements to tackle climate change are negotiated. I confirm that the party also supports this pledge." SIMON THOMAS - POLICY DIRECTOR PLAID CYMRU</p>	
<p>"The Kyoto Protocol says nothing about the future beyond 2012. To address that timescale the Green Party advocates the adoption by the UNFCCC of a framework of Contraction & Convergence (C&C) as the key ingredient in the global political solution to the problem of Climate Change mitigation, and urges the UK and other governments use it as the basis for negotiations in the international fora." GREEN PARTY REAL PROGRESS - CLIMATE POLICY STATEMENT</p>	



"To make provision for the adoption of a policy of combating climate change in accordance with the principles of . . .
"Contraction & Convergence" and for connected purposes."
COLIN CHALLENGER - CHAIR ALL-PARTY GROUP CLIMATE CHANGE



Any framework which involves radical emission reductions would in practice resemble the Contraction & Convergence approach advocated by the Global Commons Institute. Indeed, in terms of domestic policy aims, the UK Government has already implicitly accepted this approach in adopting the 60% carbon reduction target for 2050; and it is therefore inconsistent not to adopt such an approach internationally. We do not see any credible alternative and none was suggested in evidence to our inquiry. We therefore recommend that the UK Government should formally adopt and promote Contraction & Convergence as the basis for future international agreements to reduce emissions.
ENVIRONMENTAL AUDIT COMMITTEE HOUSE OF COMMONS



"The Government should press for a future global climate agreement based on the Global Commons Institute's "Contraction & Convergence" approach as the international framework within which future international agreements to tackle climate change are negotiated. These offer the best long-term prospect of securing equity, economy and international consensus."
ROYAL COMMISSION ON ENVIRONMENTAL POLLUTION



"Contraction & Convergence helps greatly. It is inclusive and makes clear what needs to be achieved. Without such a shared model, there will not be the necessary relationships that create the new and exciting possibilities and the trust for shared action."
CHRIS MOTTERSHEAD - DISTINGUISHED ADVISOR ENERGY & ENVIRONMENT BRITISH PETROLEUM PLC



"Almost any conceivable long-term solution to the climate problem will embody a high degree of contraction and convergence. Atmospheric concentrations of GHGs cannot stabilize unless total emissions contract; and emissions cannot contract unless per capita emissions converge."
JOHN ASHTON - UK CLIMATE AMBASSADOR PEW REPORT



"The solution to climate change requires a globally equitable model of emissions reductions. The Contraction & Convergence model calls for already large polluting countries to cut their emissions, while newly industrialising countries increase theirs, up to the point that we converge at a sustainable level. That, I hope, will be the ethos that will guide cities around the world."
KEN LIVINGSTONE - MAYOR OF LONDON



"I admire GCI's Contraction & Convergence model and their now nearly twenty year crusade by to get it established as the international basis of policy to meet the objective of the UN Climate Treaty. Their presentation of it is a dauntingly hard act to follow."
NICK BUTLER - DIRECTOR CAMBRIDGE ENERGY STUDIES



"I support the concept of Contraction & Convergence as does the Environment Agency"
SIR JOHN HARMAN - CHAIRMAN UK ENVIRONMENT AGENCY



"... there is an emerging proposal here that is important and helpful - a broad long-term commitment to equal per capita emissions. It's a tough proposal. If we take it as part of the progressive agenda to move to that it will be helpful in bringing the world together as it brings the developing countries as part of this effort with an ethical and political commitment, not immediate, but towards convergence in terms of per capita emissions."
KEMAL DERVIS - CHIEF ADMINISTRATOR UNDP

"Business and government cannot solve the problem alone. Solutions must be global and participation of all major emitters is essential. Companies cannot determine the scale of needed investment without a stabilization threshold for greenhouse gas concentrations. The short-term "patchwork" of the Kyoto Protocol is not cost-effective. A global long term, market-based policy framework in a new partnership with China, India, Brazil, South Africa and Mexico is needed. Emissions rights with common metrics that can be adjusted over time to reflect evolving developments will ensure that a truly global solution to the problem is achieved."

G8 CLIMATE CHANGE 2005 BUSINESS LEADERS



"A formulation that takes the rights-based approach to its logical conclusion is that of Contraction & Convergence" [GCI]

IPCC WG3 THIRD ASSESSMENT REPORT



"The global framework develops so that CO2 concentration in the atmosphere is held at or below 400 ppmv. This long-term climate objective is met by ensuring that short-term targets are linked to and consistent with it, with a gradual transition towards a system of equal per capita rights to use the absorptive capacity of the atmosphere."

STEPHEN BYERS - MP INTERNATIONAL CLIMATE TASK FORCE



"The Byers report refers to a new basis of equity and common, but differentiated, responsibilities. We need environmental equity with a cap and trade programme. Contraction & Convergence is the name that we must give to it. We must link that battle with the battle against poverty."

UK ALL-PARTY PARLIAMENTARY GROUP CLIMATE CHANGE



"Policy-makers need consensus on a global framework for climate stability based on principles of precaution and equity such as Contraction & Convergence."

UNEP FINANCIAL INITIATIVE



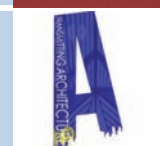
There is no other method of rationally and ethically guiding global reductions in greenhouse gas emissions."

ROYAL INSTITUTE OF BRITISH ARCHITECTS 2006



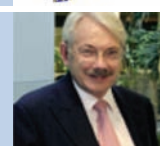
"The UIA commits itself to campaigning for the most effective outcome possible at COP15 through advocacy of an emission limitation agreement based on the principle of contraction and convergence."

INTERNATIONAL UNION ARCHITECTS TURIN CONFERENCE 2008



There is a desperate need to create an effective policy for preserving healthy ecosystems by providing incentives and the resources to do so. The Contraction & Convergence approach promoted by UN is a well thought through and potentially powerful approach which also addresses fair distribution.

PETER HEAD - DIRECTOR ARUP



"The per capita approach is generally referred to as 'contraction and convergence' (Global Commons Institute 2000) and has figured in the international debate for some time. It has been promoted by India and has been discussed favourably in Germany and the United Kingdom (German Advisory Council on Global Change 2003; UK Royal Commission on Environmental Pollution 2000). Recent reports have shown increasing support for this approach internationally: see, for example, Stern (2008) and the Commission on Growth and Development (2008).

ROSS GARNAUT - AUSTRALIAN GOVERNMENT ECONOMIST



"An international agreement is essential. It must be based on the criteria of effectiveness, efficiency and equity. Effectiveness demands a long-term global goal capping global emissions and providing a long-term trajectory for investment in low carbon technologies. This should be at least a halving of global emissions by 2050. A pragmatic principle of equity would require an equalisation of per capita emissions by then. This will require developed countries to cut by around 80%."

NICHOLAS STERN - UK GOVERNMENT ECONOMIST





"Contraction & Convergence - The logic is compelling. It is a formula for future global emissions that could, without exaggeration, save the world. Some environment groups such as Greenpeace see the formula as a dead-end. They are profoundly wrong."
Vote for New Statesman best climate framework
Results January 2008 . . .

2% are saying Kyoto Protocol
81% are saying Contraction & Convergence
12% are saying Kyoto2
5% are saying Greenhouse Development Rights



"A framework involving technology together with social, political and economic change with quantifiable targets is the only way forward. This is why we support the well-known concept of "Contraction & Convergence" (C&C) as proposed by the Global Commons Institute as the basis for the agreement. It satisfies developing countries' demands for equity and US demands that major developing countries such as China and India be involved in any targets."
SCIENTISTS FOR GLOBAL RESPONSIBILITY



"The WBGU recommends emissions rights be allocated according to the "Contraction & Convergence" approach."
GERMAN ADVISORY COUNCIL



"I note what you say about Aubrey Meyer's Contraction & Convergence proposal and I agree that in the fight against climate change C&C makes an important contribution to the debate on how we achieve long-term climate stability taking account of the principles of equity and sustainability."
TONY BLAIR - UK PRIME MINISTER



"The Churches can give their backing to Contraction & Convergence publicly and unanimously because at its core, it is just. It appears Utopian only if we refuse to contemplate the alternatives honestly."
DR ROWAN WILLIAMS - ARCHBISHOP OF CANTERBURY



"Climate change is likely to impose massive economic costs. The case for being prepared to spend huge resources to limit it is clear as the cost will be repaid many times over by the avoidance of disaster. The developed world does not have the moral right to increase the risk of flooding in Bangladesh. Long term the only sound strategy is that of contraction and convergence cutting greenhouse emissions to the point where they are shared equally, worldwide, on a per capita basis."
LORD ADAIR TURNER - CHAIRMAN OF CLIMATE COMMITTEE



"We believe contraction and convergence is the best way forward because it recognises that growth in energy use in developing countries will happen. Even if we could achieve a reverse in trends of energy use in developed countries, there is not yet anywhere enough alternative and renewable energy available to get us off of fossil fuels fast enough. For the developing world the situation is even more urgent because that is where most energy intensive industrial and manufacturing activity is heading."
TIM SMIT - CEO THE EDEN PROJECT



"An approach receiving significant attention is Contraction & Convergence, the science-based global climate-policy framework proposed by the Global Commons Institute with the objective of realizing safe and stable greenhouse gas concentrations in the atmosphere. It applies principles of precaution and equity, principles identified as important in the UNFCCC but not defined, to provide the formal calculating basis of the C&C framework."
BOB WATSON - FORMER CHAIRMAN IPCC

"Contraction & Convergence - and its mechanism for financing sustainable development is the only proposal so far which is global, equitable and growth-oriented."
CONGRESSMAN JOHN PORTER CHAIR, GLOBE USA



"The idea of 'Contraction & 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."

DR CLIVE HAMILTON - THE AUSTRALIA INSTITUTE



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

MRS. RUNGANO KARIMANZIRA - CHAIR, AFRICA GROUP



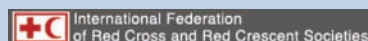
"The most realistic way to bring about the required reduction in ghg emissions which will have the combined effect of reducing the damage imposed on the insurance industry and encouraging the transition to renewable energy) is that proposed in the concept of Contraction & Convergence."

UK CHARTERED INSURANCE INSTITUTE



"Any political solution to climate change will need to be based on reductions in emissions, otherwise known as contraction. As the climate is owned by no one and needed by everyone, we will also have to move towards equally sharing the atmosphere, known as convergence. Collective survival depends on addressing both."

WORLD DISASTERS REPORT 2000 INTERNATIONAL RED CROSS/CRESCENT



"The vision of 'Contraction & Convergence' combines ecology and equity most elegantly."

HEINRICH BOELL FOUNDATION

"The assiduous campaigning over the last decade by the Global Commons Institute - based on its idea of 'contract and converge' - under which the rich nations undertake to reduce emissions even as developing nations are permitted to grow their emissions until such time as per capita emissions converge at the same level, has given this kind of approach some real credibility. So, too, has the readiness of developing countries such as China, Brazil, Indonesia and Argentina to accept emissions targets for their own counties - not least because they are already beginning to feel the impacts of climate change. The real strength of this approach is that it is based upon a trading system, with rich nations needing to purchase additional carbon credits from poorer nations."

JONATHON PORRITT - FORUM FOR THE FUTURE



"There are a number of measures (of varying scale) that can be used to reduce the amount of CO2 that is being emitted, these include: - Contraction & Convergence conceived by the Global Commons Institute (GCI) in the early 1990s consists of reducing overall emissions of GHGs to a safe level, 'Contraction', where the global emissions are reduced because every country brings emissions per capita to a level which is equal for all countries, 'Convergence'."

BMA 2008 - "HOW CAN THE IMPACT OF CLIMATE CHANGE BE REDUCED?"



"CHC advocates a global framework for action with 'contraction and convergence' a favoured option, and seek the means to influence key decision makers."

CLIMATE AND HEALTH COUNCIL



	<p>"Admiration is frequently expressed, regarding the elegance and simple logic of Contraction & Convergence and it has been widely supported by policy makers as a basis that should underlie the next stage of policy formulation."</p> <p>SIR JOHN HOUGHTON - FORMER CHAIR IPCC WORKING GROUP ONE</p>
	<p>"Many governments around the world have accepted the concept of Contraction & Convergence as the only equitable response mechanism to the threat of climate change."</p> <p>GRACE AKUMU - DIRECTOR, CLIMATE NETWORK AFRICA</p>
	<p>In the end, they will need to give much weight to equal per capita rights of emissions. They will need to allow long periods for adjustment towards such positions-within the over-riding requirement to stay within an environmentally responsible global emissions budget. One possible way of bringing these two elements together would be the "contraction and convergence" approach that has been discussed favourably in Germany and India.</p> <p>ROSS GARNAUT - CLIMATE STRATEGIST AUSTRALIAN GOVERNMENT</p>
	<p>"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 & Convergence provides a way forward that is both fair and feasible."</p> <p>JOHN RITCH - WORLD NUCLEAR ASSOCIATION</p>
	<p>"It is absolutely remarkable that the idea of Contraction & Convergence has taken such a firm hold worldwide in such a short space of time."</p> <p>TESSATENNANT-CHAIRASSOCIATIONFORSUSTAINABLE&RESPONSIBLEINVESTMENTINASIA</p>
	<p>"Contraction & Convergence is an extremely powerful idea and we are moving remorselessly towards it."</p> <p>MICHAEL MEACHER - FORMER UK ENVIRONMENT MINISTER</p>
	<p>"... an approach receiving significant attention is Contraction & Convergence [C&C] - a science-based global framework whereby total global emissions are reduced (contraction) to meet a specific agreed target, and the per capita emissions of industrialized and the developing countries converge over a suitably long time period, with the rate and magnitude of contraction and convergence being determined through the UNFCCC negotiating process. It applies principles of precaution and equity; principles identified as important in the UNFCCC but not defined."</p> <p>WORLD BANK ON CONTRACTION & CONVERGENCE</p>
	<p>"A brilliant, imaginative and simple means of reaching a just global agreement on emission reductions is called Contraction & Convergence (C&C). It was first proposed by the Global Commons Institute (GCI) in 1990. Recognition of its unique qualities as a framework for combating climate change has grown at an astonishing rate since that date."</p> <p>MAYER HILLMAN - AUTHOR OF HOW WE CAN SAVE THE PLANET</p>
	<p>"In the light of the long-term perspective two basic requirements must be met: Stabilisation of greenhouse gases in the atmosphere at a level in accordance with the overall objective of the Climate Change Convention. A fair distribution of rights and obligations, by establishing the concept of percapita emission rights for all countries, as proposed in the 'Contraction & Convergence' scheme."</p> <p>DAVID HALLMAN - WORLD COUNCIL OF CHURCHES</p>

"The Scientific Case for Setting a Long-Term Emission Reduction Target.
The framework of this study builds on the RCEP work which uses a contraction and convergence methodology. Contraction & Convergence is an international policy framework for dealing with global climate change developed by the London-based Global Commons Institute."
DEFRA ON C&C



UK building industry leaders wrote to Mr Blair saying this framework-based market is contraction and convergence. "We highlight the point made by the Corporate Leaders Group on Climate Change that getting the right global climate change framework in place is the most urgent action. The Contraction & Convergence Framework, accepted by the UN and by the Royal Commission on Environmental Pollution (amongst others) could well provide a fair structure for the engagement of all nations."
CIBSE AND ICE ON C&C



"The leading model advocating equal per capita emissions rights globally is 'Contraction & Convergence', to which all equity frameworks and proposals owe their existence."
CHRISTIAN AID



Tearfund wrote to Mr Blair saying this framework-based market is contraction and convergence. "The C&C framework is global, long-term, effective, and, importantly, equitable, without which it would stand no chance of being agreed. From the outset developing countries have a guarantee of equitable allocations and assurance as to when this would happen."
TEARFUND ON C&C



Contraction & Convergence (C&C) 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.
The approach rests on two simple principles contraction: reducing humanity's emissions to a rate that the biosphere can absorb convergence: distributing total emissions so that each person ultimately gets the same portion of the 'global budget'. The extension of C&C to all demands on the biosphere is referred to as Shrink & Share.
JONATHON LOH GFN - WWF ON C&C



"To minimise the danger of global temperature rises exceeding 2°C, a level considered dangerous, a concentration of no more than 400ppm of CO2 in the atmosphere is recommended [Byers Report] . . . and the EU's burden of responsibility to meet this science-based cap should be apportioned on the basis of equal global rights to carbon consumption."
GREENPEACE ON BYERS REPORT



"A recommendation in the Byers report is to build on the global climate change framework of both the UN Framework convention on climate change. It refers to a new basis of equity and common, but differentiated, responsibilities. We need environmental equity with a cap and trade programme. Contraction & Convergence is the name that we must give to it. We must link that battle with the battle against poverty."
COLIN CHALLEN MP - BYERS REPORT IS C&C



"Thanks very much for passing on the very nice animation of C&C and risk. One of the things we will be looking at in my newly formed group here at Victoria University in Wellington is burden sharing issues, so the new work on C&C in the UK is of interest to me."
MARTIN MANNING - IPCC TECHNICAL SUPPORT UNIT WG1



The idea of contraction and convergence is particularly persuasive as it addresses two key threats to humanity, climate change and unequal development, in one framework.
LOCAL GOVERNMENT INFORMATION UNIT UK





"The commission might have added that contraction and convergence is comprehensive, scientifically based and equitable, unlike the Kyoto Protocol, and that contraction and convergence meets every single objection raised by the United States to Kyoto."

LORD BISHOP OF HEREFORD



Aubrey Meyer has done an amazing job and has shown extraordinary persistence and ingenuity in working out a scheme of this kind, and I very much admire him for it. Above all he's laid out a kind of intellectual and legal framework which is what you need if you're going to see global arrangements in place, and these global arrangements should I believe be fully reflected in the Bill that is now before UK Parliament to regulate Climate Change

SIR CRISPIN TICKELL - DIRECTOR OF THE POLICY FORESIGHT PROGRAMME JAMES MARTIN INSTITUTE OXFORD



Contraction & Convergence includes the identification of a fixed level for stabilisation of greenhouse gas concentrations, and comprehensive global participation. Any framework that incorporates long term targets can offer countries greater certainty about their national targets and provide a clear signal to allow business to plan ahead and help drive investment in new and better technologies.

NUMBER 10 DOWNING STREET WEBSITE



"To make sense of our own actions we need to have an overall direction; contraction and convergence provides that direction."

SUNAND PRASAD - PRESIDENT OF RIBA



"Long-term convergence of per capita emission rates is an important principle that should be seriously considered in international climate change negotiations."

PRIME MINISTER GORDON BROWN AND INDIAN GOVERNMENT ON C&C



Any framework which involves radical emission reductions would in practice resemble the Contraction & Convergence approach advocated by the Global Commons Institute. Indeed, in terms of domestic policy aims, the UK Government has already implicitly accepted this approach in adopting the 60% carbon reduction target for 2050; and it is therefore inconsistent not to adopt such an approach internationally. We do not see any credible alternative and none was suggested in evidence to our inquiry. We therefore recommend that the UK Government should formally adopt and promote Contraction & Convergence as the basis for future international agreements to reduce emissions.

ENVIRONMENTAL AUDIT COMMITTEE, "THE INTERNATIONAL CHALLENGE OF CLIMATE CHANGE"



"My colleagues and I at the Royal Commission on Environmental Pollution would like to express our thanks to you and GCI for your remarkable pioneering work in establishing Contraction & Convergence as it is the basis upon which so much of our own work has been established."

SIR TOM BLUNDELL - CHAIRMAN, RCEP



"Contraction & Convergence is the approach with the most merits. It is the buzz phrase now on the negotiator's lips."

SIR DAVID KING - "THE HOT TOPIC"

"One approach on the table is contraction and convergence - rich countries contracting their emissions quickly, while developing countries are given some room to grow on condition they make cuts later."

THE AGE REPORTING ON THE G8 2008 IN TOYAKO JAPAN

"The British government has modelling under way in the most favoured method - contraction and convergence - but there is no diplomatic agreement that this is the best way to proceed."

THE GUARDIAN REPORTING ON THE G8 2008

C&C represents a far greater departure from business as usual than does Kyoto. It is strong medicine for a dire malaise, and as with all strong medicine there are potential side effects. One is that the scheme might eventually do away with world poverty and the north-south divide. Not all aspects of the proposal should displease the conservatives, for by including every human being in existence under its umbrella it obliterates concern about 'free riders' in the developing world that exists under Kyoto.

TIM FLANNERY - AUTHOR OF THE WEATHER MAKERS



When I was RIBA President we looked at Kyoto and saving 60% by 2050 looked a reasonable start. But the thing that attracted about Contraction & Convergence or C&C was that it looked at the global dimension and what is a 'fair share' of carbon emissions for your country C&C gives a framework within which to address that. We're comfortable supporting C&C and Aubrey Meyer.

JACK PRINGLE - FORMER PRESIDENT OF RIBA



The fundamental attraction of Contraction & Convergence to me is that it's logically based. It's not based on essentially market issues and arbitrary decisions about how many tons of CO2 permits are going to be allowed. It also doesn't have the risk in my view of one of the real issues with trading that some of the poorer nations and poorer peoples of the world will mortgage their future on a futures market of trading permits.

PROF PAUL JOWITT - PRESIDENT ELECT ICE



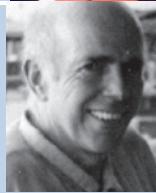
"We need to go to the United Nations and need to say both to our own citizens, our own communities and global communities through the United Nations, C&C is the only real way forward to ensure a healthy future."

ANGELA MAWLE - CEO PUBLIC HEALTH ASSOCIATION



"C&C is an excellent virtuous cycle policy tool. There are many benefits to our wellbeing of adopting it. Articulating these benefits, health and other professional groups will offer the hope and inspiration necessary to counter global warming, and so act in accordance with our obligations."

ROBIN STOTT - CHAIR CLIMATE AND HEALTH COUNCIL



"The C&C framework is very powerful as it addresses two main issues; one is the scientific basis and the rigour, and the other is our intuitive feeling about the moral needs of our community. Scientifically and in terms of equity it gives us targets, timescale and a transparent fairness that through the convergence enables us to leave our children something better than we have now."

LORNA WALKER - CABE COMMISSIONER



We can empower the UN to deliver C&C as a global policy. As climate change is the greatest threat to mankind, what better vehicle through which to get the UN pulling together again. We need to get our own politicians to press our own governments to do this. We need to get our own government to press Europe to do this. We need to use our formidable clout as Europe to get it delivered by the UN. The great thing about C&C is that it offers the prospect that if you're clever and if you really get to it, you can make this work for you, not just for the world, but for you individually and as a country.

JON SNOW - CHANNEL FOUR TV NEWS



The benefits of the C&C approach in three words are simplicity, economics and international. With a simple international structure, C&C makes economics kick in which is absolutely fundamental to getting the biggest infrastructural change in human history.

PROFESSOR MICHAEL MAINELLI - DIRECTOR Z/YEN



FIFTEENTH SUMMIT

South Asian Association for Regional Cooperation (SAARC)

Colombo, Sri Lanka - August 2-3, 2008

"The Heads of State or Government affirmed that every citizen of this planet must have an equal share of the planetary atmospheric space. In this context, they endorsed the convergence of per capita emissions of developing and developed countries on an equitable basis for tackling climate change."



His Excellency Mr. Hamid Karzai
President of the Islamic Republic of Afghanistan



His Excellency Dr. Fakhruddin Ahmed
Chief Adviser of the Government, The People's Republic of Bangladesh



His Excellency Lyonchhen Jigmi Y. Thinley
Prime Minister of the Kingdom of Bhutan



His Excellency Dr. Manmohan Singh
Prime Minister of the Republic of India



His Excellency Mr. Maumoon Abdul Gayoom
President of the Republic of Maldives



The Rt. Hon'ble Girija Prasad Koirala
Prime Minister of the Federal Democratic Republic of Nepal



His Excellency Syed Yousuf Raza Gilani
Prime Minister of the Islamic Republic of Pakistan



His Excellency Mr. Mahinda Rajapaksa
President of the Democratic Socialist Republic of Sri Lanka

11

INSURANCE INDUSTRY VIEWS OF C&C

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

"This animation of C&C and risk is brilliant. The Kyoto Protocol is having negligible effect. If successful, Kyoto will result in a slowdown in the rise of global temperatures by 0.02C to 0.28C. That isn't going to help a great deal and we must decide what comes after Kyoto. It has to have the US, India and China on board. The best hope is a system called contraction and convergence, which works on the premise that everyone on the planet has the right to produce the same amount of greenhouse gas. A level is set for the planet and it is divided by the number of people, so that each country knows how much it can emit per head of population. The overall level is then brought down by agreement."

BILL MCGUIRE, DIRECTOR - BENFIELD HAZARD CENTRE, UCL

"Even if we do not know the speed or severity of feedback effects, we must consider the probabilities of disastrous acceleration in climate change within very short timescales. Risk assessment is the core activity of the insurance industry, the biggest industry in the world. Assessment of risk must fully include feedback effects. Insurers are the leading experts in risk and risk modeling. C&C demonstrates how this can be done. C&C already has a high profile with insurers. Governments need to listen to the insurance industry and make C&C central to government policy around the world. From a risk management point of view, C&C produces an important assessment of the risks we face from human-induced runaway climate change and how to frame a response at the policy level."

PROF DAVID CRICHTON - BENFIELD HAZARD CENTRE UCL

"C&C is so open and transparent. Within the insurance sector it is recognised by CEOs who know they need a long-term global framework within which they can assess their risk. Without C&C they're stuck with a guesswork approach. A stable insurance industry is essential for a stable economy and a stable financial sector. Insurance needs a long term global framework so it can plan for the future. C&C will help bring this about. It needs to be adopted at the highest level, from the UN down through every business sector."

DR JULIAN SALT - DIRECTOR OF CLIMATE SOLUTIONS

"Aubrey Meyer's insight into the problem of mitigation of climate change bears the true hallmark of genius: it is simple and robust. His "Contraction & Convergence" model provides a transparent framework that incorporates the clear objective of a safe global level of greenhouse gases, and allocates the responsibility for achieving this internationally with the irresistible logic of equal shares. At the same time, the model recognises the practical need for an adjustment period to permit nations to conform to the new logic and prepare for a climate-friendly economy. It is no doctrinaire solution, but a brilliantly pragmatic and elegant solution."

DR ANDREW DLUGOLECKI - ADVISORY BOARD DIRECTOR, CARBON DISCLOSURE PROJECT
ADVISER ON CLIMATE CHANGE TO UNEP FINANCE SECTOR INITIATIVE

CONTACT DETAILS

GLOBAL COMMONS INSTITUTE

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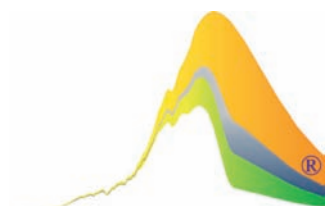
www.gci.org.uk

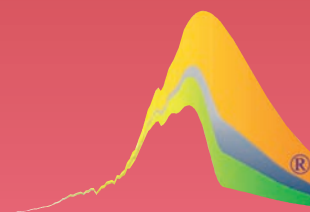
ENQUIRIES ABOUT CARBON COUNTDOWN

Terry O'Connell, Director Corporate Relations GCI

Phone: 0208 946 7045

e-mail: terry.oconnell@blueyonder.co.uk



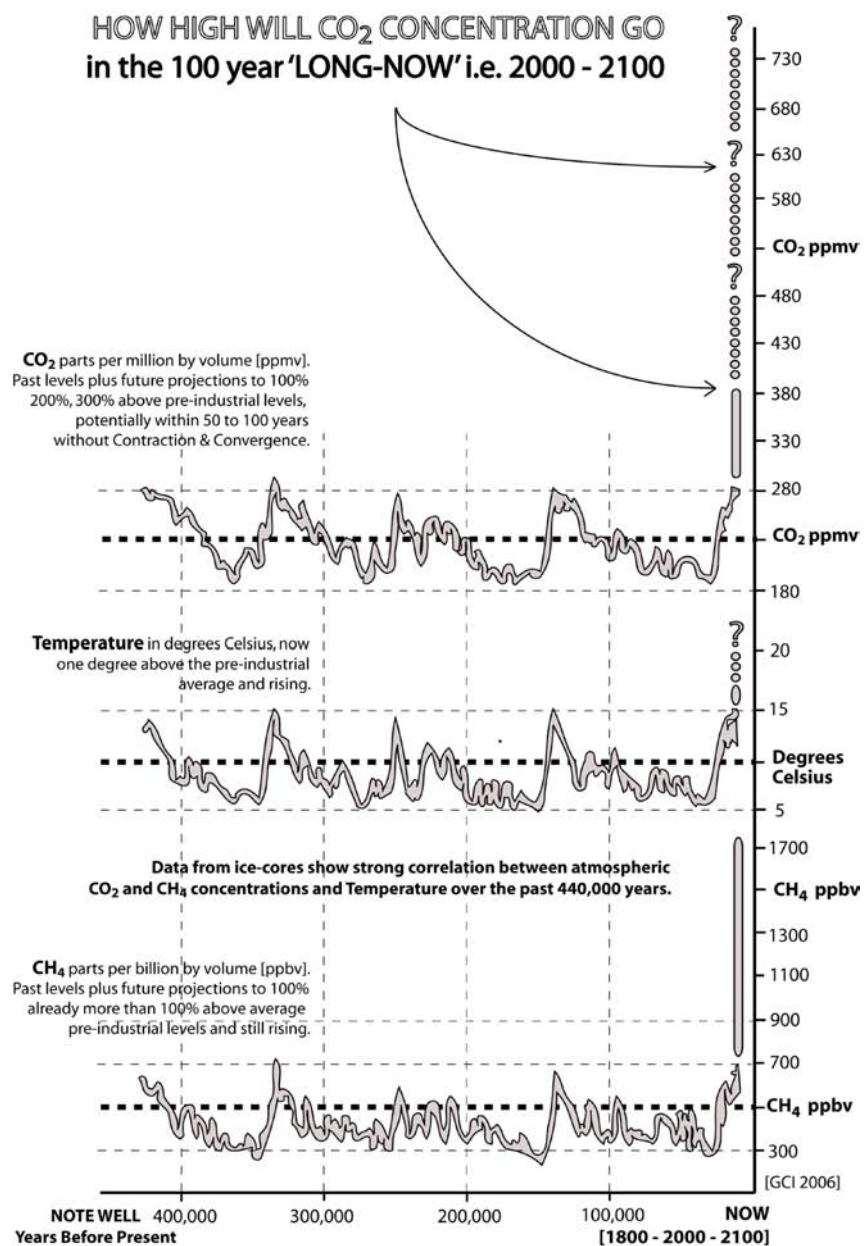


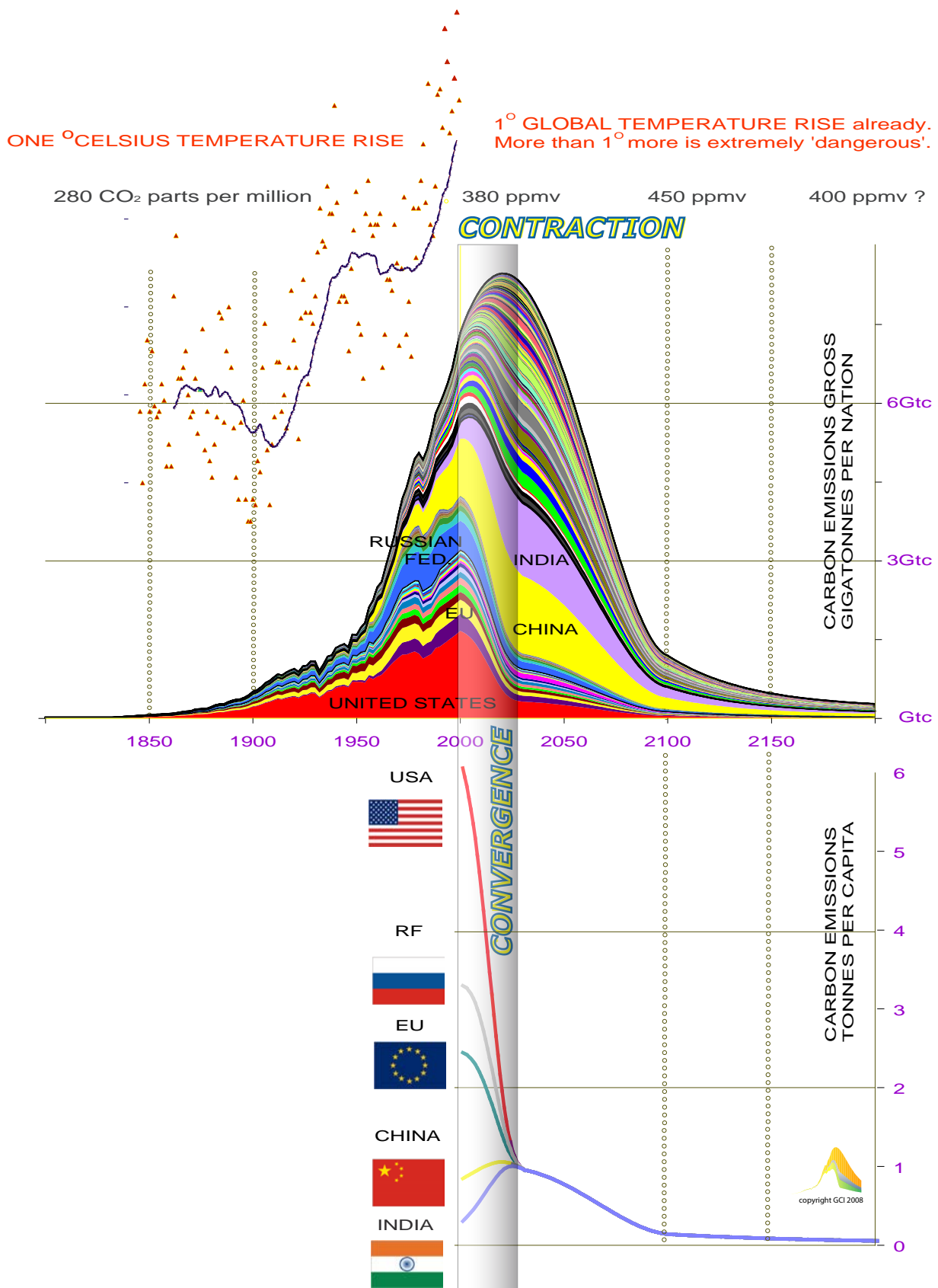
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Contraction & Convergence Framework for Preventing Dangerous Climate Change

A meeting with Peter Betts
Director International Climate Change
DEFRA
3B Ergon House, Horseferry Road
London SW1P 2AL
22nd August 2008

Aubrey Meyer Global Commons Institute





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http://www.gci.org.uk/Animations/BENN_C&C_Animation.hqx	

The Royal Commission on Environmental Pollution (RCEP - 2000)

The Need for an International Agreement - Contraction & Convergence

"3. The government should press for a future global climate agreement based on the Contraction & Convergence approach, combined with international trading in emission permits. Together, these offer the best long-term prospect of securing equity, economy and international consensus (4.69).

4.47 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 equal per capita basis. There will have to be a comprehensive system of monitoring emissions to ensure the quotas are complied with. Adjustment factors could be used to compensate for differences in nations' basic energy needs. Those countries which regularly experience very low or high temperatures might, for instance, be entitled to an extra allocation per capita for space heating or cooling.

4.48 A system of per capita quotas could not be expected to enter into force immediately. At the same time as entitling developing nations to use substantially more fossil fuels than at present (which they might not be able to afford), it would require developed nations to make drastic and immediate cuts in their use of fossil fuels, causing serious damage to their economies.

4.49 A combination of two approaches could avoid this politically and diplomatically unacceptable situation, while enabling a per capita basis to be adhered to. The first approach is to require nations emission quotas to follow a contraction and convergence trajectory. Over the coming decades each nation's allocation would gradually shift from its current level of emissions towards a level set on a uniform per capita basis. By this means 'grandfather rights' would gradually be removed: the quotas of developed nations would fall, year by year, while those of the poorest developing nations would rise, until all nations had an entitlement to emit an equal quantity of greenhouse gases per head (convergence). From then on, the quotas of all nations would decline together at the same rate (contraction). The combined global total of emissions would follow a profile through the 21st and 22nd centuries that kept the atmospheric concentration of greenhouse gases below a specified limit.

4.50 The upper limit on the concentration of greenhouse gases would be determined by international negotiations, as would the date by which all nations would converge on a uniform per capita basis for their emission quotas, and the intermediate steps towards that. It would probably also be necessary to set a cut-off date for national populations: beyond that date, further changes in the size of a country's population would not lead to any increase or decrease in its emission quota.

4.51 In table 4.1 17 we have applied "Contraction & Convergence" approach to carbon dioxide emissions, and calculated what the UK's emissions quotas would be in 2050 and 2100 for four alternative upper limits on atmospheric concentration. We have assumed for this purpose that 2050 would be both the date by which nations would converge on a uniform per capita emissions figure and the cut-off date for national populations. If 550 ppmv is selected as the upper limit, UK carbon dioxide emissions would have to be reduced by almost 60% from their current level by mid-century, and by almost 80% by 2100. Even stabilisation at a very high level of 1,000 ppmv would require the UK to cut emissions by some 40% by 2050.

4.52 The UK-based Global Commons Institute has taken the lead in promoting "Contraction & Convergence", and has developed a computer model that specifies emission allocations under a range of scenarios. The concept has been supported by several national governments and legislators. Some developed nations are very wary of it because it implies drastic reductions in their emissions, but at least one minister in a European government has supported it. Commentators on climate diplomacy have identified contraction & convergence as a leading contender among the various proposals for allocating emission quotas to nations in the long term.

4.53 The other ingredient that would make an agreement based on per capita allocations of quotas more feasible is flexibility of the kind already provided in outline in the Kyoto Protocol. Nations most anxious to emit greenhouse gases in excess of their allocation over a given period will be able and willing to purchase unused quota at prices that incline other countries to emit less than their quota, to the benefit of both parties. The clean development mechanism, which allows developed nations to claim emission reductions by sponsoring projects that reduce emissions in developing nations to levels lower than they would otherwise have been, can also be seen as a form of trading.

4.54 In the longer term trading by companies in emission permits, drawn from national emission quotas determined on the basis of a contraction and convergence agreement, could make a valuable contribution to reducing the global costs of stabilising greenhouse gas concentrations while transferring resources from wealthy nations to poorer ones. Trading needs to be transparent, monitored and regulated, and backed by penalties on nations that emit more than they are entitled to. If it became merely a means of enabling wealthy nations to buy up the emission entitlements of poor countries on the cheap, thereby evading taking any action at home, trading would not serve the cause of climate protection. Nor would it if developing countries that had sold quota heavily went on to emit in excess of their revised entitlements."

The Government's Position on C&C Ten Years after Kyoto

1. UK Government Response to C&C advocacy by House of Commons Select Committee on Environmental Audit

The Government said: -

18. Above all, the Government must draw attention, at home and abroad, not just to percentage targets for the annual emissions in a certain year, but even more to the absolutely crucial issue of the cumulative total budget of greenhouse gases that the world can afford to emit by 2050 if it is to have a reasonable chance of holding global warming to 2oC. (Paragraph 71)

19. In terms of the way in which this cumulative global budget is divided up among individual nations, we recommend that the Government explicitly endorses, and promotes internationally, the Contraction and Convergence method, or a method similar to it. (Paragraph 72)

The Government said: -

"The UK Government would support an allocation method or combination of methods that could achieve global acceptability, be recognised as fair by all parties and had sufficient flexibility to be able to take into national circumstances, e.g. energy mix and availability of natural resources, climatic conditions."

The Minister [Benn] fronts the climate-bill in the media saying, *"it all comes from the Royal Commission" [2000] which [he appears to have overlooked] strongly advocated C&C.*

19 years ago . . . [we were only at 350 ppmv CO₂]

Yesterday . . . [we are at 384 and rising fast]

2. UK Government Response to C&C Petition to Downing Street

"Contraction and Convergence is a framework approach for future action based on equal per-capita emissions allowances. It is one suggested approach on how to create a future framework for addressing climate change after the first commitment period under the Kyoto Protocol. Broadly, the idea is that in the long-term all people in the world have equal rights to emit greenhouse gases into the atmosphere.

Certain aspects of Contraction and Convergence are appealing, including the identification of a fixed level for stabilisation of greenhouse gas concentrations, and comprehensive global participation. Any framework that incorporates long term targets can offer countries greater certainty about their national targets and provide a clear signal to allow business to plan ahead and help drive investment in new and better technologies. The principle of equity is extremely important to all countries but in particular developing countries and a number of countries have expressed an interest in using per capita emissions as a basis for assigning responsibility for future action.

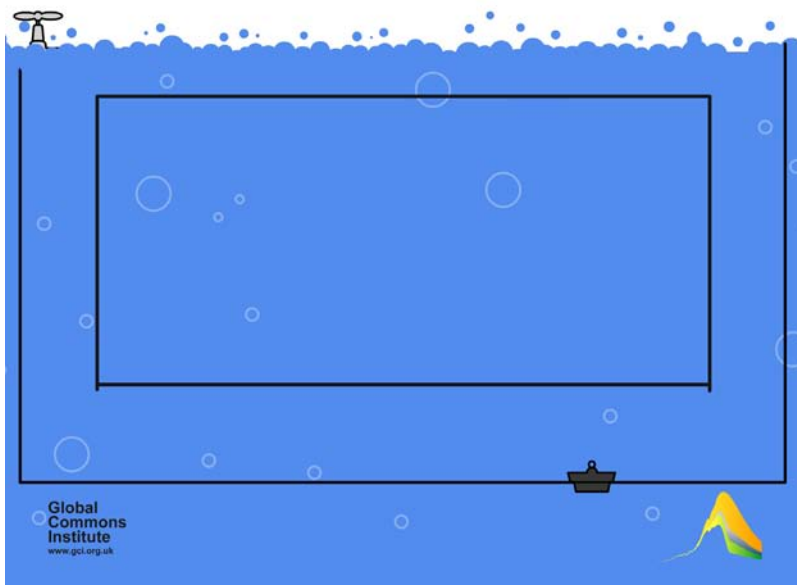
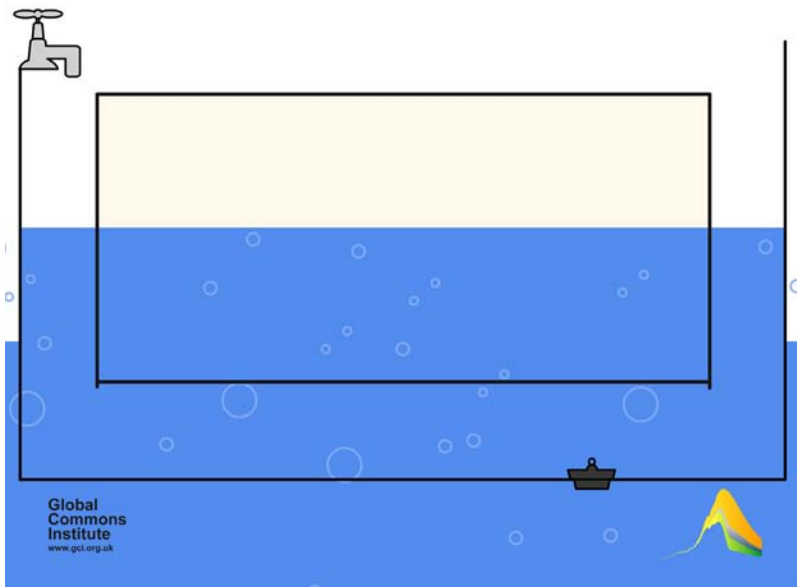
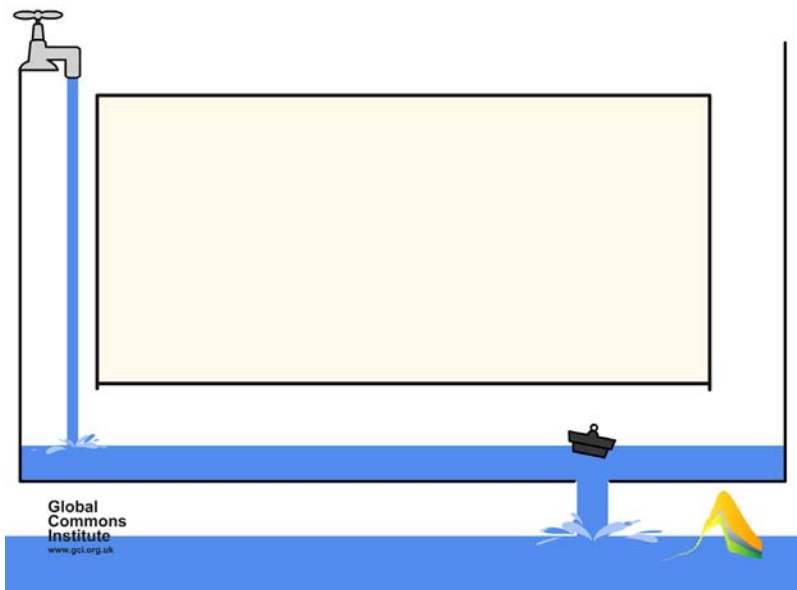
Given that there is still some way to go in building the level of consensus within the international community that would be required to agree on a framework for the way forward, it would be premature for the UK government to commit itself to any particular framework at this stage. We are, however, giving full consideration both to the possible frameworks themselves and also to the elements within them that could be used to form part of a workable solution."

**Contraction
and Convergence:
The irreducible response
to climate change**

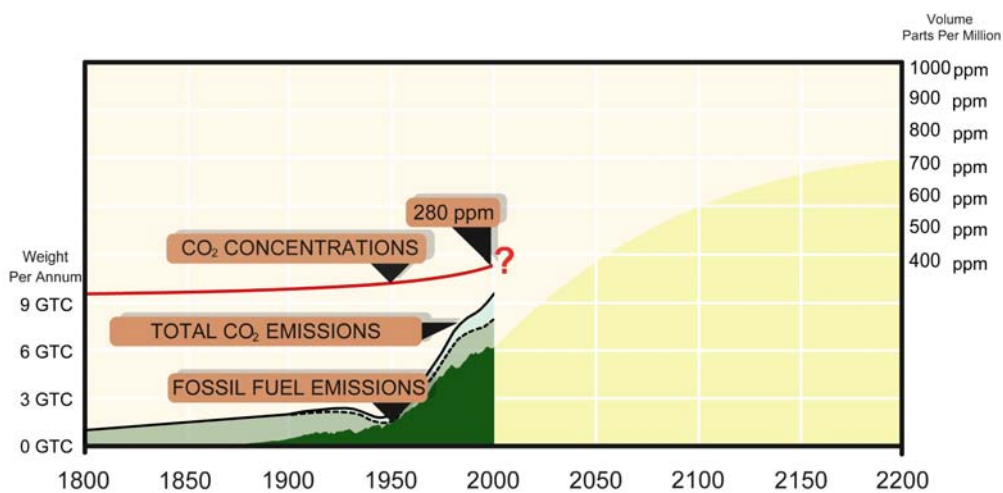
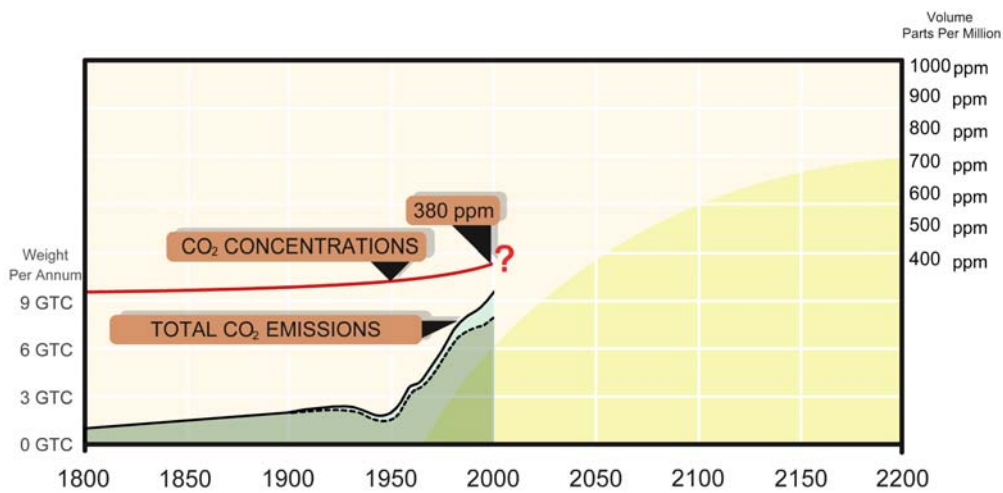
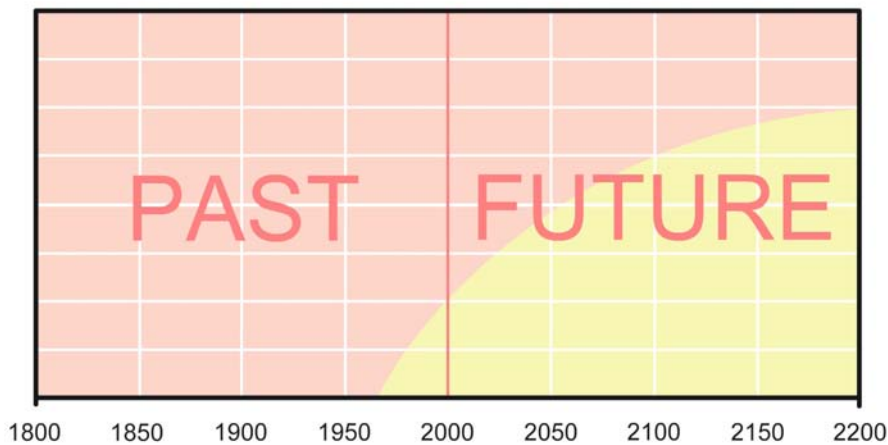
This animation is online at:

[www.gci.org.uk/Animations/BENN_C&C_Animation_\[Tower_&_Ravens\].exe](http://www.gci.org.uk/Animations/BENN_C&C_Animation_[Tower_&_Ravens].exe)

Bath/Tap/Plug - Stock/EBB/Flow Analogy For Atmosphere, Source-Emissions, Sinks

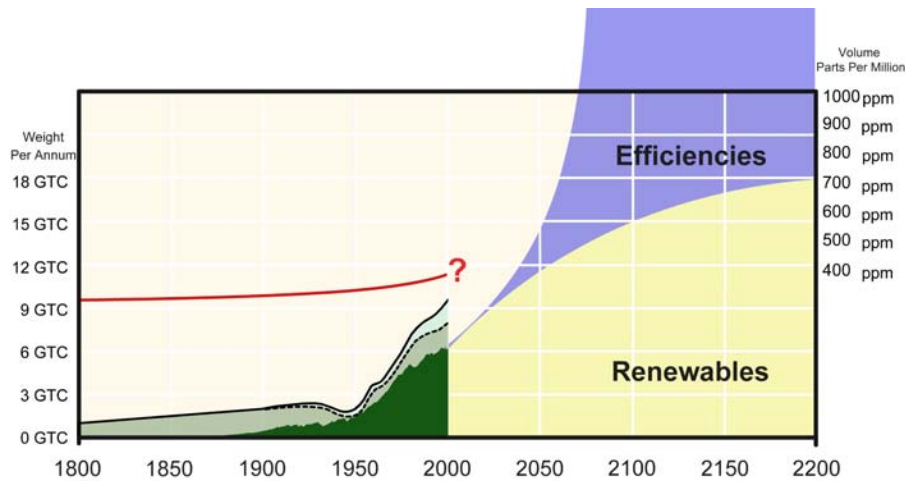
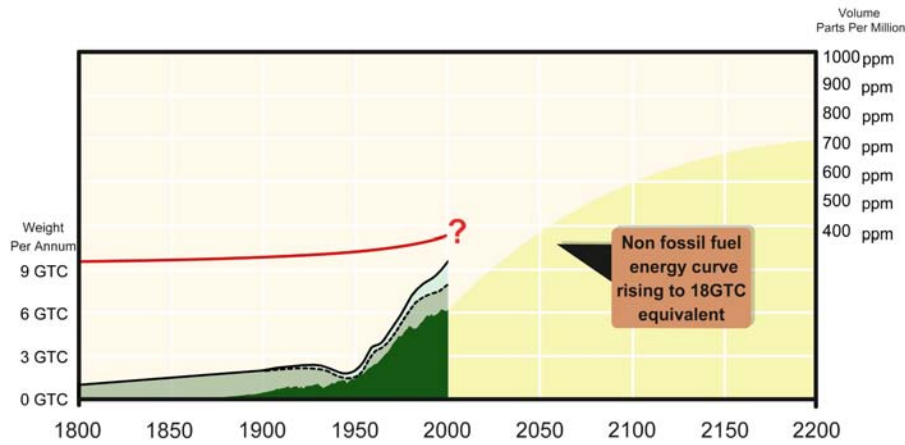


Past 200 years Non/Fossil Fuel Emissions

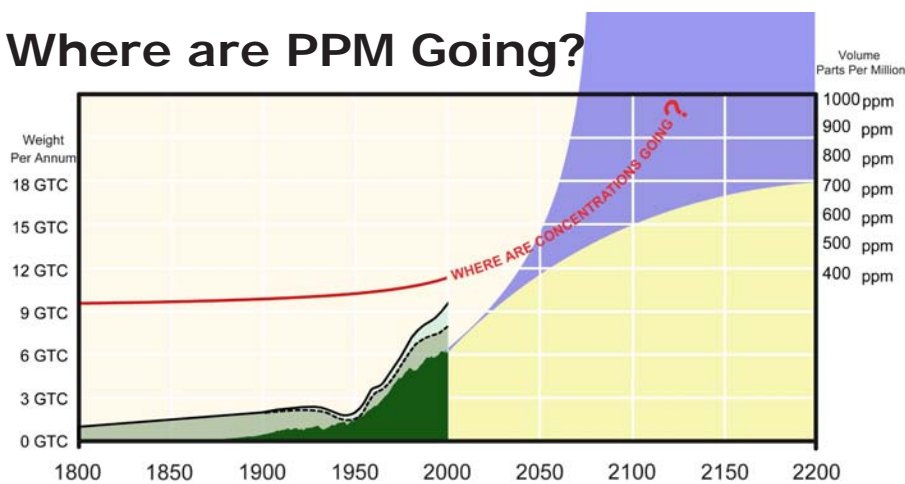


Darker = Fossil Fuel; Paler = other Emissions

Without a C&C Framework Renewables & Efficiency are Sun/Moon-shine

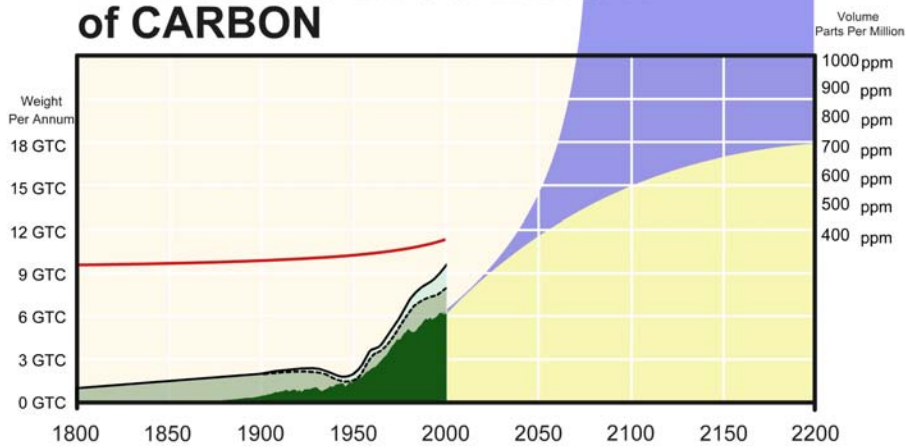


Where are PPM Going?

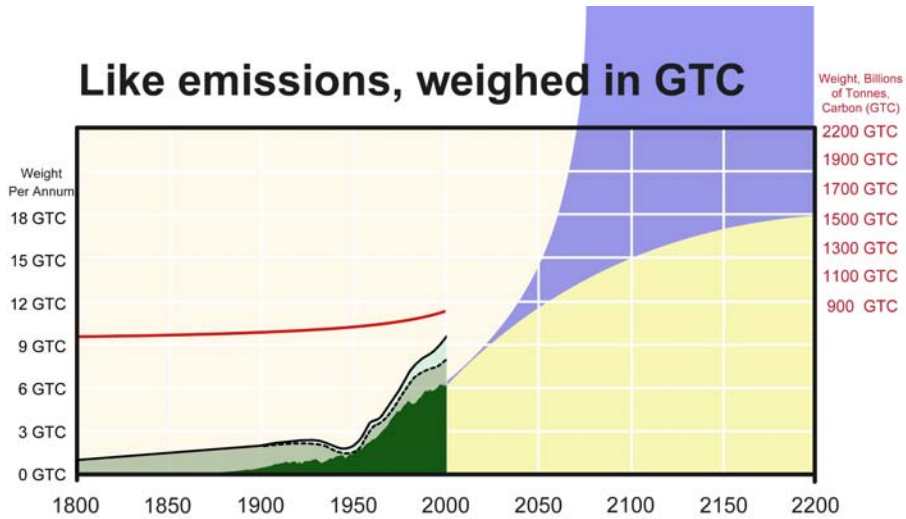


PPMV as Weight Carbon: 1 PPMV = 2.13 GTC

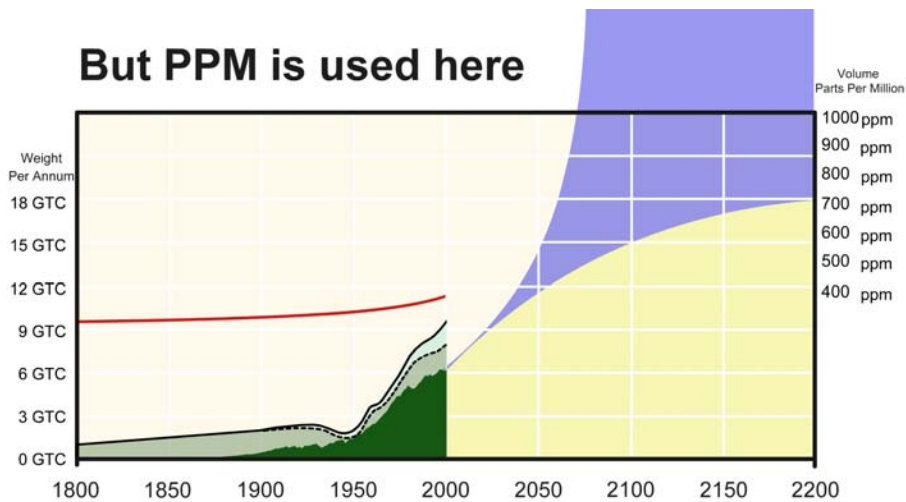
PPM CO₂ are also a WEIGHT of CARBON



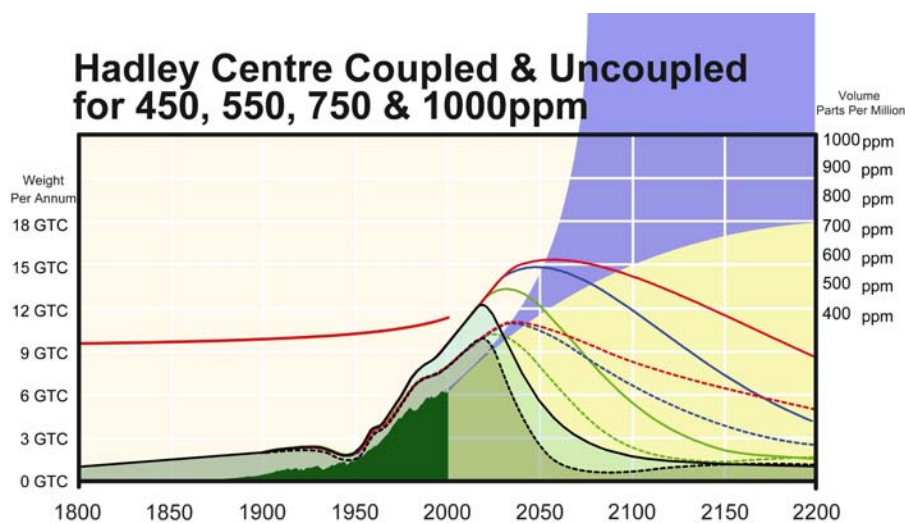
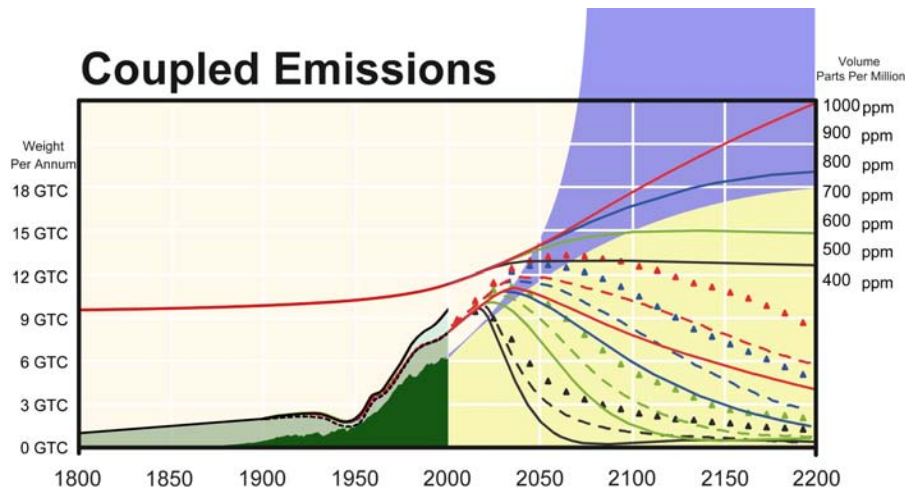
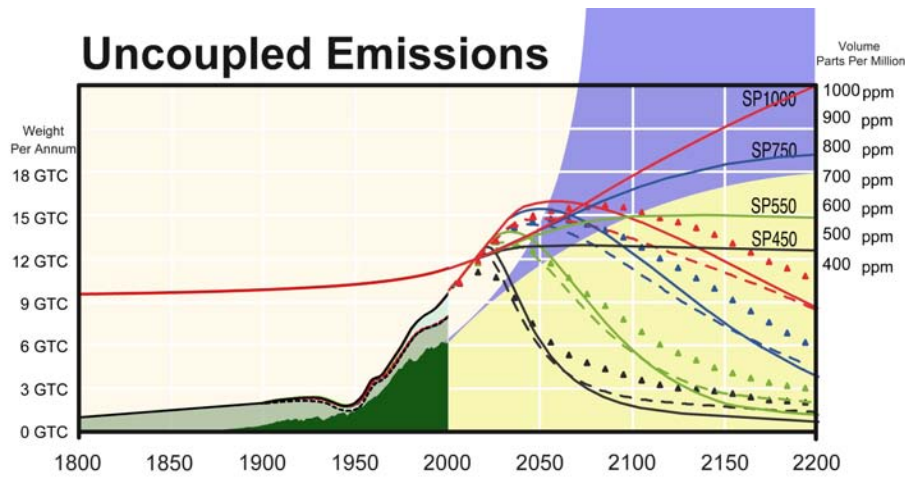
Like emissions, weighed in GTC



But PPM is used here

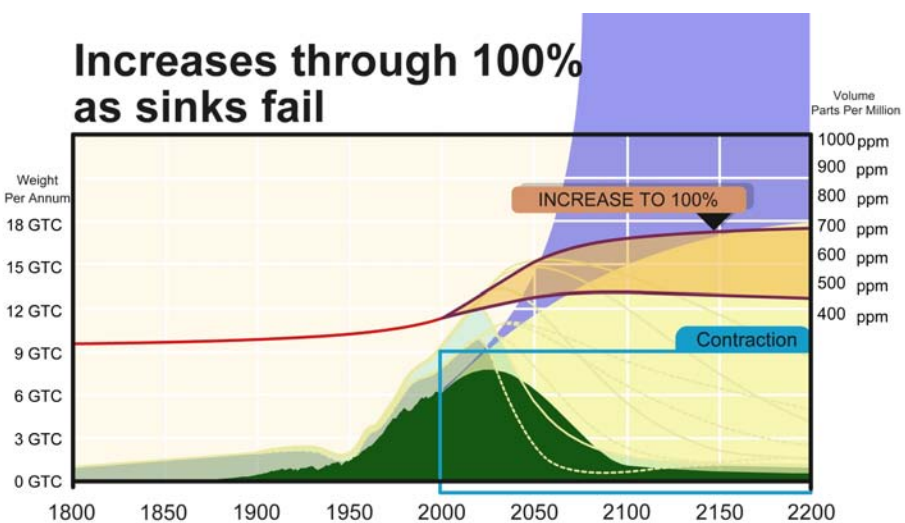
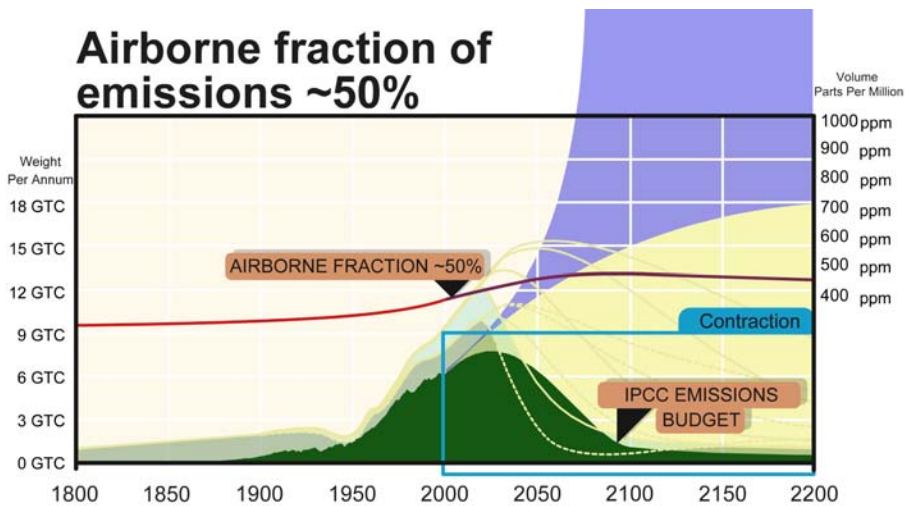
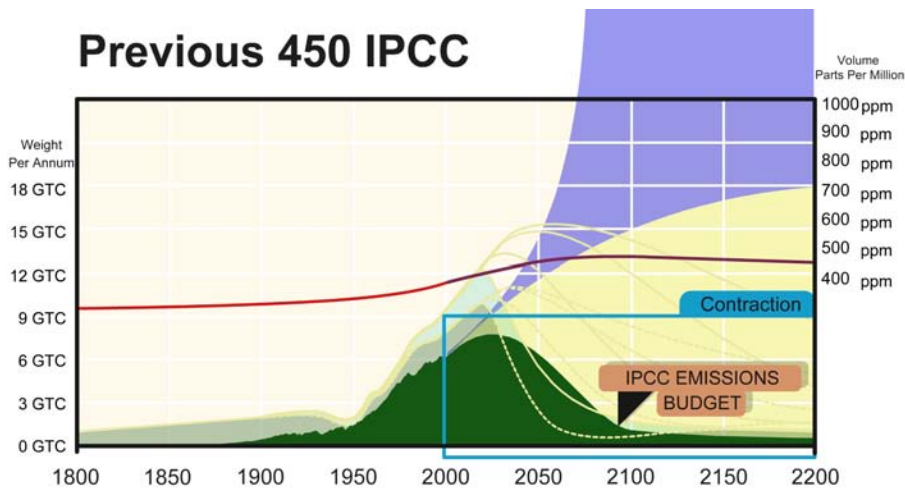


IPCC AR4/Hadley; Un/Coupled Carbon Cycles



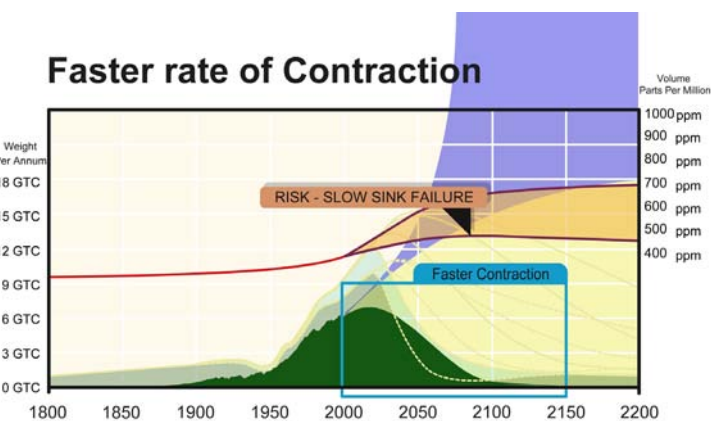
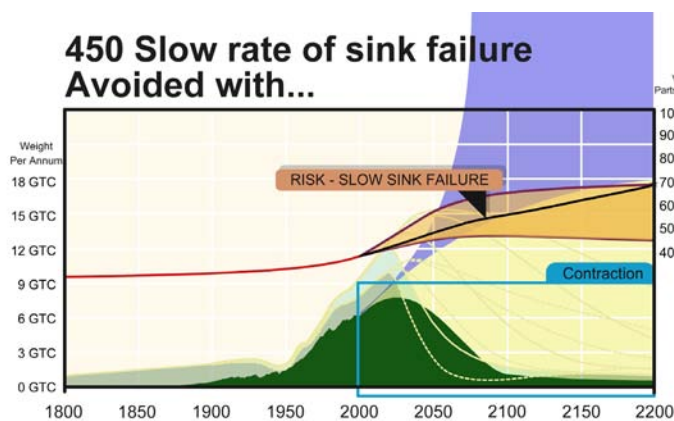
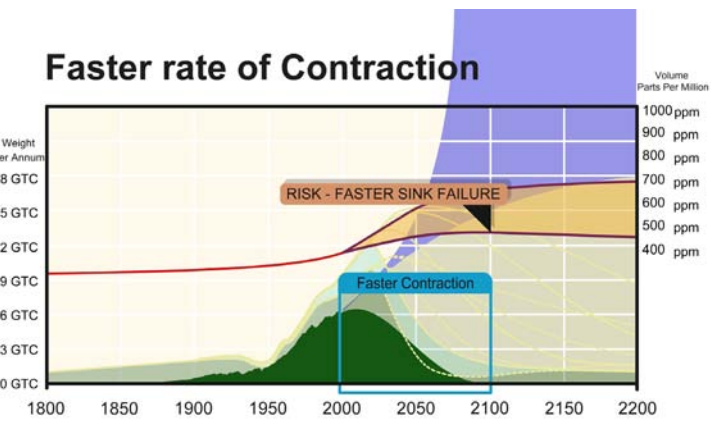
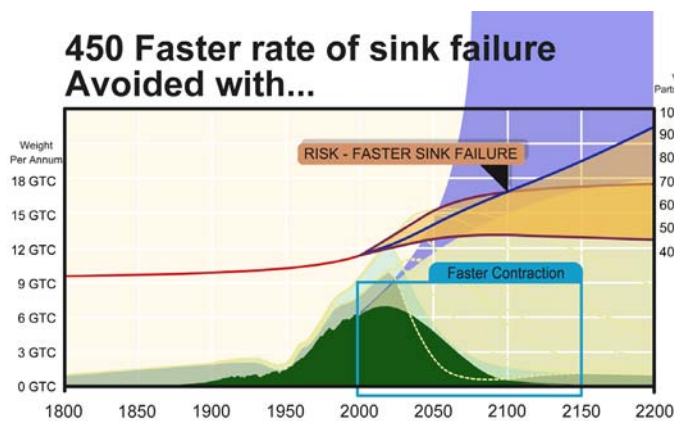
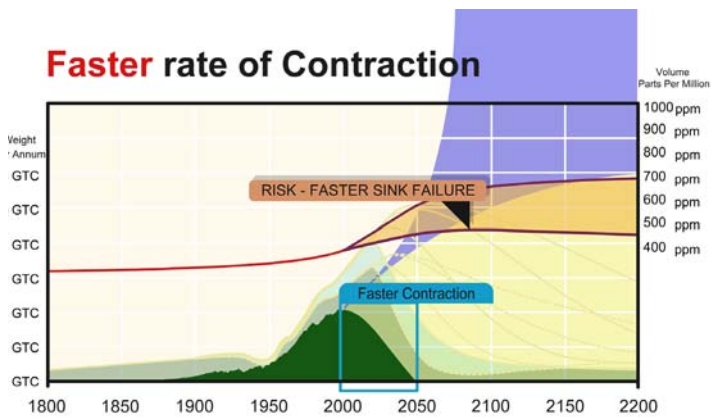
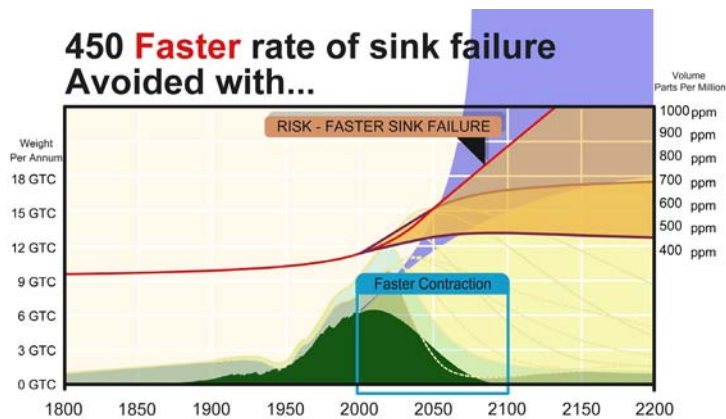
**NB Hadley Coupled for 450 ppmv
ZERO ALL EMISSIONS [fossil/non-fossil] by 2060**

In/Constant Airborne Fraction of Emissions

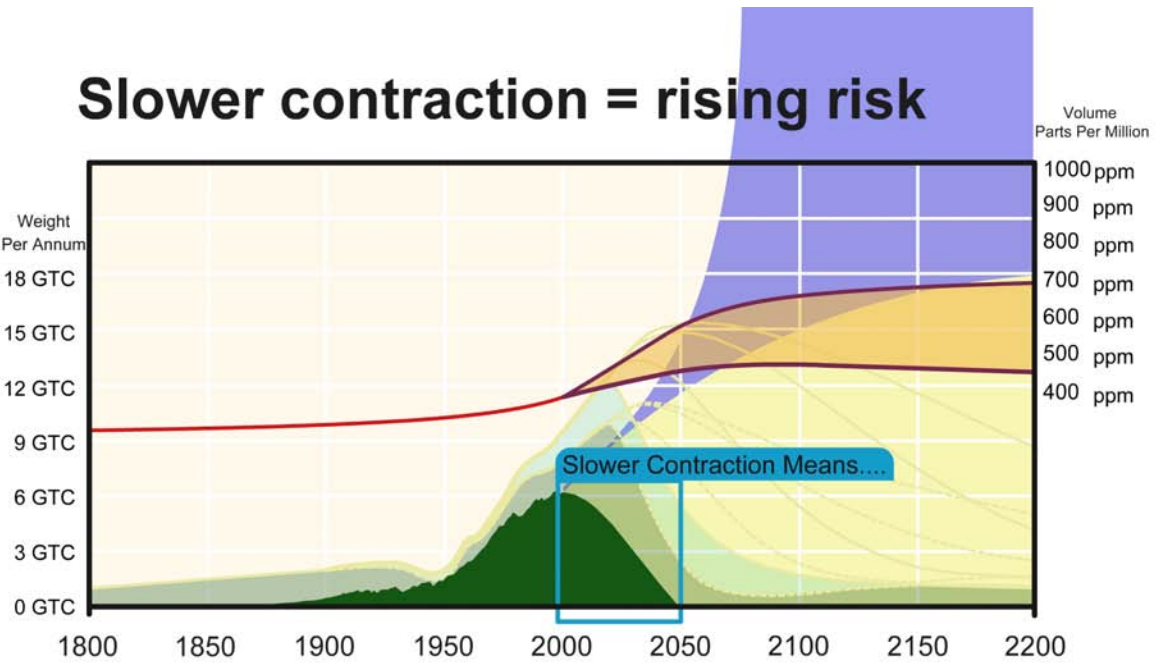


Setup 100% Airborne Fraction Reference to make comparisons of sink-failure

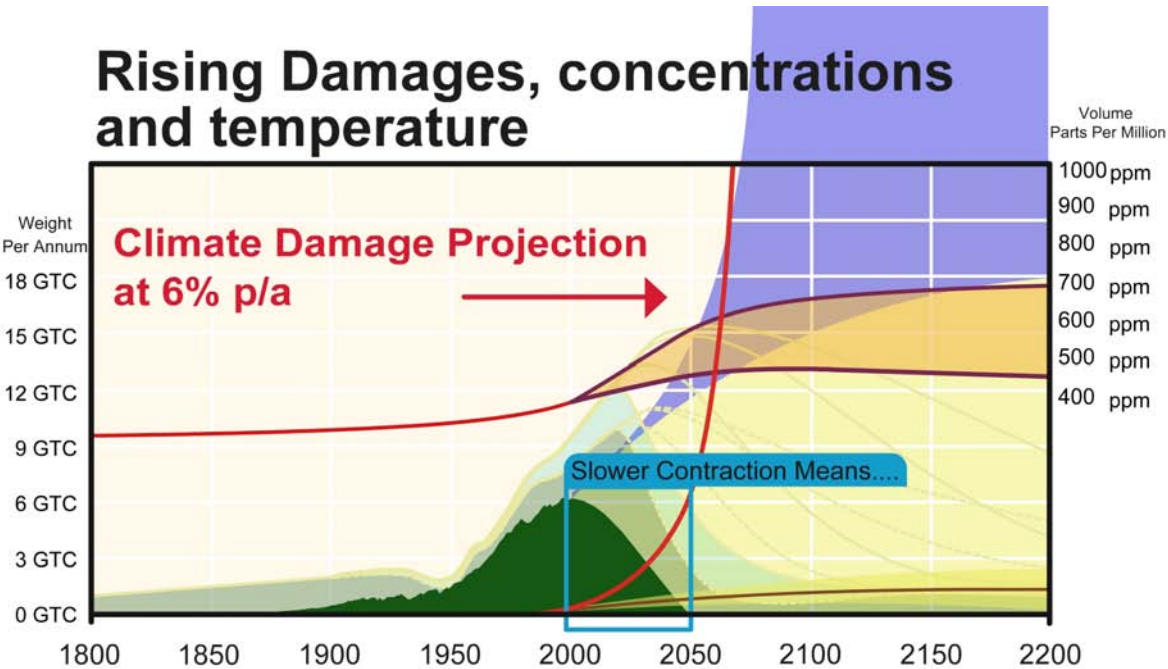
3 Rates of Contraction for 3 Rates of Sink Failure



1st Rate of Contraction [FAST] with

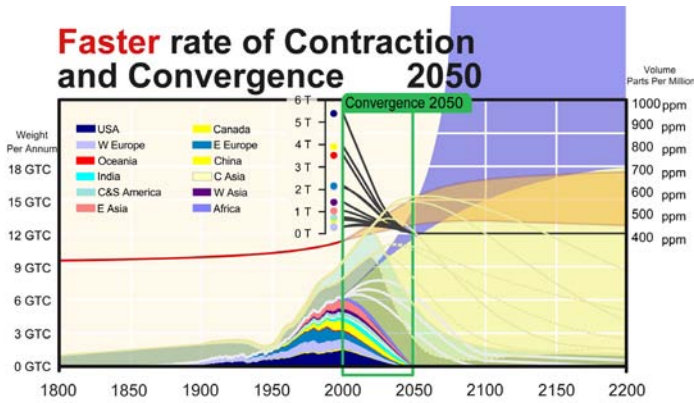


& Low Damages

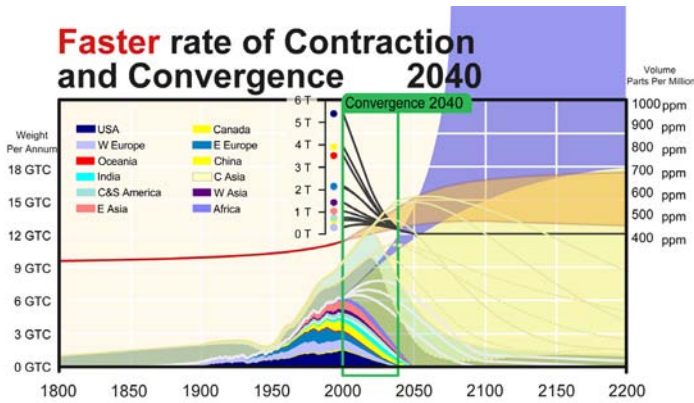


... with 5 Rates of Convergence by

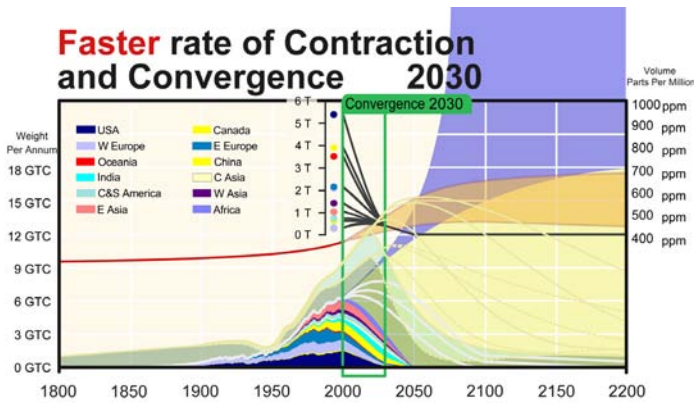
2050



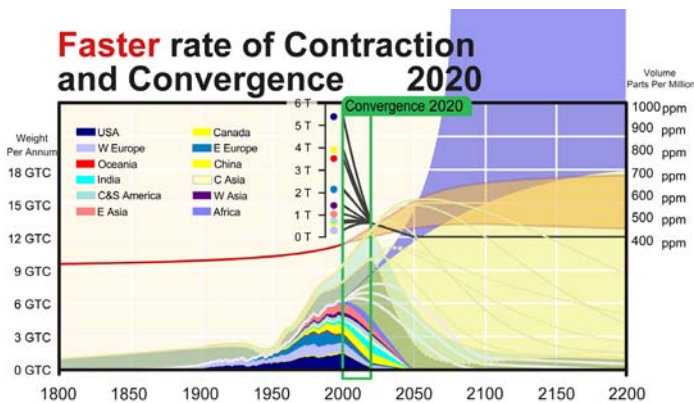
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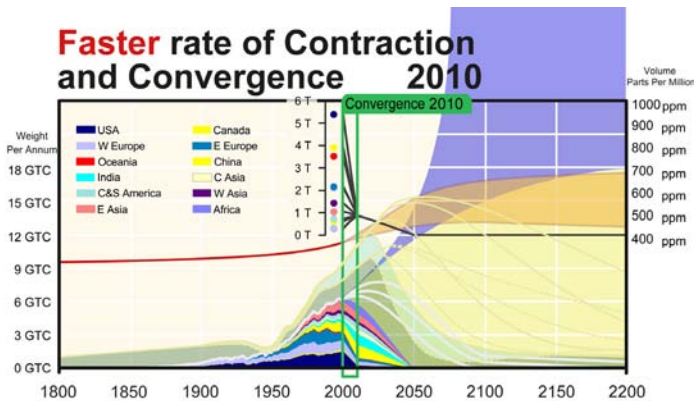
2030



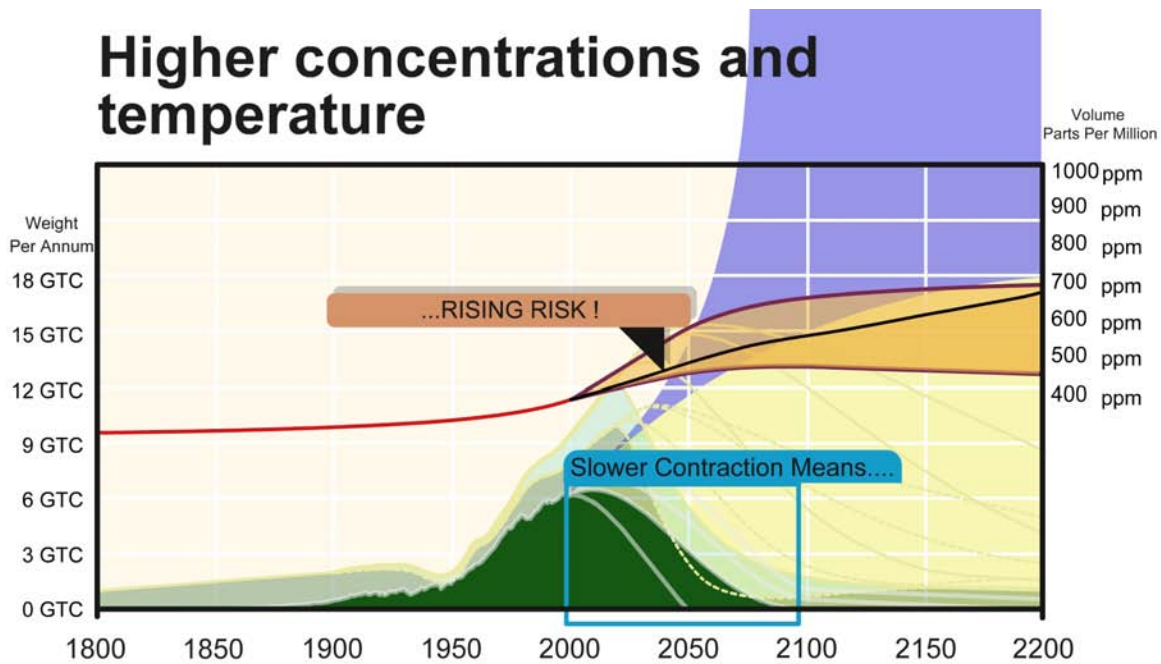
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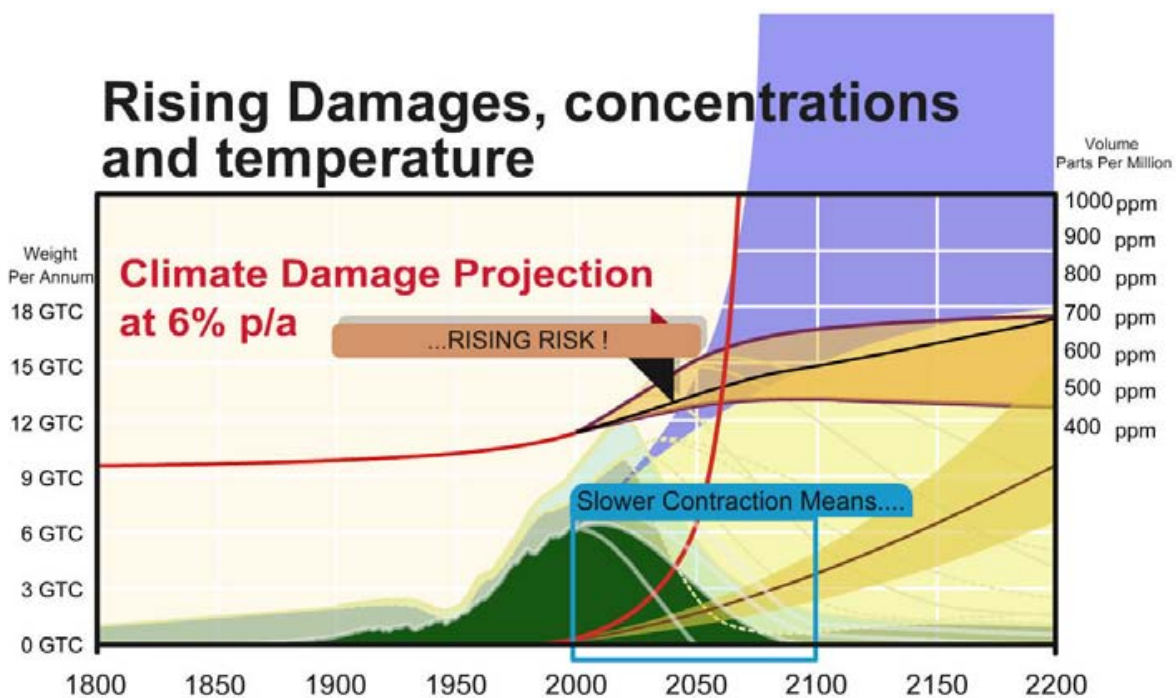
2010



2nd Rate Contraction [SLOWER] Sinks Failing

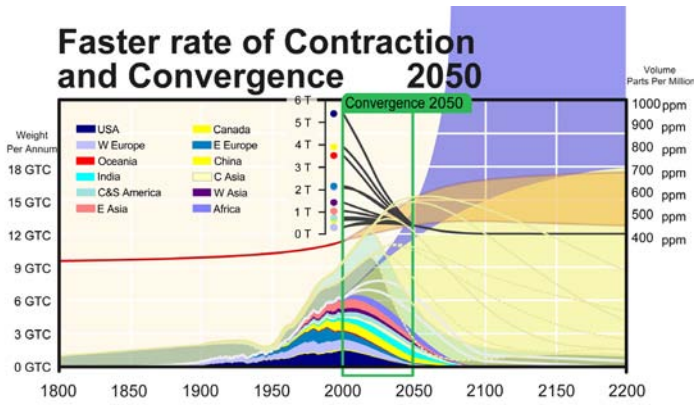


& Rising Damages

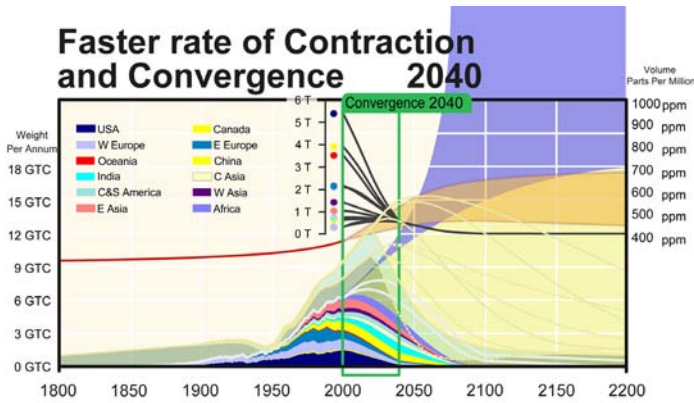


... with 5 Rates of Convergence by

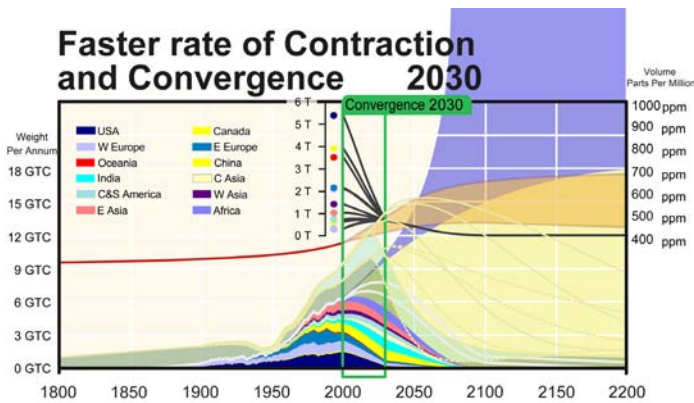
2050



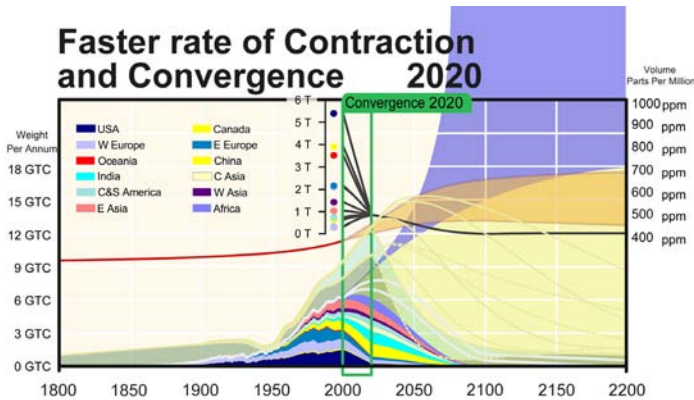
2040



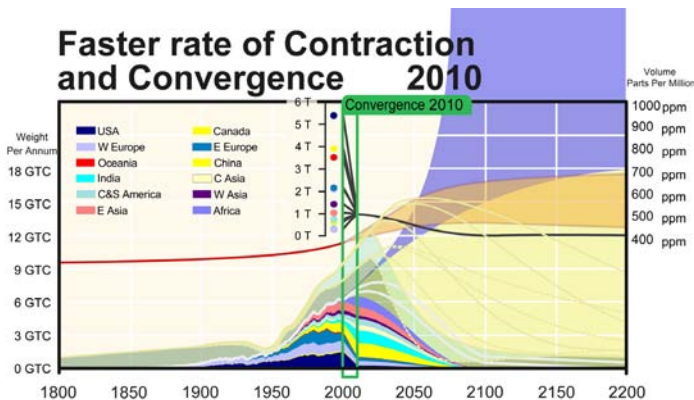
2030



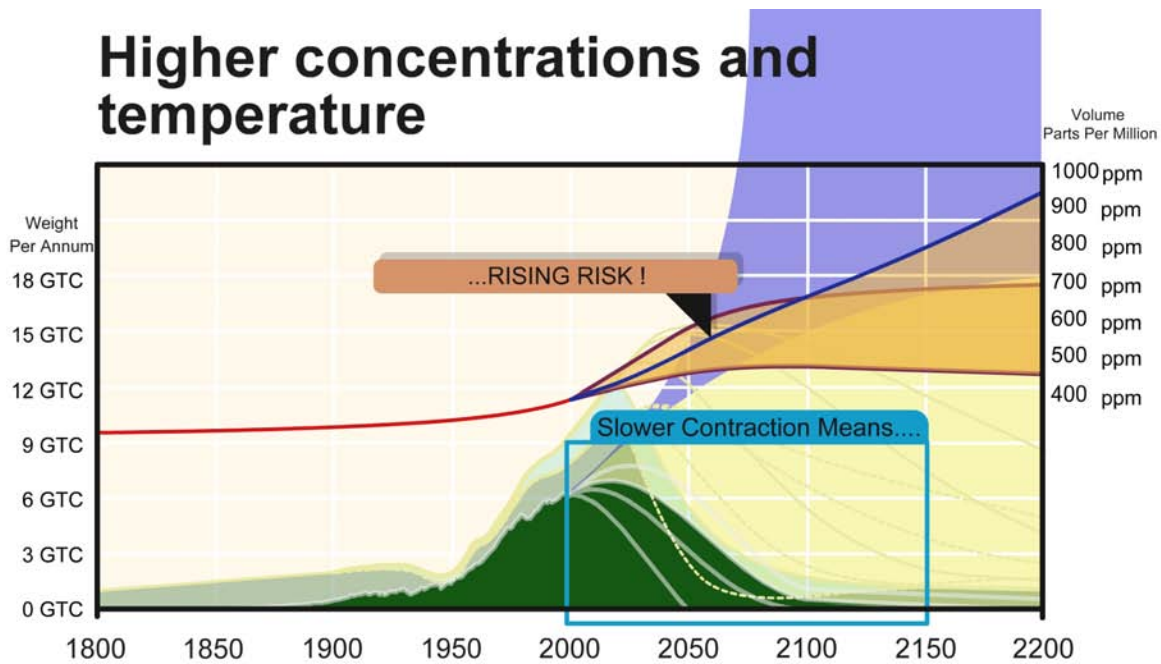
2020



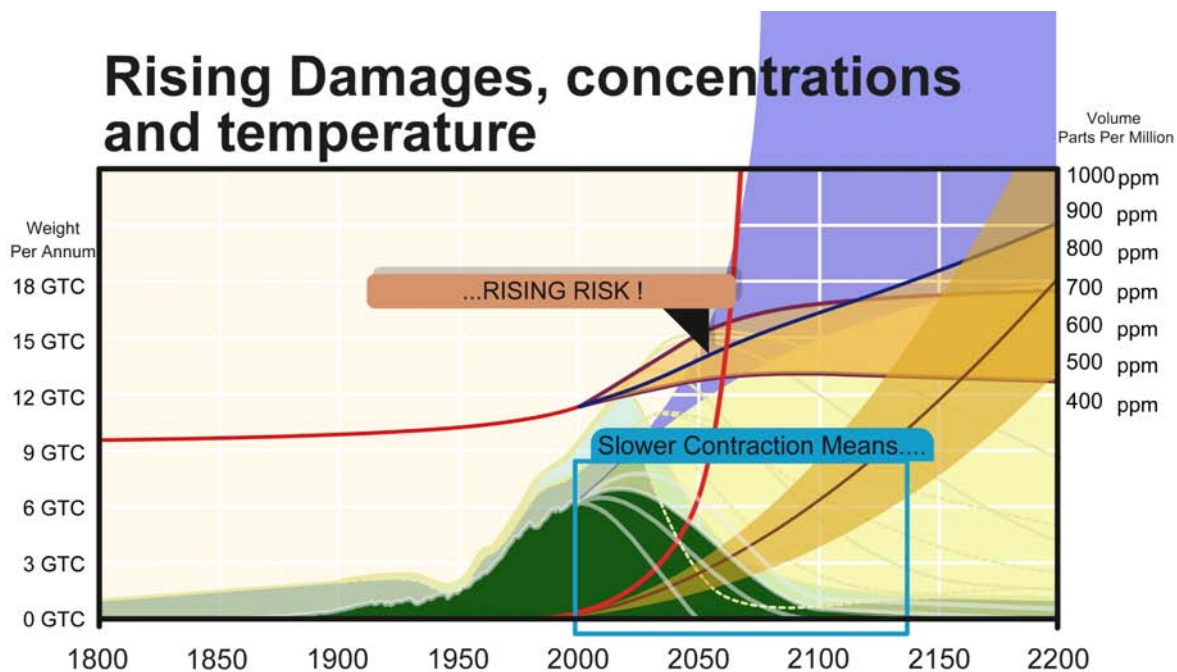
2010



3rd Rate Contraction [SLOWER] Sinks Failing

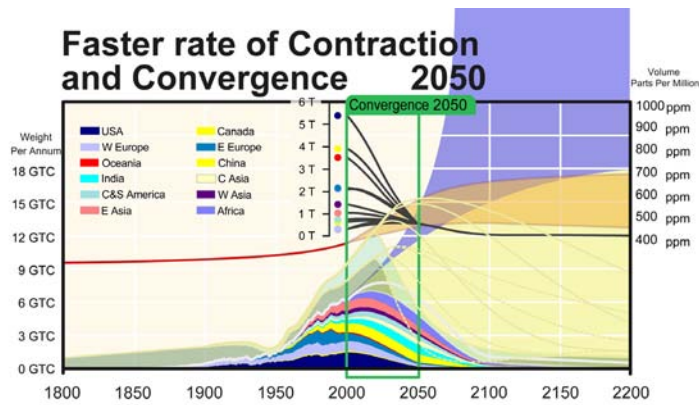


& Faster Rising Damages

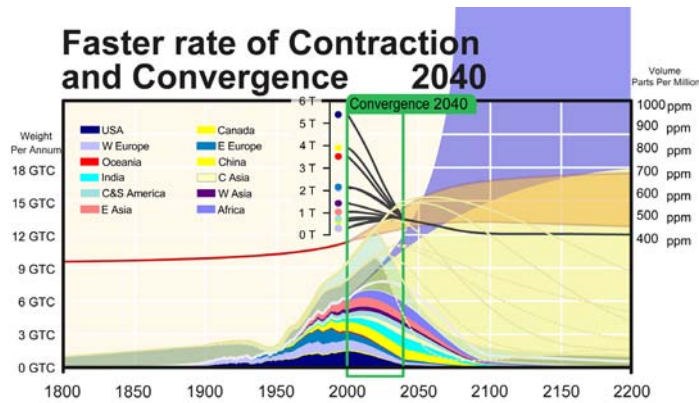


... with 5 Rates of Convergence by

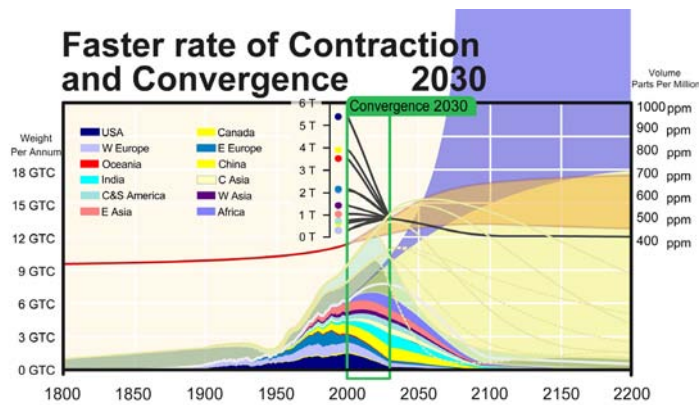
2050



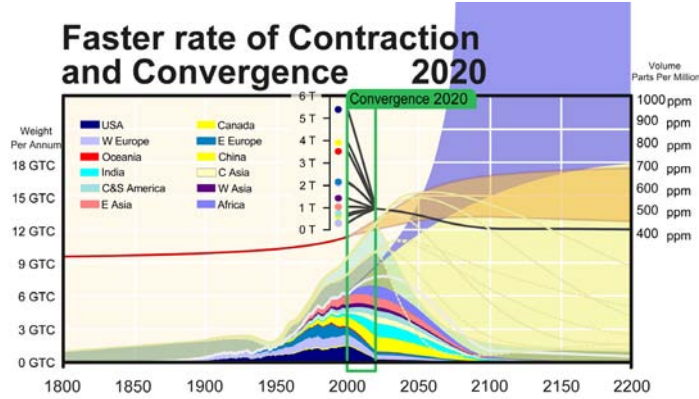
2040



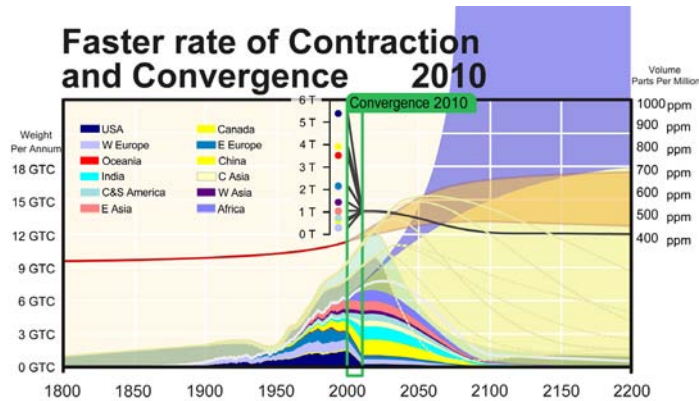
2030



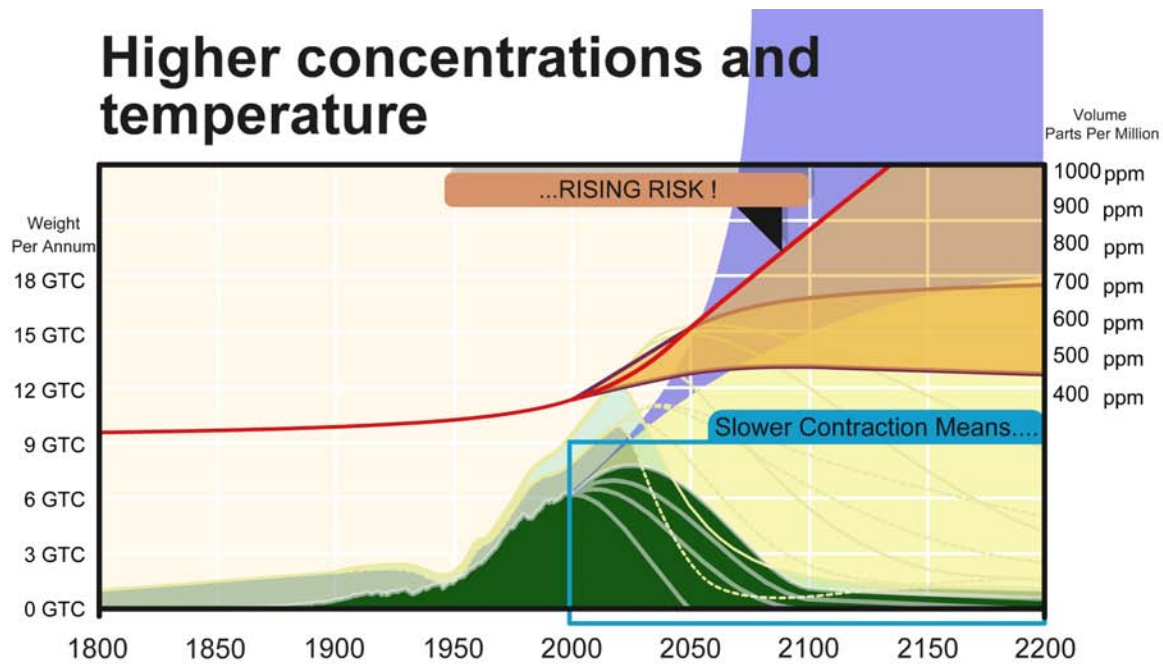
2020



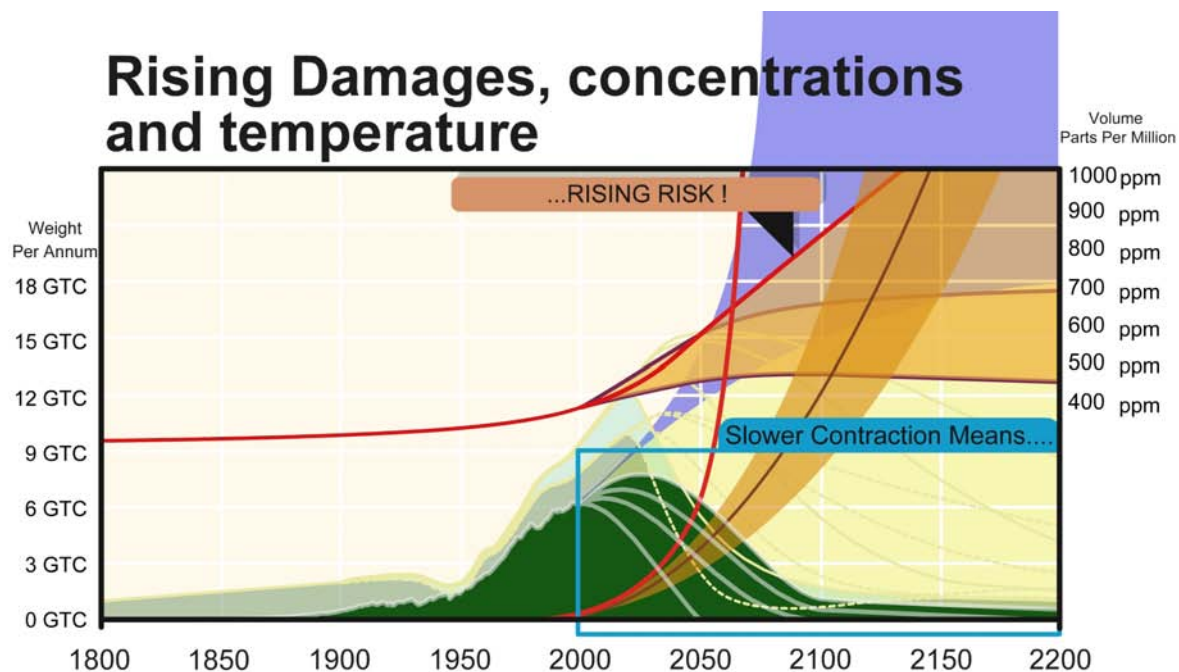
2010



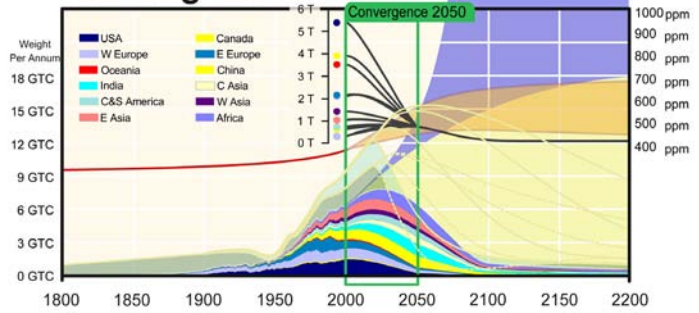
4th Rate Contraction [SLOWER] Sinks Failing



& yet Faster Rising Damages



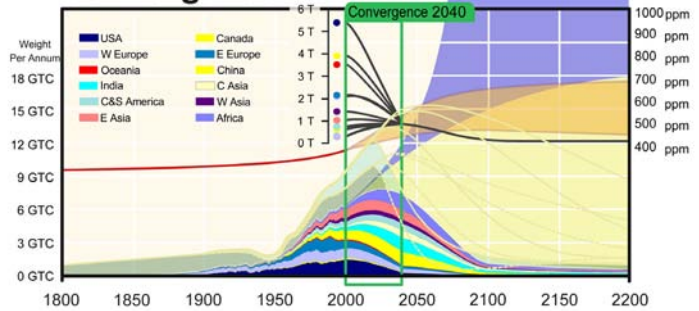
450 IPCC Contraction and Convergence 2050



... with 5 Rates of Convergence by

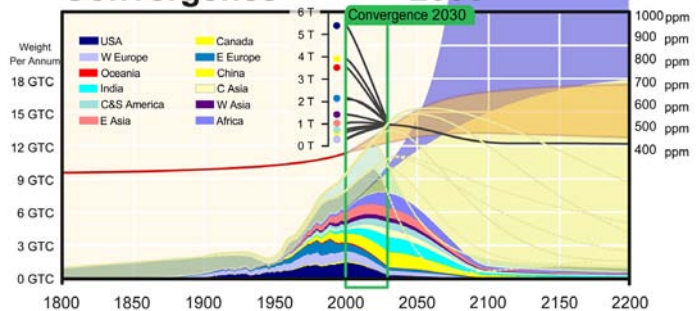
2050

450 IPCC Contraction and Convergence 2040



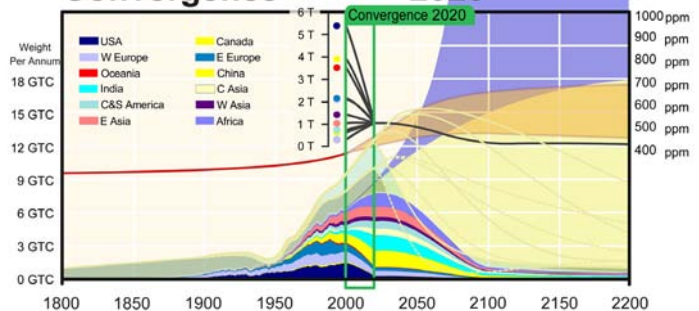
2040

450 IPCC Contraction and Convergence 2030



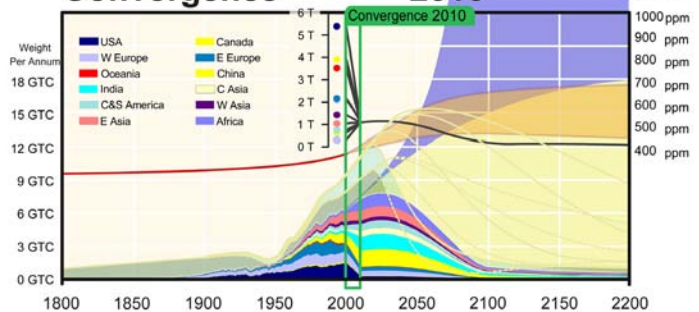
2030

450 IPCC Contraction and Convergence 2020



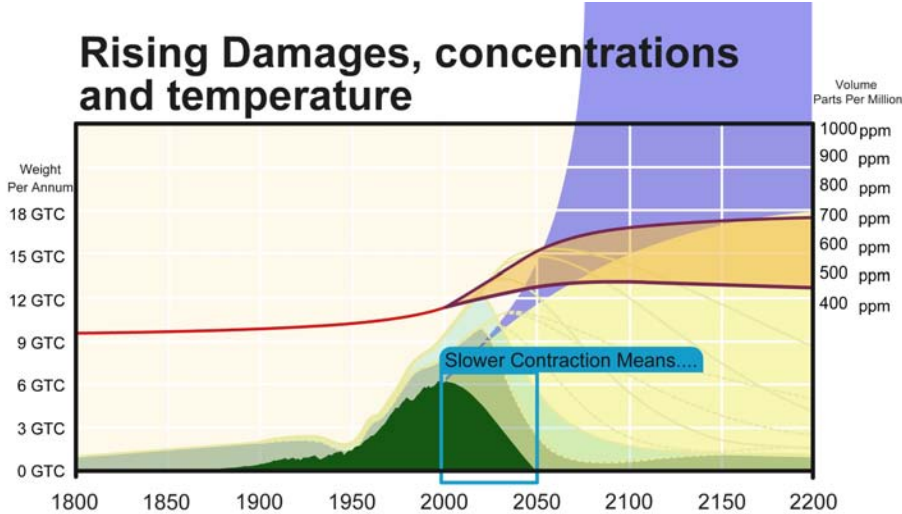
2020

450 IPCC Contraction and Convergence 2010

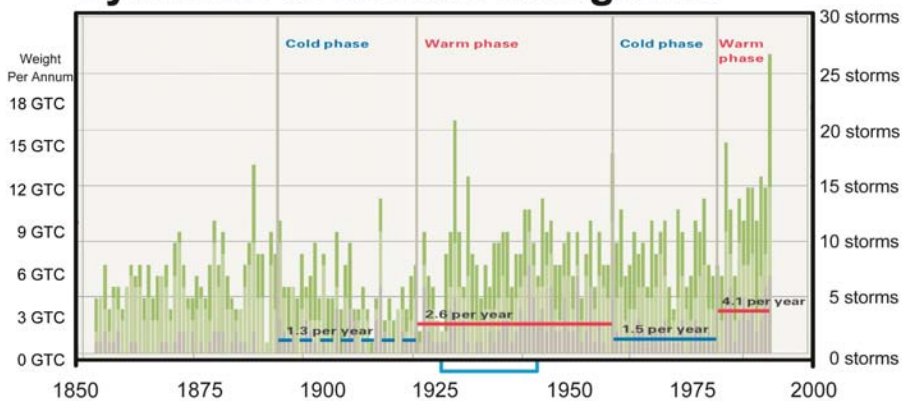


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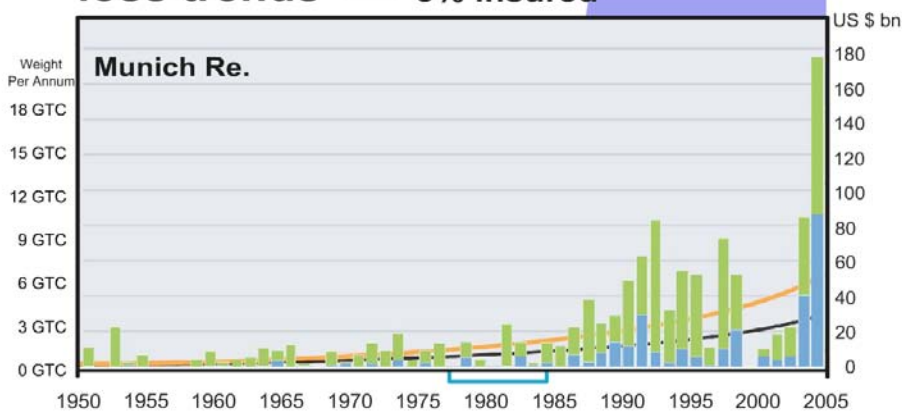
Rising Damage Curves @ 6%/year Twice the Rate of Economic Growth



Annual frequencies of tropical cyclones of various categories

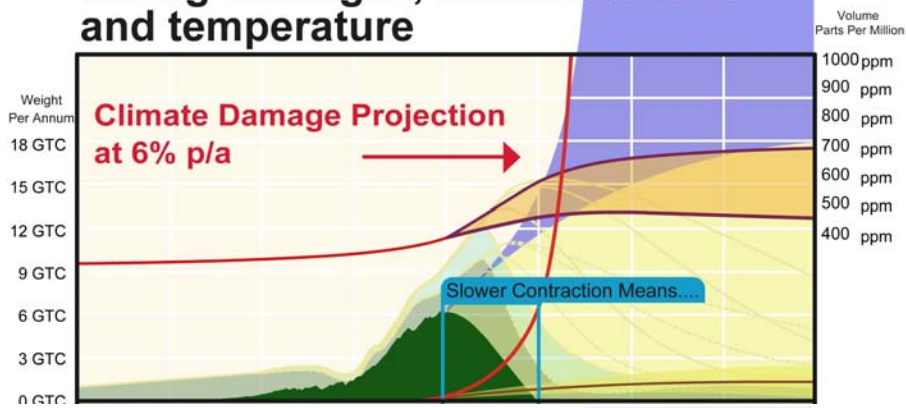


Annual loss trends

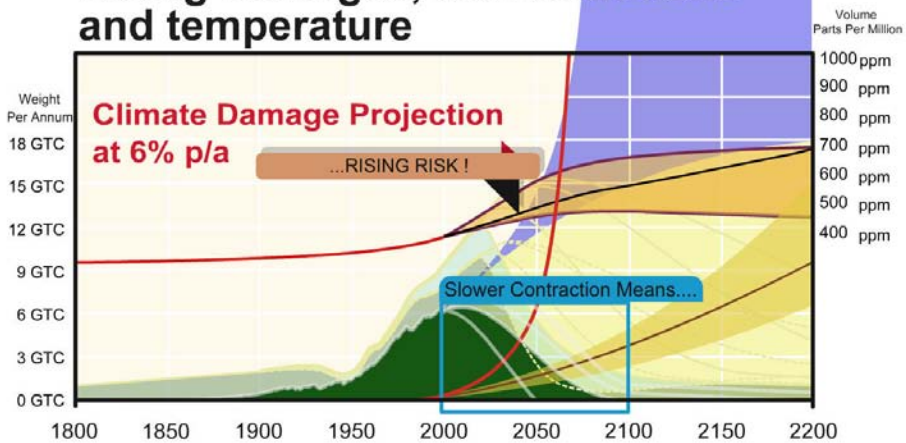


These data and trend analysis from Munich Re

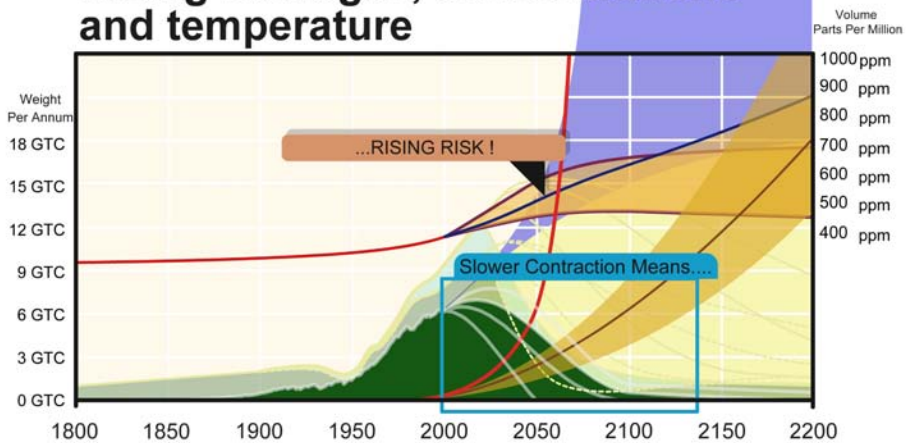
Rising Damages, concentrations and temperature



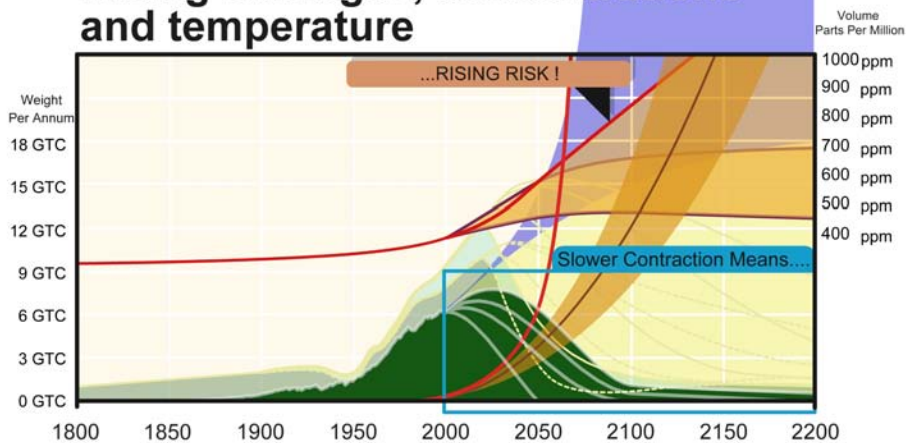
Rising Damages, concentrations and temperature



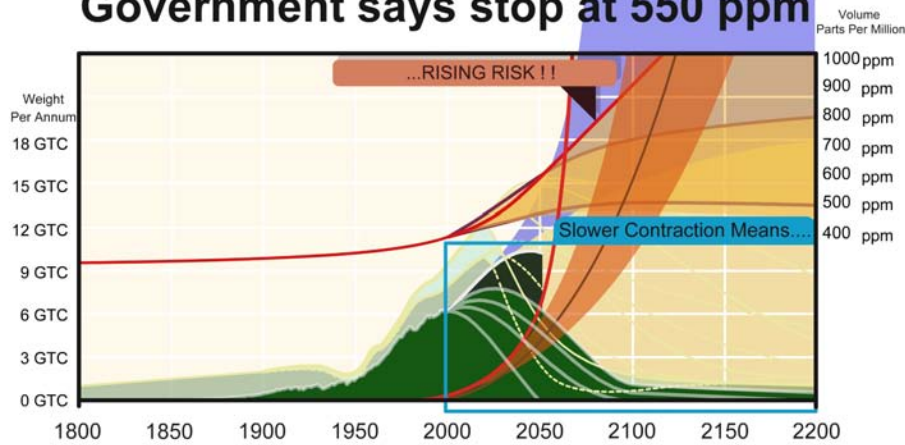
Rising Damages, concentrations and temperature



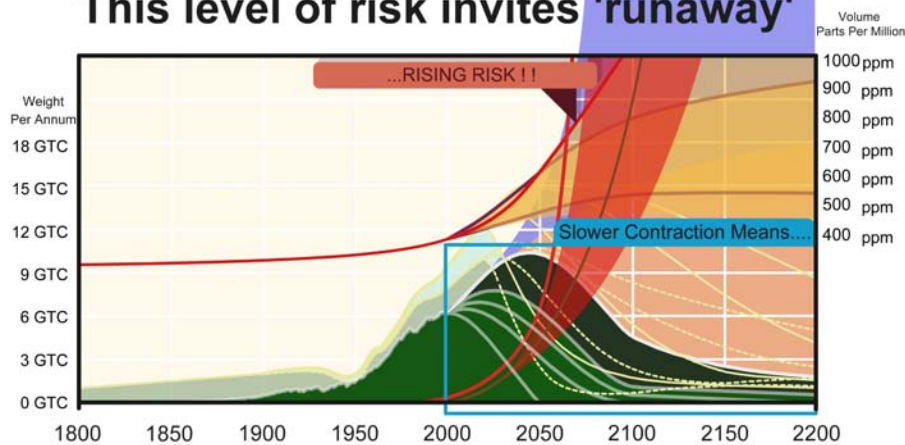
Rising Damages, concentrations and temperature



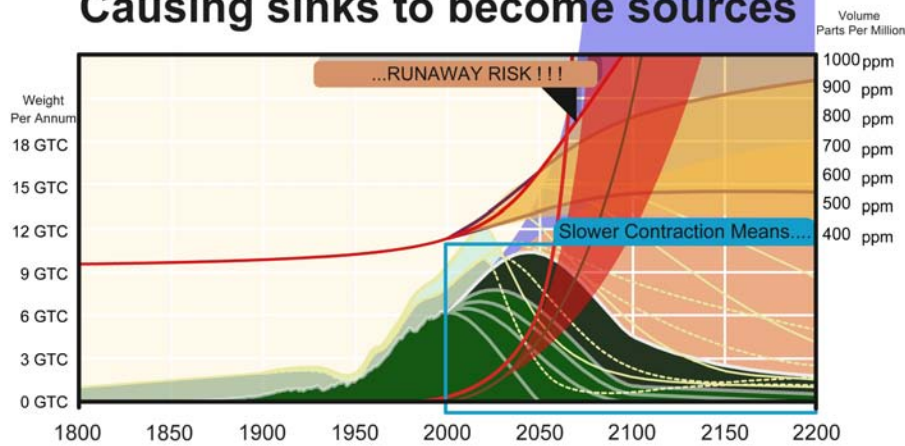
Government says stop at 550 ppm



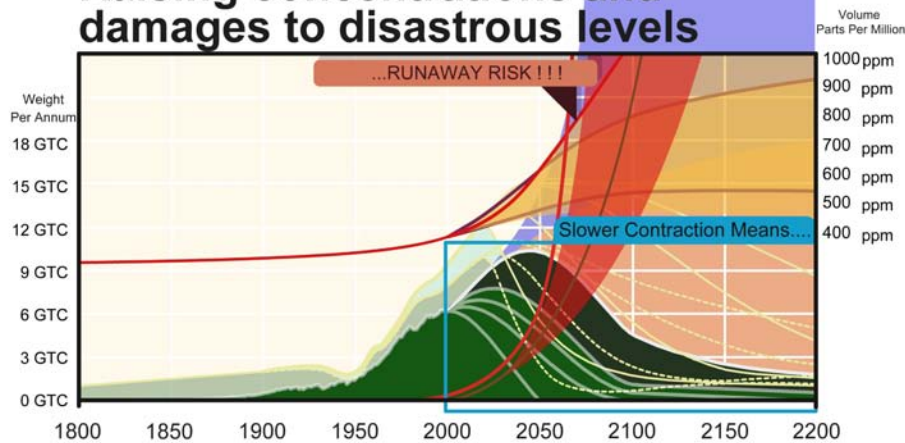
This level of risk invites 'runaway'



Causing sinks to become sources

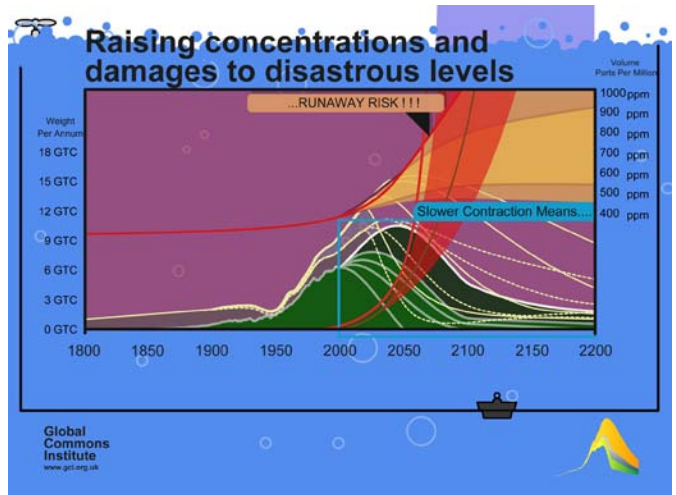
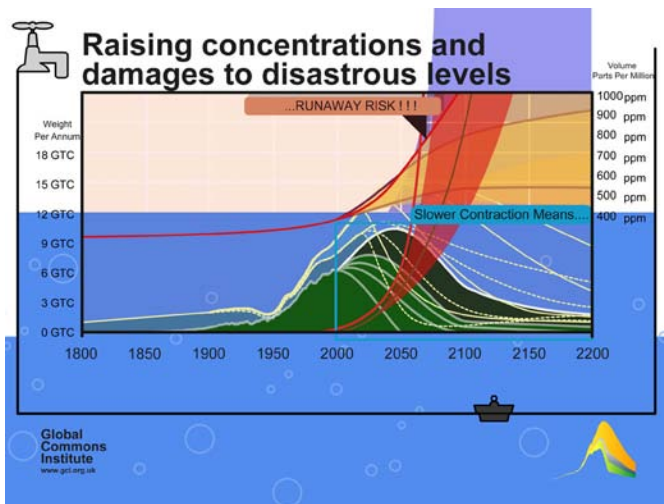
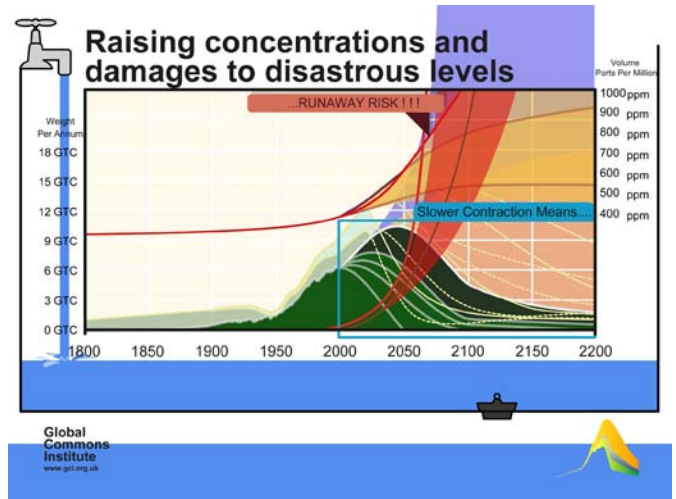
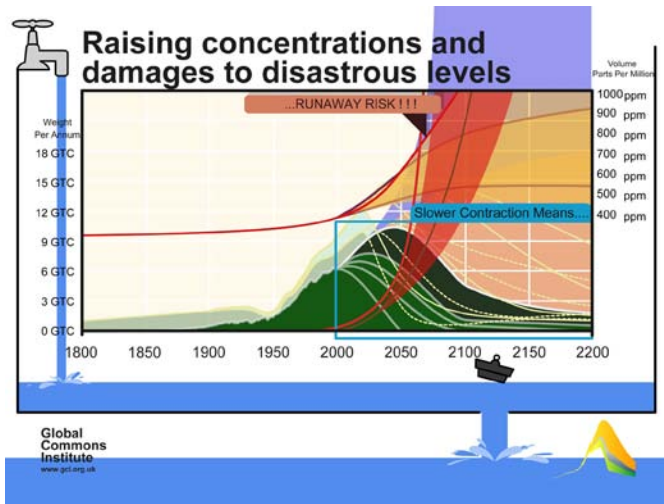


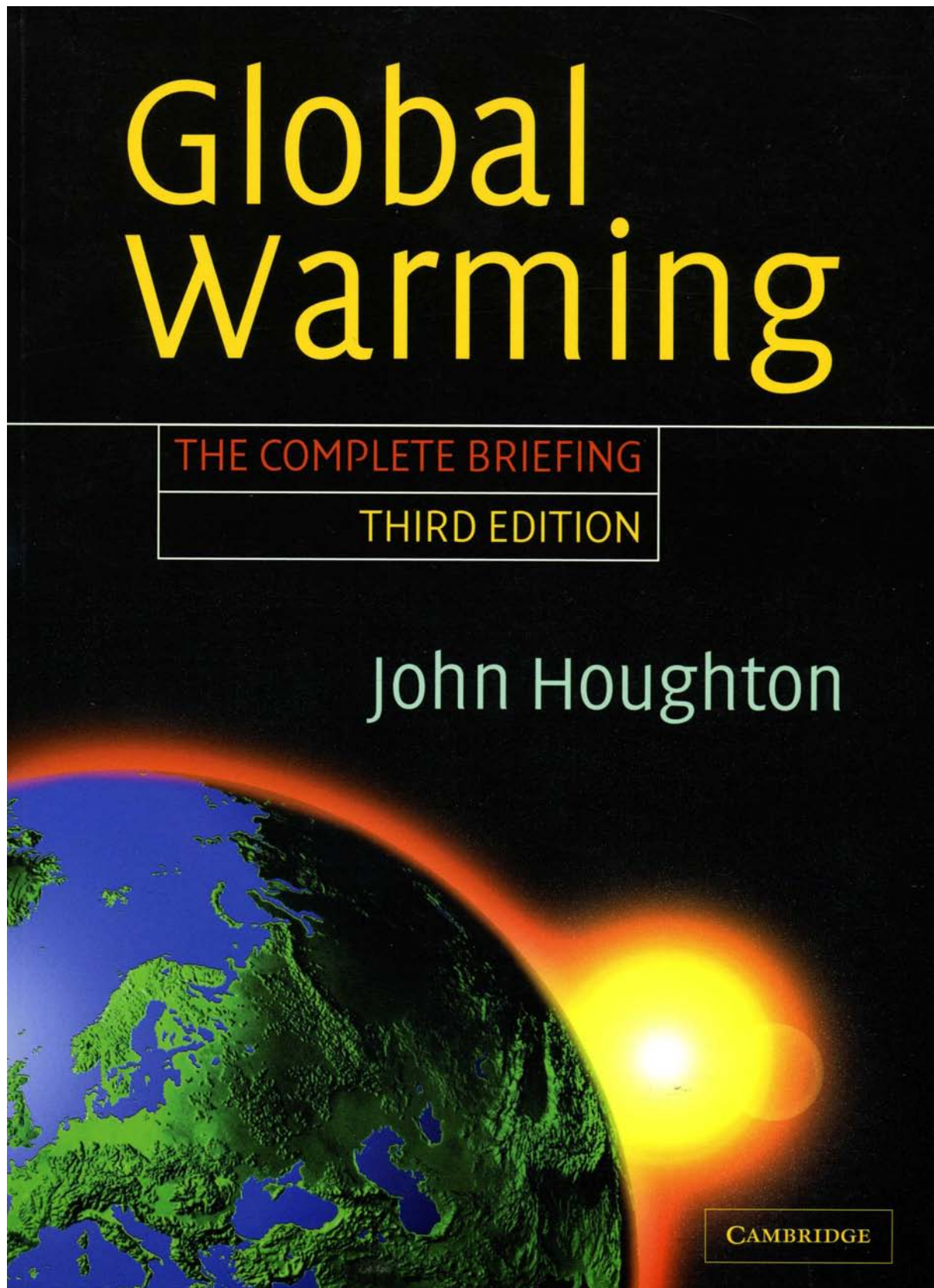
Raising concentrations and damages to disastrous levels



Sinks Become Sources

Damages become Catastrophic





Realising the Climate Convention Objective

Having decided on a choice of stabilisation level, a large question remains: how can the nations of the world work together to realise it in practice?

The Objective of the Climate Convention is largely concerned with factors associated with the requirement for sustainable development. In Chapter 9, four principles were enunciated that should be at the basis of negotiations concerned with future emissions reductions to mitigate climate change. One of these was the Principle of Sustainable Development. The others were the Precautionary Principle, the Polluter-Pays Principle and the Principle of Equity. This latter Principle includes *intergenerational* equity, or weighing the needs of the present generation against those of future generations, and *international* equity, or weighing the balance of need between industrial and developed nations and the developing world. Striking this latter balance is going to be particularly difficult because of the great disparity in current carbon dioxide emissions between the world's richest nations and the poorest nations (Figure 10.2), the continuing demand for fossil fuel use in the developed world and the understandable desire of the poorer nations to escape from poverty through development and industrialisation. This latter is particularly recognised in the Framework Convention on Climate Change (see box at the beginning of the chapter) where the growing energy needs of developing nations as they achieve industrial development are clearly stated.

An example of how the approach to stabilisation for carbon dioxide might be achieved is illustrated in Figure 10.3. It is based on a proposal called 'Contraction and Convergence' that originates with the Global Commons Institute (GCI),²³ a non-governmental organisation based in the UK. The envelope of carbon dioxide emissions is one that leads to stabilisation at 450 ppm (without climate feedbacks included), although the rest of the proposal does not depend on that actual choice of level. Note that, under this envelope, global fossil-fuel emissions rise by about fifteen per cent to about 2025; they then fall to less than half the current level by 2100. The figure illustrates the division of emissions between major countries or groups of countries as it has been up to the present. Then the simplest possible solution is taken to the sharing of emissions between countries and proposes that, from some suitable date (in the

CO2 Emissions Gross and Per Capita
'Contraction' for 450 ppmv & 'Convergence' by 2030

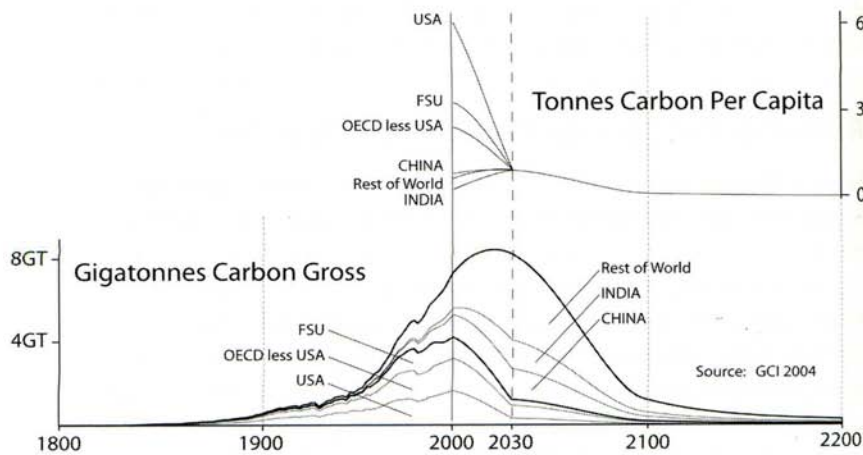


Figure 10.3 Illustrating the 'Contraction and Convergence' proposal of the Global Commons Institute for achieving stabilisation of carbon dioxide concentration. The envelope of carbon dioxide emissions illustrated is one that leads to stabilisation at 450 ppm (but the effect of climate carbon cycle feedbacks is not included). For major countries or groups of countries, up to the year 2000, historic emissions are shown. After 2030 allocations of emissions are made on the basis of equal shares per capita on the basis of population projections for that date. From now until 2030, smooth 'convergence' from the present situation to that of equal shares is assumed to occur. In the upper part of the diagram the per capita contributions that apply to different countries or groups of countries are shown. For OECD and FSU see Glossary.

figure, 2030 is chosen), emissions are allocated on the basis of equal shares per capita. From now until 2030 the division is allowed to converge from the present situation to that of equal per capita shares. Hence the 'contraction and convergence'. The further proposal is that arrangements to trade the carbon dioxide allocations are made.

The 'Contraction and Convergence' proposal addresses all of the four principles mentioned above. In particular, through its equal per capita sharing arrangements it addresses head-on the question of international equity – and the proposed trading arrangements ensure that the greatest 'polluters' pay. Its simple and appealing logic means that it is a strong candidate for providing a long-term solution. What has yet to be worked is how the 'convergence' part of the proposal can be implemented, but then any proposal for a solution will have to address the problem of 'convergence'.

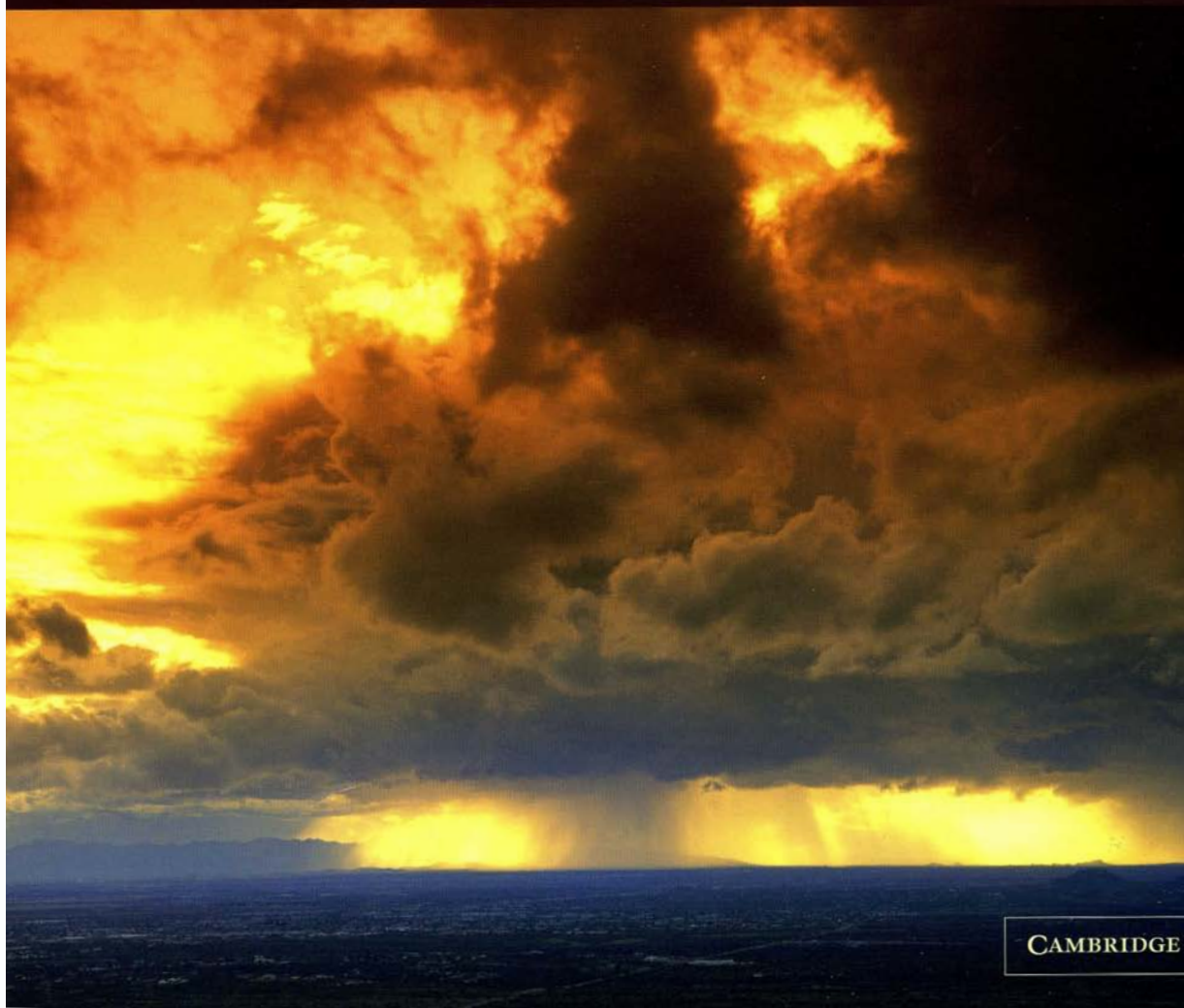
Another example of a pathway to stabilisation during the twenty-first century of carbon dioxide concentration is set out in a study sponsored

by the World Energy Council and published in 1993.²⁴ An ‘ecologically driven scenario’ – Scenario C – of global carbon dioxide emissions is described that leads to stabilisation at about 450 ppm (without carbon feedbacks included) – see Figure 11.4. Under that scenario, global carbon dioxide emissions grow by about ten per cent (from 1990 levels) by the year 2050; they then fall by sixty per cent by 2100 (Table 11.2). For the first two decades of the twenty-first century, the World Energy Council provide detailed projections for Scenario C that recognise the requirement for international equity. Up to the year 2020, emissions from fossil fuels in the developing world are allowed to approximately double, while those from developed countries fall by about thirty per cent (Figure 11.5). In 2020, global emissions from developing countries would be sixty per cent of the total for the world compared with about one-third in 1990. After 2020 reductions in emissions in all countries would be required.

As the World Energy Council point out in their report, achievement of such a scenario will be far from easy. It requires three essential ingredients. The first is an aggressive emphasis on energy saving and conservation. Much here can be achieved at zero net cost or even at a cost saving. Though much energy conservation can be shown to be economically advantageous, it is unlikely to be undertaken without significant incentives. However, it is clearly good in its own right, it can be started in earnest now and it can make a significant contribution to the reduction of emissions and the slowing of global warming. The second ingredient is an emphasis on the development of appropriate non-fossil fuel energy sources leading to very rapid growth in their implementation. The third is the transfer of technologies to developing countries that will enable them to apply the most appropriate and the most efficient technologies to their industrial development, especially in the energy sector.

AVOIDING DANGEROUS CLIMATE CHANGE

EDITED BY Hans Joachim Schellnhuber, Wolfgang Cramer,
Nebojsa Nakicenovic, Tom Wigley and Gary Yohe



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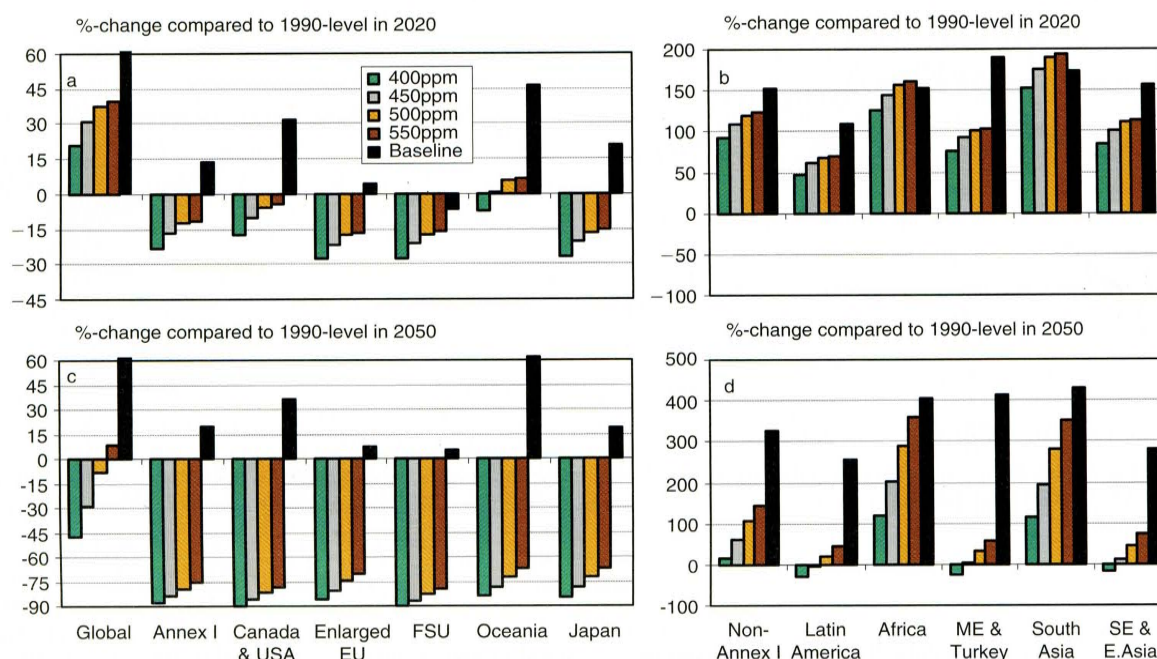


Figure 31.7 Change in Kyoto-gas emission allowances (excluding land use CO₂ emissions) before emissions trading compared to 1990 levels in 2020 (upper) and 2050 (lower) for the Annex I regions (a,c) and non-Annex I regions (b,d) for the **Contraction & Convergence** approach for the stabilization pathways at 550, 500, 450 and 400 ppm CO₂-equivalent concentrations under the CPI+tech scenario.

Global greenhouse gas emissions (incl. land use CO₂) will have to decrease to 5–10% below 1990 levels by 2050 for stabilization at 550 ppm CO₂-eq. For stabilization at 500 ppm CO₂-eq., global greenhouse gas emissions would need to be 15–25% below 1990 levels in 2050. The reduction requirements now become as high as 50–55% and 30–40% below 1990 levels in 2050 to reach the 400 ppm and 450 ppm CO₂-eq. target, respectively (instead of 40–45% and 15–25%, respectively) (see Figure 31.6b). These reductions are about 10–15% higher than the reductions of the Kyoto gas emissions excluding land use CO₂.

In general, when we compare the reductions for the different concentration levels, we find that about 15–20% additional reductions by 2050 are needed for every 50 ppm lower stabilization level. We also see that higher near-term emissions need to be compensated by lower future emissions (compare CPI with B1 of the 500 ppm level, for example).

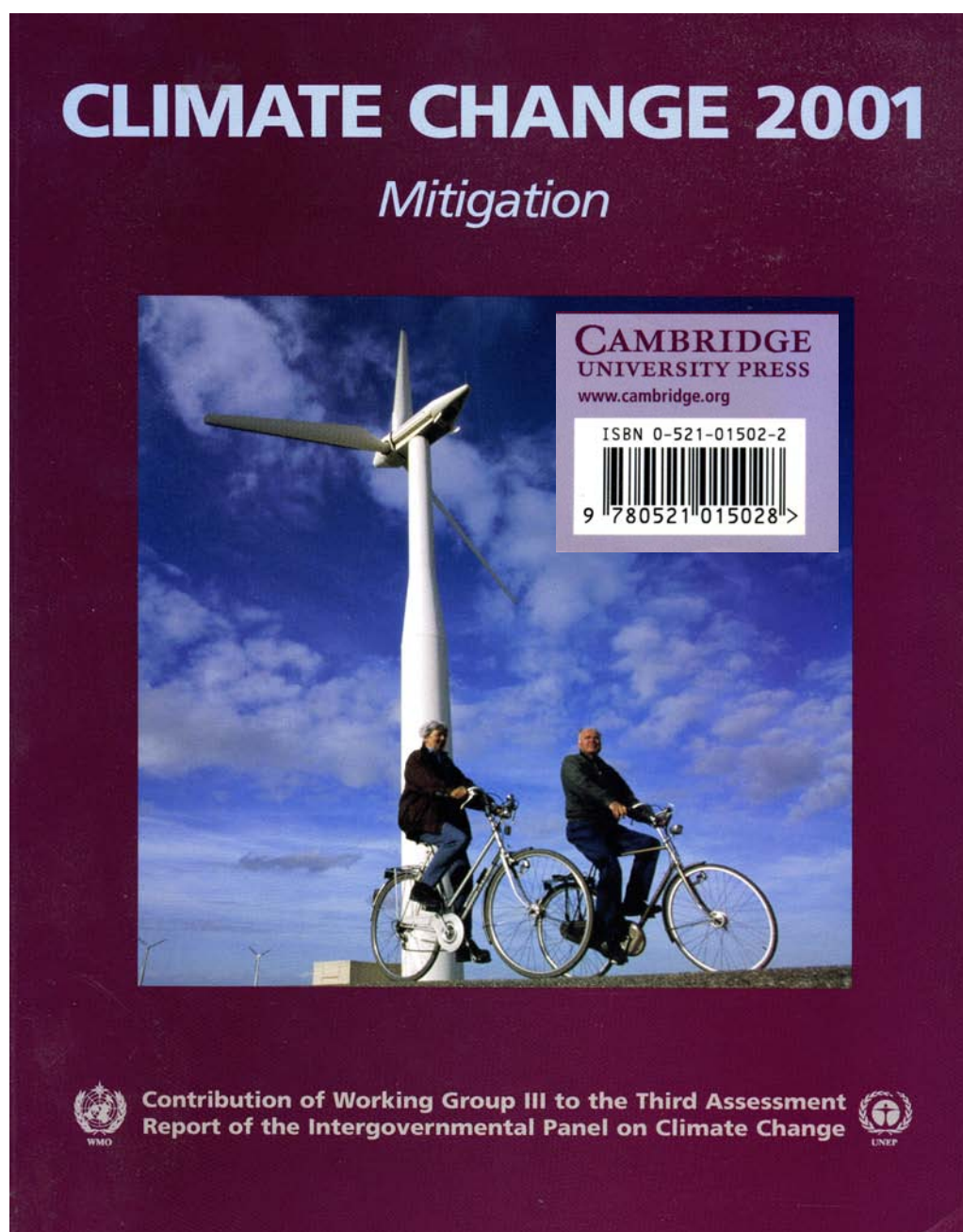
approach despite concerns in regard to its political feasibility. The approach defines emission allowances on the basis of convergence of per capita emission allowances (starting after 2012) of all countries (including the USA)⁵ in 2050 under a contracting global emissions pathway (Meyer, 2000). Figure 31.7 gives the change in the regional emission allowances of the six Kyoto gases (excluding land use CO₂) compared to the 1990 levels for 2020 and 2050 for the CPI + tech scenario.

This analysis suggests that Annex I commitments need to be strongly intensified after 2012, if global emissions should follow any of the presented pathways. In 2020, Annex I Kyoto-gas emissions (excluding land use CO₂) need to be reduced by about 25% in comparison with 1990 levels for 400 ppm, and about 15–20% for 450 ppm stabilization. The reductions compared to the baseline are about 10–15% higher. In 2050, the reductions below 1990 levels stand at about 90% (400 ppm) and 80% (450 ppm), respectively (see Figure 31.7).

IPCC Third Assessment [Published Cambridge University Press]
Working Group Three Chapter One Page 90

"Rights-based, that is based on equal (or otherwise defensible) rights to the global commons.

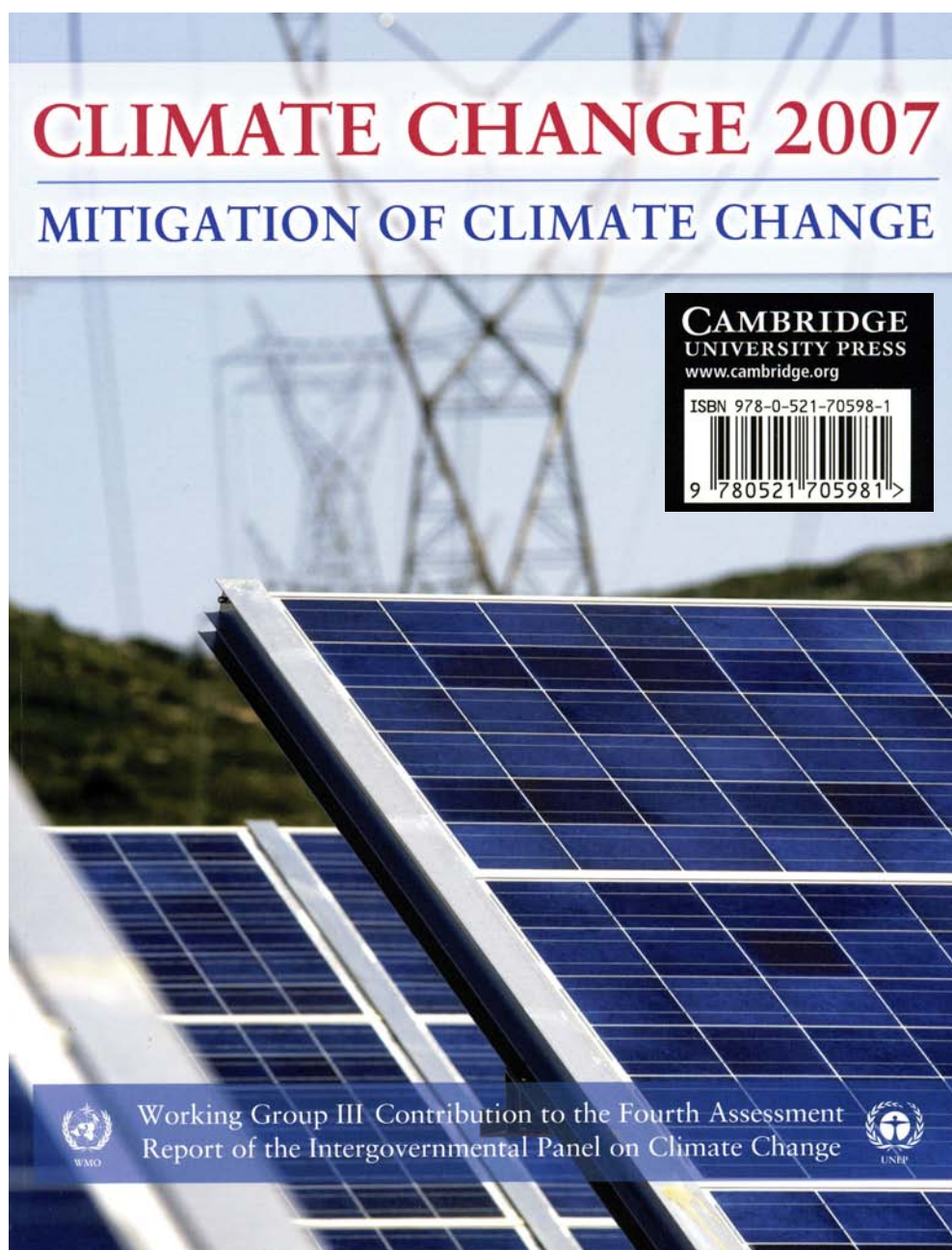
A formulation that carries this insight to its logical conclusion is that of "contraction and convergence" (Meyer, 1999), whereby net aggregate emissions decline to zero, and per capita emissions of Annex I and non-Annex I countries reach precise equality."

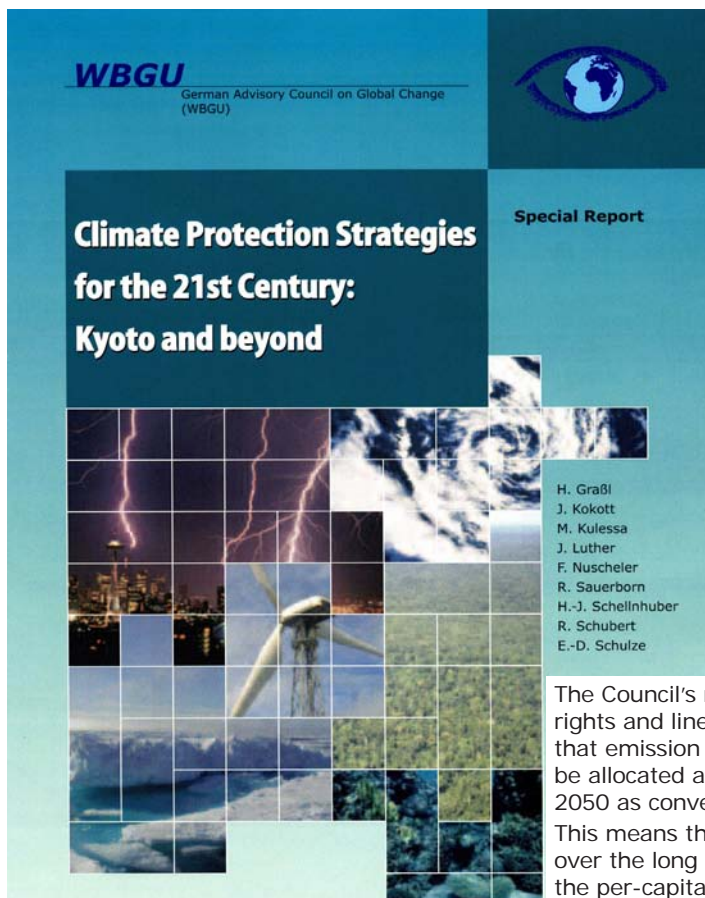


IPCC Fourth Assessment [Published Cambridge University Press]
Working Group Three Chapter Three Page 214

"A number of scenario studies have been conducted for various countries within Europe. These studies explore a wide range of emission caps, taking into account local circumstances and potentials for technology implementation.

Many of these studies have used specific burden-sharing allocation schemes, such as the **contraction and convergence (C&C) approach (GCI, 2005)** for calculating the allocation of worldwide emissions to estimate national emissions ceilings. The UK's Energy White Paper (DTI, 2003) examined measures to achieve a 60% reduction in CO₂ emissions by 2050 as compared to the current level."





The Council's recommendation: Aim towards equal per-capita emission rights and linear harmonization of emissions shares. The WBGU recommends that emission rights for the greenhouse gases covered by the Kyoto Protocol be allocated according to the 'contraction and convergence' approach, taking 2050 as convergence year.

This means that global emissions would need to be reduced substantially over the long term (contraction). In a further step, it would be agreed that the per-capita emissions of all states must reach equal levels in a continuous process extending until 2050 (convergence).

In particular, this means that the per-capita emissions of industrialized countries, which are still comparatively high at present, must be reduced, while some developing countries can initially increase their per-capita emissions.

The principle of constancy requires that there be no sudden switch to equal per-capita emissions, because of the resulting stresses on the global economy. The approach further presupposes a functioning global emissions trading scheme, in order to reduce the costs of the transformation process.

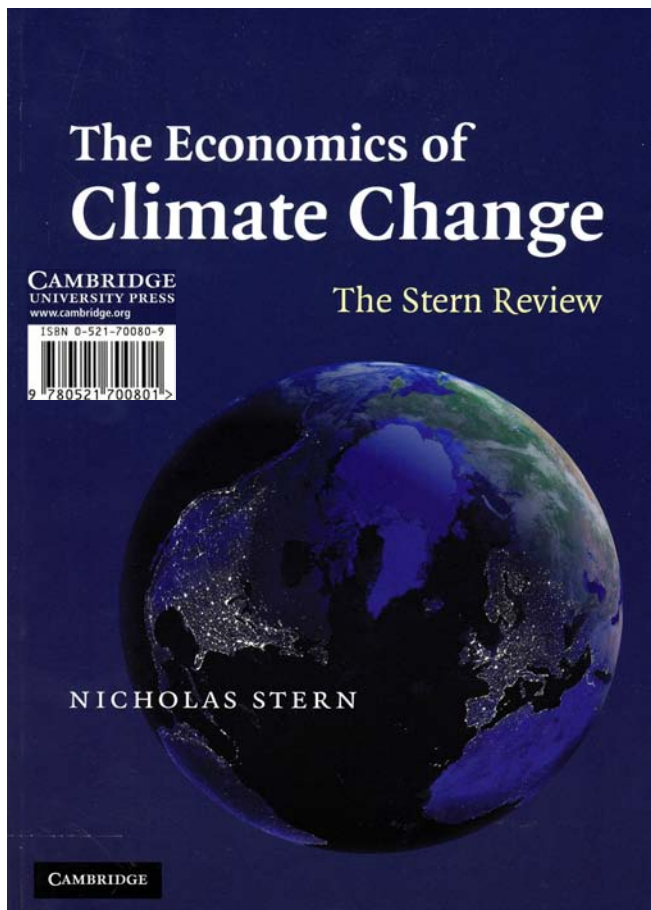
Contraction and convergence

The model of 'contraction and convergence' (C&C; Meyer, 2000) is based upon a fundamentally equal right of all individuals to emit. This can be derived from the human right to equal treatment, and corresponds to the principle of equity under the UNFCCC (Art. 3(1)), and thus corresponds to the egalitarian principle postulated by the Council.

Under this approach, the global emissions budget resulting at each point in time from the target path for global emissions is broken down such that the per-capita emission rights of all countries or regions converge and are equal from a set convergence year onwards. This process can be linear or non-linear, at a rate that must also be set.

Thus, for pragmatic reasons (principle of constancy), realization of the right to equal per-capita emissions is aimed at with a time lag of several decades (roughly up to the year 2050 or 2100). The approach does justice to the principle of economic capability by the circumstance that industrialized countries would be subject on average to substantially higher reduction commitments than the developing countries. There are contradictions, however, between taking the C&C approach or the capability principle as a basis for allocating emission rights – these conflicts become particularly clear if, instead of comparing the 'industrialized country' and developing country groups, individual countries are compared. The principle of differentiated responsibilities is complied with to the extent that the per-capita reduction burden of countries is greater the higher their current per-capita share in greenhouse gas emissions is. However, differences in historical responsibilities are largely not taken into account.

In terms of the CO₂ emissions path, the C&C approach is highly targeted, as emission budgets are fixed over the long term and are not subject to any fluctuation.



NICHOLAS STERN

THE ECONOMICS OF CLIMATE CHANGE [2006]

PART I: Climate Change – Our Approach

2A Ethical Frameworks and Intertemporal Equity/Climate change p 47

"The notions of the right to climate protection or climate security of future generations and of shared responsibilities in a common world can be combined to assert that, collectively, we have the right only to emit some very small amount of GHGs, equal for all, and that no-one has the right to emit beyond that level without incurring the duty to compensate. We are therefore obliged to pay for the right to emit above that common level.

This can be seen as one argument in favour of the 'contract and converge' proposition, whereby 'large emitters' should contract emissions and all individuals in the world should either converge to a common (low) level or pay for the excess (and those below that level could sell rights).

Source: Contraction and Convergence™ (C&C) is the science-based, global climate policy framework proposed to the UN since 1990 by the Global Commons Institute (GCI).

www.gci.org.uk/briefings/ICE.pdf



Human Development Report 2007/2008

Fighting climate change:
Human solidarity in a divided world



Published for the
United Nations
Development
Programme
(UNDP)

achieve its prosperity. How many planets will India require for development?”

We ask the same question for a world edging towards the brink of dangerous climate change. Using the annual ceiling of 14.5 Gt CO₂, if emissions were frozen at the current level of 29 Gt CO₂ we would need two planets. However, some countries are running a less sustainable account than others. With 15 percent of the world population, rich countries are using 90 percent of the sustainable budget. How many planets would we need if developing countries were to follow the example of these countries?

If every person living in the developing world had the same carbon footprint as the average for high income countries, global CO₂ emissions would rise to 85 Gt CO₂—a level that would require six planets. With a global per capita footprint at Australian levels, we would need seven planets, rising to nine for a world with Canada and United States levels of per capita emissions (table 1.2).

The answer to Gandhi’s question raises some wider questions about social justice in climate change mitigation. As a global community, we are running up a large and unsustainable carbon debt, but the bulk of that debt has been accumulated by the world’s richest countries.

The challenge is to develop a global carbon budget that charts an equitable and sustainable course away from dangerous climate change.

Charting a course away from dangerous climate change

We use the PIK model to identify plausible pathways for keeping within the 2°C threshold. One pathway treats the world as a single country, which for carbon accounting purposes it is, then identifies targets for rationing or ‘burden sharing’. However, the viability of any system of burden sharing depends on participants in the system perceiving the distribution of rations to be fair. The UNFCCC itself acknowledges this through an injunction to “protect the climate system...on the basis of equity and in accordance with...common but differentiated responsibilities and respective capabilities.”

While interpretation of that injunction is a matter for negotiation, we have distinguished between industrialized countries and developing countries, charting separate pathways for the two groups. The results are summarized in figure 1.11. The cuts from a 1990 base-year on our sustainable emissions pathway are as follows:

- *The world.* Emissions for the world will have to be reduced by around 50 percent by 2050, with a peak around 2020. Emissions would fall towards zero in net terms by the end of the 21st Century.
- *Developed countries.* High-income countries would have to target an emissions peak between 2012 and 2015, with 30 percent cuts by 2020 and at least 80 percent cuts by 2050.
- *Developing countries.* While there would be large variations, major emitters in the developing world would maintain a trajectory of rising emissions to 2020, peaking at around 80 percent above current levels, with cuts of 20 percent against 1990 levels by 2050.

Contraction and convergence—sustainability with equity

We emphasize that these are feasible pathways. They are not specific proposals for individual countries. Yet the pathways do serve an important purpose. Governments are embarking

Table 1.2 Global carbon footprints at OECD levels would require more than one planet ^a

	CO ₂ emissions per capita (t CO ₂) 2004	Equivalent global CO ₂ emissions (Gt CO ₂) 2004 ^b	Equivalent number of sustainable carbon budgets ^c
World ^d	4.5	29	2
Australia	16.2	104	7
Canada	20.0	129	9
France	6.0	39	3
Germany	9.8	63	4
Italy	7.8	50	3
Japan	9.9	63	4
Netherlands	8.7	56	4
Spain	7.6	49	3
United Kingdom	9.8	63	4
United States	20.6	132	9

^a. As measured in sustainable carbon budgets.

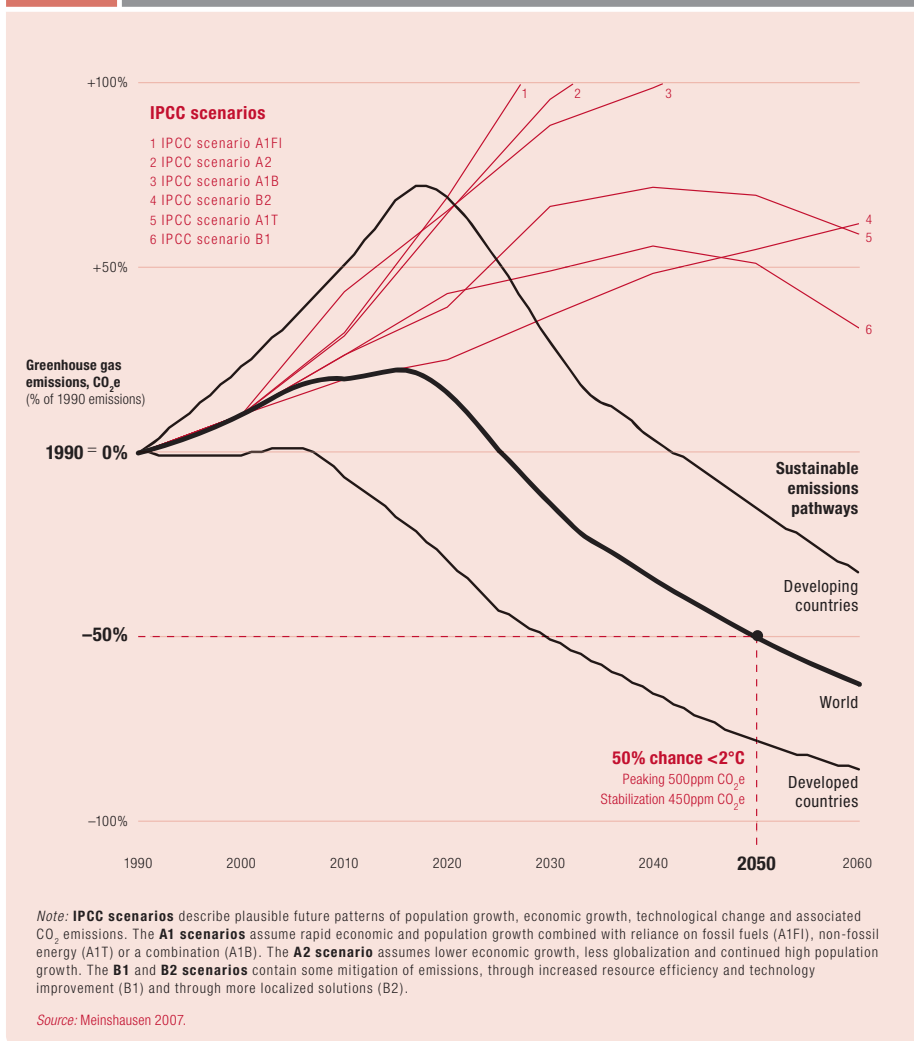
^b. Refers to global emissions if every country in the world emitted at the same per capita level as the specified country.

^c. Based on a sustainable emissions pathway of 14.5 Gt CO₂ per year.

^d. Current global carbon footprint.

Source: HDRO calculations based on Indicator Table 24.

Figure 1.11 Halving emissions by 2050 could avoid dangerous climate change



on negotiations for the multilateral framework to succeed the current Kyoto Protocol following the expiry of the current commitment period in 2012. The PIK simulations identify the scale of emission reductions that will be required to put the world on a pathway that avoids dangerous climate change. There are various trajectories that could be adopted to achieve the 2050 targets. What our sustainable emissions pathway does is to emphasize the importance of linking near-term and long term goals.

The emissions pathways also serve to highlight the importance of early and concerted action. In theory starting points for carbon emission reductions could be pushed back.

But the corollary would be far deeper cuts required over a reduced time horizon. In our view that would be a prescription for failure because costs would rise and adjustments would become even more difficult. Another scenario could be drawn up in which some major Organisation for Economic Co-operation and Development (OECD) countries do not participate in quantitative carbon budgeting. Such an approach would all but guarantee failure. Given the magnitude of emission reductions required in the OECD countries, it is unlikely that participating countries would be able to compensate for the non-participation of major emitters. Even if they

The UNDP Report calls this whole section “Contraction and Convergence” [p 25] and then does two things confusing the arguments about C&C: -

1. it publishes diagrams from Potsdam Climate Institute (PIK) called ‘C&C’ which are vague and merely “*striving for a long-term convergence to equal per capita emissions rights*” [see p 22 paragraph 9];
2. it then rehearses the arguments used by Stern in his Report rejecting C&C [see footnote 62 i.e sourcing Stern Report and specifically not sourcing GCI].

Both Stern and UNDP changed their position in favour of C&C [p 22]. UNDP have written to apologize for the lack of sourcing to GCI, but have yet to realize the confusion created.

Stern has not acknowledged any of this.

did, it is unlikely that they would embrace an agreement that allowed ‘free riding’.

Participation of the developing world in quantitative reductions is equally vital. In some respects, our ‘two-country’ model oversimplifies the issues to be addressed in negotiations. The developing world is not homogenous: the United Republic of Tanzania is not in the same position as China, for example. Moreover, what matters is the overall volume of emission reductions. From a global carbon budget perspective, deep reductions in sub-Saharan Africa carry negligible weight relative to reductions in major emitting countries.

However, with developing countries accounting for nearly half of worldwide emissions, their participation in any international agreement is increasingly important. At the same time, even high growth developing countries have pressing human development needs that must be taken into account. So too must the very large ‘carbon debt’ that the rich countries owe the world. Repayment of that debt and recognition of human development imperatives demand that rich countries cut emissions more deeply and support low-carbon transitions in the developing world.

We acknowledge that many other emissions’ pathways are possible. One school of thought

argues that every person in the world ought to enjoy an equivalent right to emit greenhouse gases, with countries that exceed their quota compensating those that underutilize their entitlement. Although proposals in this framework are often couched in terms of rights and equity, it is not clear that they have a rights-based foundation: the presumed ‘right to emit’ is clearly something different than the right to vote, the right to receive an education or the right to enjoy basic civil liberties.⁶² At a practical level, attempts to negotiate a ‘pollution rights’ approach is unlikely to gain broad support. Our pathway is rooted in a commitment to achieve a practical goal: namely, the avoidance of dangerous climate change. The route taken requires a process of overall contraction in greenhouse gas flows and convergence in per capita emissions (figure 1.12).

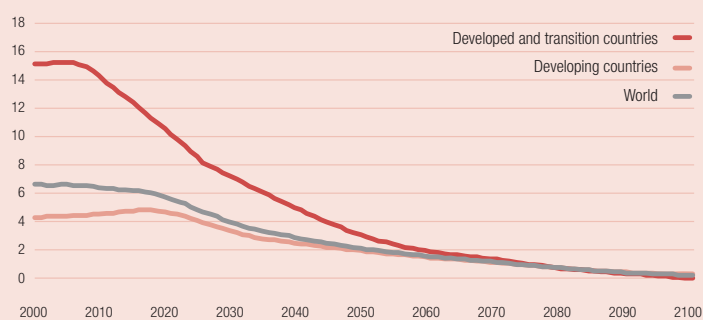
Urgent action and delayed response—the case for adaptation

Deep and early mitigation does not offer a short-cut for avoiding dangerous climate change. Our sustainable emissions pathway demonstrates the importance of the time lag between mitigation actions and outcomes. Figure 1.13 captures the lag. It compares the degree of warming above preindustrial levels associated with the IPCC’s non-mitigation scenarios, with the anticipated warming if the world stabilizes greenhouse gas stocks at 450 ppm CO₂e. Temperature divergence begins between 2030 and 2040, becoming more emphatically marked after 2050, by which time all but one of the IPCC scenarios breach the 2°C dangerous climate change threshold.

The timing of the temperature divergence draws attention to two important public policy issues. First, even the stringent mitigation implied by our sustainable emissions pathway will not make a difference to world temperature trends until after 2030. Until then, the world in general and the world’s poor in particular will have to live with the consequences of past emissions. Dealing with these consequences while maintaining progress towards the MDGs and building on that progress after 2015 is a matter not for mitigation but for adaptation. Second, the real benefits of mitigation will build cumulatively across the second half of the 21st Century and beyond.

Figure 1.12 Contracting and converging to a sustainable future

Emissions per capita for stabilization at 450 ppm CO₂e (t CO₂ per capita)



Note: IPCC scenarios describe plausible future patterns of population growth, economic growth, technological change and associated CO₂ emissions. The A1 scenarios assume rapid economic and population growth combined with reliance on fossil fuels (A1F), non-fossil energy (A1T) or a combination (A1B). The A2 scenario assumes lower economic growth, less globalization and continued high population growth. The B1 and B2 scenarios contain some mitigation of emissions, through increased resource efficiency and technology improvement (B1) and through more localized solutions (B2).

Source: Meinshausen 2007.

Breaking the
Climate Deadlock
A Global Deal for Our
Low-Carbon Future

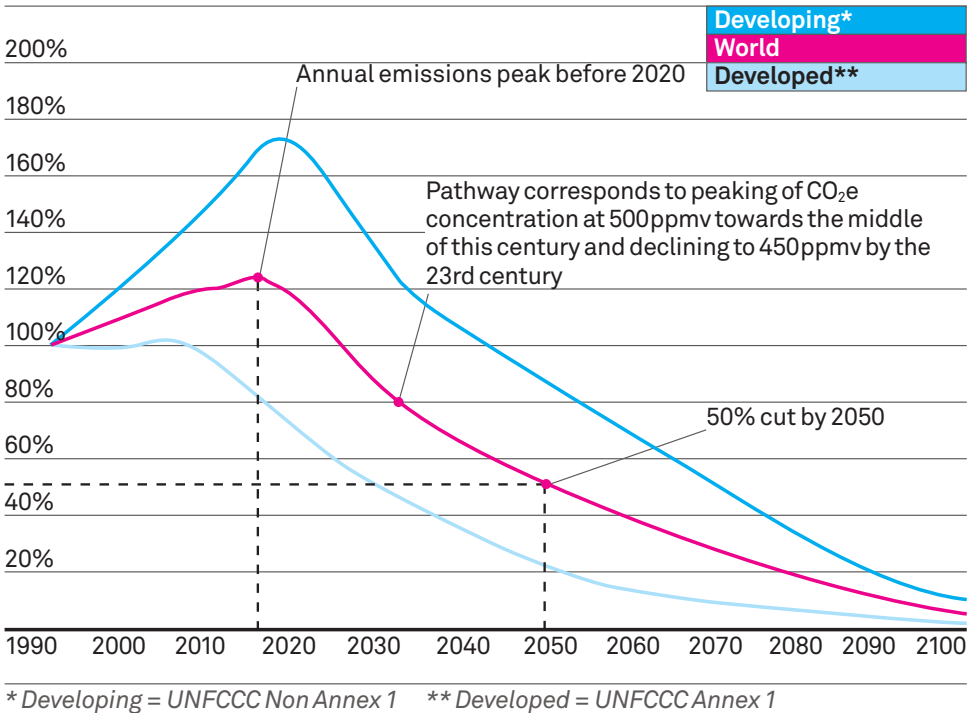
Tony Blair The Office of Tony Blair
THE CLIMATE GROUP The Climate Group

Contraction and convergence—
sustainability with equity

Exhibit 2 48 HUMAN DEVELOPMENT REPORT 2007/2008

Potential pathway to
stabilise greenhouse
gases
GHG annual emissions
relative to 1990

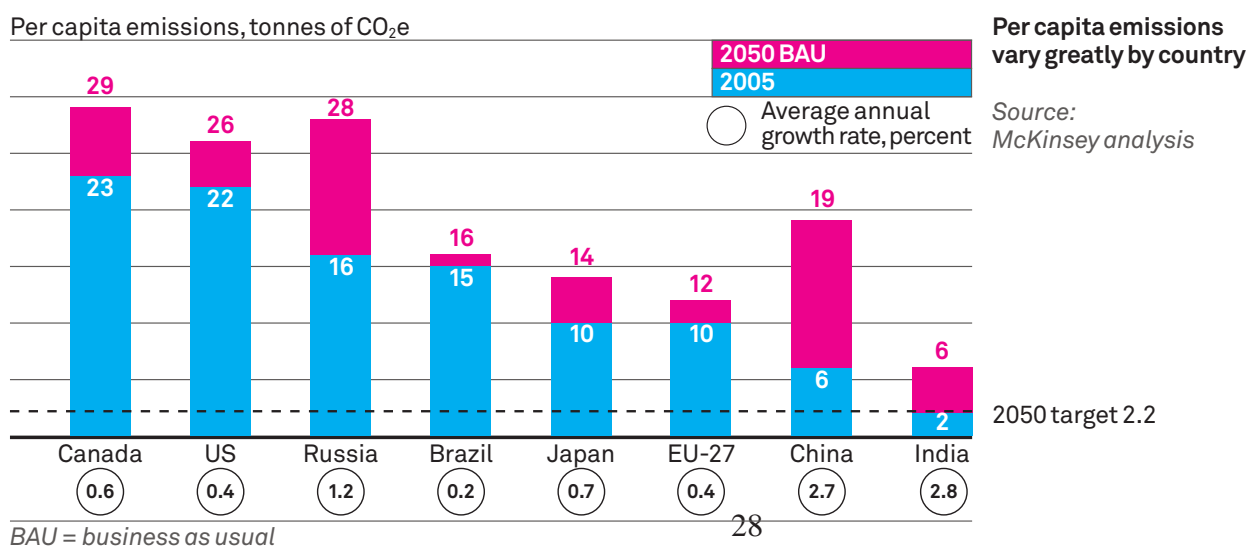
Source:
Meinshausen (2007)



We can then translate these percentage reductions into annual emissions figures. Today, the world emits approximately 55 billion tonnes of CO₂e per year (billions of tonnes are also sometimes referred to as “gigatons”).²⁷ The power sector accounts for the biggest share at around 26 percent according to IPCC estimates, with industry at 19 percent, forestry 17 percent, agriculture 14 percent and transport 13 percent (Exhibit 3).

Another way to think about this is that in 2005 emissions were about 8 tonnes per person per year. Advanced economies ranged from 10 tonnes per person for Japan and the EU, to 23 for Canada (Exhibit 5). Developing countries range from very small amounts for the poorest countries to under 2 tonnes per person for India and 6 for China. Assuming the emissions cuts above and world population growth to 9 billion people, such a scenario implies a world average of approximately 2 tonnes per person by 2050.³¹

Exhibit 5





The Royal Commission on Environmental Pollution (RCEP - 2000)

The Need for an International Agreement - Contraction & Convergence

"3. The government should press for a future global climate agreement based on the Contraction & Convergence approach, combined with international trading in emission permits. Together, these offer the best long-term prospect of securing equity, economy and international consensus (4.69).

4.47 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 equal per capita basis. There will have to be a comprehensive system of monitoring emissions to ensure the quotas are complied with. Adjustment factors could be used to compensate for differences in nations' basic energy needs. Those countries which regularly experience very low or high temperatures might, for instance, be entitled to an extra allocation per capita for space heating or cooling.

4.48 A system of per capita quotas could not be expected to enter into force immediately. At the same time as entitling developing nations to use substantially more fossil fuels than at present (which they might not be able to afford), it would require developed nations to make drastic and immediate cuts in their use of fossil fuels, causing serious damage to their economies.

4.49 A combination of two approaches could avoid this politically and diplomatically unacceptable situation, while enabling a per capita basis to be adhered to. The first approach is to require nations emission quotas to follow a contraction and convergence trajectory. Over the coming decades each nation's allocation would gradually shift from its current level of emissions towards a level set on a uniform per capita basis. By this means 'grandfather rights' would gradually be removed: the quotas of developed nations would fall, year by year, while those of the poorest developing nations would rise, until all nations had an entitlement to emit an equal quantity of greenhouse gases per head (convergence). From then on, the quotas of all nations would decline together at the same rate (contraction). The combined global total of emissions would follow a profile through the 21st and 22nd centuries that kept the atmospheric concentration of greenhouse gases below a specified limit.

4.50 The upper limit on the concentration of greenhouse gases would be determined by international negotiations, as would the date by which all nations would converge on a uniform per capita basis for their emission quotas, and the intermediate steps towards that. It would probably also be necessary to set a cut-off date for national populations: beyond that date, further changes in the size of a country's population would not lead to any increase or decrease in its emission quota.

4.51 In table 4.1 17 we have applied "Contraction & Convergence" approach to carbon dioxide emissions, and calculated what the UK's emissions quotas would be in 2050 and 2100 for four alternative upper limits on atmospheric concentration. We have assumed for this purpose that 2050 would be both the date by which nations would converge on a uniform per capita emissions figure and the cut-off date for national populations. If 550 ppmv is selected as the upper limit, UK carbon dioxide emissions would have to be reduced by almost 60% from their current level by mid-century, and by almost 80% by 2100. Even stabilisation at a very high level of 1,000 ppmv would require the UK to cut emissions by some 40% by 2050.

4.52 The UK-based Global Commons Institute has taken the lead in promoting "Contraction & Convergence", and has developed a computer model that specifies emission allocations under a range of scenarios. The concept has been supported by several national governments and legislators. Some developed nations are very wary of it because it implies drastic reductions in their emissions, but at least one minister in a European government has supported it. Commentators on climate diplomacy have identified contraction & convergence as a leading contender among the various proposals for allocating emission quotas to nations in the long term.

4.53 The other ingredient that would make an agreement based on per capita allocations of quotas more feasible is flexibility of the kind already provided in outline in the Kyoto Protocol. Nations most anxious to emit greenhouse gases in excess of their allocation over a given period will be able and willing to purchase unused quota at prices that incline other countries to emit less than their quota, to the benefit of both parties. The clean development mechanism, which allows developed nations to claim emission reductions by sponsoring projects that reduce emissions in developing nations to levels lower than they would otherwise have been, can also be seen as a form of trading.

4.54 In the longer term trading by companies in emission permits, drawn from national emission quotas determined on the basis of a contraction and convergence agreement, could make a valuable contribution to reducing the global costs of stabilising greenhouse gas concentrations while transferring resources from wealthy nations to poorer ones. Trading needs to be transparent, monitored and regulated, and backed by penalties on nations that emit more than they are entitled to. If it became merely a means of enabling wealthy nations to buy up the emission entitlements of poor countries on the cheap, thereby evading taking any action at home, trading would not serve the cause of climate protection. Nor would it if developing countries that had sold quota heavily went on to emit in excess of their revised entitlements."



ROYAL COMMISSION ON ENVIRONMENTAL POLLUTION

Steel House 11 Tothill Street London SW1H 9RE

From the Chairman
Sir Tom Blundell FRS

Direct Line: 0171-273 6647
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5 July 2000

Mr. A. Meyer,
Director,
Global Commons Institute,
42 Windsor Road,
London NW2 5DS.

Dear Aubrey Meyer,

Thank you for your letter about our report "Energy – the Changing Climate". I am pleased that you felt that the Royal Commission made the case clearly. I do agree that Nick Schoon has been tremendously helpful in improving our communication with others.

May I take the opportunity of saying how much we value the pioneering work you have done over the years in making the case for contraction and convergence. It is work such as yours that has allowed to develop our own arguments more effectively.

With respect to the Sixth Conference of the Parties to the UNFCCC in the Hague in November, I am unable to contribute myself as I have teaching commitments in Cambridge at that time. However, I will ask colleagues at a monthly meeting later this week, to see if there is anyone who would be able to make a contribution.

Yours sincerely,


p Tom Blundell.

(signed in Professor Blundell's absence from office)



The U.K. Government Response to the Royal Commission on Environmental Pollution's Twenty-Second Report

Energy — The Changing Climate

Recommendation 3

Para 4.69

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 Government is keen to establish a dialogue on possible approaches to future target-setting. However, the Global Commons Institute's contraction and convergence approach is only one of a number of potential models for global agreement on addressing greenhouse gas emissions, some of which may be more attractive to developing countries and still promote the objectives that we are striving to fulfil. Other possible approaches include, for example, setting dynamic targets linked to GDP, or setting limits on the basis of countries' historical emissions (the "Brazilian Proposal"). The Government believes that it would be premature to rule out any options at this stage and plans to engage constructively in future debates. There is likely to be an increasing emphasis on the evolution of commitments under the Kyoto Protocol following its entry into force. In any discussion on this matter, it will be important to take into account the views of developing countries since agreements are reached by consensus.



THE SCIENTIFIC CASE FOR SETTING A LONG-TERM EMISSION REDUCTION TARGET [2003] http://www.defra.gov.uk/environment/climatechange/pubs/pdf/ewp_targetscience.pdf

Introduction

1. This paper sets out the scientific background against which a decision on setting now a long-term emission reduction target will need to be taken. It focuses on 2050. It considers the likely course of emissions over the next 100 years and the constraints on global emissions if the world is to meet a particular target for stabilising atmospheric carbon dioxide (CO₂) concentrations, noting that such a target would not be reached until well into the next century and possibly even beyond.

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)¹ approach (although any mechanism which brings all emissions to a level lower than today's will have an element of C&C). The RCEP restricted itself to UK emissions whereas this study addresses global emissions but only subdivides into Annex 1 parties (A1) and non-Annex 1 parties (NA1) and so cuts are assumed to be equal across each group. This study also differs from RCEP in that it takes into account emissions out to 2300. There are considerable cumulative emissions post 2100 in the WRE stabilisation profiles and this study allows the redistribution of these far future emissions into this century. As with RCEP, population is held constant after 2050 although the results are not found to be sensitive to population numbers. The methodology is best illustrated by presenting the steps taken:

1. Assume the level of cumulative carbon emissions allowed to reach chosen stabilisation level. To the first order, stabilisation is determined by the cumulative emissions. Depending on the level of carbon uptake by the natural system this is between 1150 and 1750 GtC for stabilising at 550 ppm. No other stabilisation level has been considered in this study.
2. Assume an economic and population projection. Here, SRES B2 is used as the lower bound and SRES A1FI as the upper bound.
3. Set A1 emissions reductions to start at 2000, at 2050 to be 60% of that at 1990 and by 2150 at a level consistent with world emissions of 2 GtC if high carbon uptake is assumed and 1 GtC if low uptake. One of the primary objectives of this study is to explore the consequences of the RCEP recommendations.
4. Set dates for NA1 start of emission controls, first emission target and second target. A range of start dates is explored with the first target constant at 2100 and the second constant at 2150.
5. Once a start date for NA1 emission control is chosen the emission level for the 1st target is adjusted until the cumulative emissions equal the chosen level in step 1. The second target is chosen to be, like for A1, consistent with world emissions of 2 GtC if high carbon uptake is assumed and 1 GtC for low uptake.

¹ Contraction and convergence is an international policy framework for dealing with global climate change developed by the London-based Global Commons Institute.

Letter to the UK Prime Minister on Carbon emission negotiations

Sir John Houghton, chairman of JRI, and Sir Tom Blundell, chairman of the Royal Commission on Environmental Pollution (RCEP) have written an open letter to the Prime Minister about the forthcoming Energy White Paper and the need for the UK to take a lead in international negotiations about the reduction of global carbon dioxide emissions especially concerning how nations can share out the reductions needed in an equitable way.

Rt. Hon. Tony Blair MP
Rt. Hon. Patricia Hewitt MP
Rt. Hon. Margaret Beckett MP
Rt. Hon. Peter Hain MP
Rt. Hon. Michael Meacher MP
Brian Wilson MP
Prof. David King

Dear Prime Minister

International dimensions of climate and energy policy

We are writing to express our strong hope that the forthcoming energy White Paper will emphasise the overwhelming importance of the international dimension of climate policy in enabling the world to achieve the transition to a low carbon economy. We believe this can only be done through a process of Contraction and Convergence, a process that we fear has not yet received sufficient attention in the discussions leading to the forthcoming energy White Paper.

It is clear to all of us that the UK will not be able to realise the vision of a low carbon economy on its own. We believe that there is an important role for the UK as a global leader, showing by example how countries might reduce their carbon emissions. But in the longer term, unless other countries also start to engage in this process, action by the UK, or even Europe, would not be sufficient. Any transition to a low carbon economy must therefore eventually be a multilateral endeavour; the policies set out in the energy White Paper should be clearly placed in this international context. We need in particular to find ways of bringing the USA back into the debate.

As you know, 2003 will be a critical decision point not only for UK energy policy but also for international climate change policy. The COP9 climate summit in October / November will be the first summit meeting to address in earnest the question of how commitments ought to be structured beyond Kyoto.

In particular, therefore, we would like to encourage the Government to use the energy White Paper to respond specifically to the Royal Commission on Environmental Pollution's call for the Government to propose that future international climate commitments should be based on the principle of Contraction & Convergence, which was also described as consistent with a "leading" approach by the PIU Energy Review.

The Contraction & Convergence approach [See attached Briefing from GCI]

The Contraction & Convergence framework integrates the need for climate change policy to be based on broad market principles and a clear scientific foundation, because of its provision for both full global emissions trading and a global atmospheric concentration target (such as 450 parts per million of CO₂) for greenhouse gases. The need for such a concentration target is clearly implied by Article 2 of the 1992 UN Framework Convention on Climate Change, which calls for “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”.

Significantly, it is also consistent with the stated objectives of US climate policy, which clearly argues for a concentration-based approach. For example, the US National Security Strategy states that “economic growth should be accompanied by global efforts to stabilize greenhouse gas concentrations associated with this growth, containing them at a level that prevents dangerous human interference with the global climate”. We would further add that securing developing country participation in any such global framework - the other precondition for US engagement - will require the adoption of the principle of convergence to equal per capita entitlements by an agreed date, since developing countries will not accept a system that presumes to continue current inequalities in emissions levels.

Contraction & Convergence and UK energy policy

The “Contraction and Convergence” approach was the subject of a core recommendation of the Royal Commission’s report on energy, which stated in 2000 that “the government should press for a future global climate agreement based on the ‘Contraction & Convergence’ approach ... [which offers] the best long-term prospect of securing equity, economy and international consensus”. Indeed, it was through the application of a Contraction & Convergence scenario that the widely discussed illustrative target of a 60% reduction by 2050 was arrived at.

The Royal Commission’s advocacy of Contraction & Convergence was then responded to by the PIU Energy Review in 2002, which in discussing what a “leading” approach to climate change policy would look like, suggested that the long-term dimension of climate change policy would entail “measures to prepare for a world of long-term emission limits agreed between all countries, possibly based on the principles of contraction and convergence”.

We believe that it is important that the Government uses the opportunity of the energy White Paper to respond directly to the Royal Commission and PIU’s assessments of the Contraction & Convergence policy framework. This is so not only because of the extent to which UK energy policy derives from the international context, but also due to the rare window of opportunity presented in 2003 by the beginning of discussions about future international climate change commitments. In this regard, we believe that decisions about the shape of future international climate commitments offers the UK a chance to provide critical international leadership on one of the most pressing and immediate challenges of global interdependence.

A brief summary of the Contraction & Convergence concept (340K PDF) is set out in the attached paper, which could also be used as the basis of text discussing Contraction & Convergence in the energy White Paper.

(signed by)

Professor Sir Tom Blundell Chair, Royal Commission on Environmental Pollution

Professor Sir John Houghton Former Science Co-Chair, UN Intergovernmental Panel on Climate Change

Alex Evans Energy and Environment Research Fellow, Institute for Public Policy Research

“Contraction-and-Convergence” (C&C) in a Nutshell

GCI
37 Ravenswood Road
LONDON E17 9LY

Ph/Fx	00 44 (0)208 520 4742
e-mail	aubrey@gci.org.uk
GCI	http://www.gci.org.uk
C&C Refs	http://www.gci.org.uk/consolidation
GCN	http://www.topica.com/lists/GCN@igc.topica.com/read

Essential Proposition of C&C

The C&C model¹ formalises the objective and principles of the UNFCCC. It first proposes a reviewable global greenhouse gas (ghg) emissions 'contraction budget' targeted at a safe and stable future level for atmospheric ghg concentrations. The internationally tradable shares in this budget are then agreed on the basis of 'convergence' from now, where shares are broadly proportional to income, to a target date in the budget timeline after which they remain proportional to an agreed base year of global population. Recognising the bigger the budget the greater the risks, decarbonisation is further enhanced if revenue from emission trade is re-invested in zero emissions techniques. This reduces the randomness that has dogged negotiations since 1992 over future emissions commitments/entitlements, as it resolves the conflict between the GDP-led approaches and those emphasizing responsibility for the historic build-up of atmospheric concentrations.

Contraction

On the basis of precaution and guided by scientific advice of IPCC, all governments or regional groupings of governments jointly and severally agree to observe such an atmospheric target. With this it is possible to calculate the total diminishing amount of greenhouse gases that the world can emit for each year in the coming century. Whatever the rate chosen, C&C views this event as a whole as "Contraction".²

Convergence

On the basis of equity, convergence means that each year's ration of this global emissions budget can be shared so that each country or group of countries progressively converges on the same allocation per inhabitant by an agreed date, for example by 2030. This recognises the principle of globally equal rights per capita to the 'global commons' of the atmosphere, but achieved by smooth transition.³ Where countries or groups also have a diversity of natural endowments, C&C acknowledges this too by embracing for example the European Union, which operates as a unit at the inter-national level whilst creating its own convergence arrangements.

Emissions Permit Trading

Only emissions in excess of the total of permits created under C&C are not permitted ('hot-air'). Countries unable to manage within their agreed shares would, subject to the above and appropriate rules, be able to buy the unused parts of the allocations of other countries or regions. Sales of unused allocations would give low per capita emitting countries the income to fund sustainable development in zero-emission ways. High per capita emitting countries gain a mechanism to mitigate the premature retirement of their carbon capital stock whilst also benefiting from the export markets for renewable technologies this restructuring would create. All benefit from more rapidly avoided global damages.

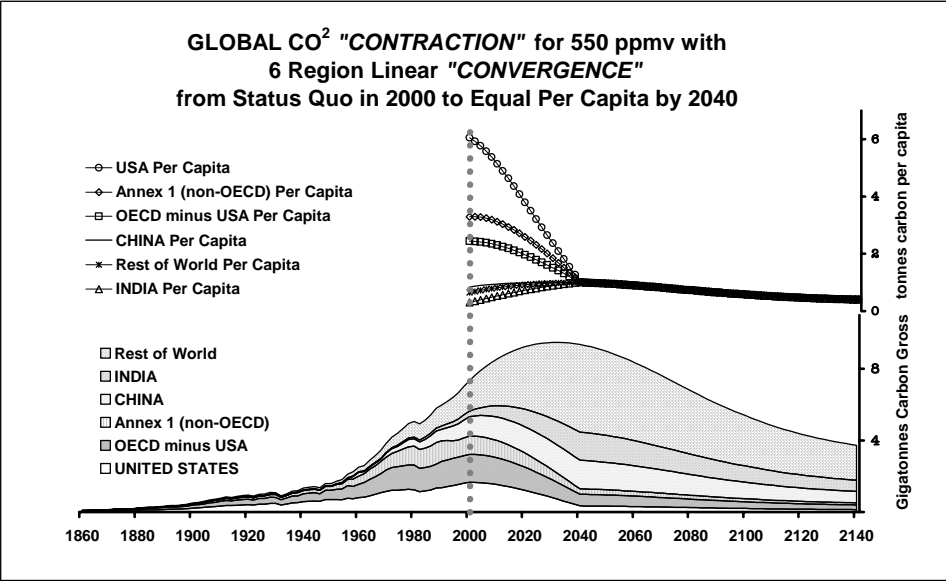
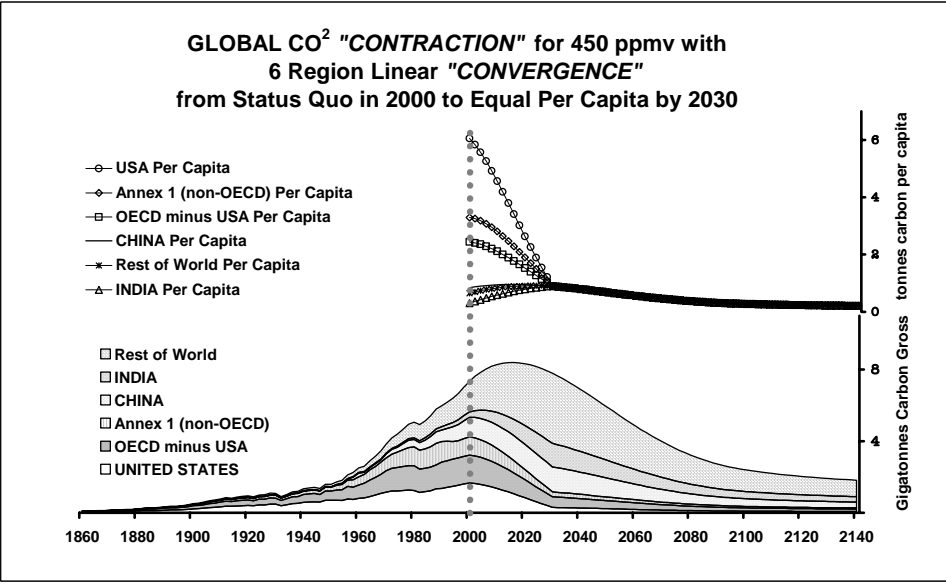
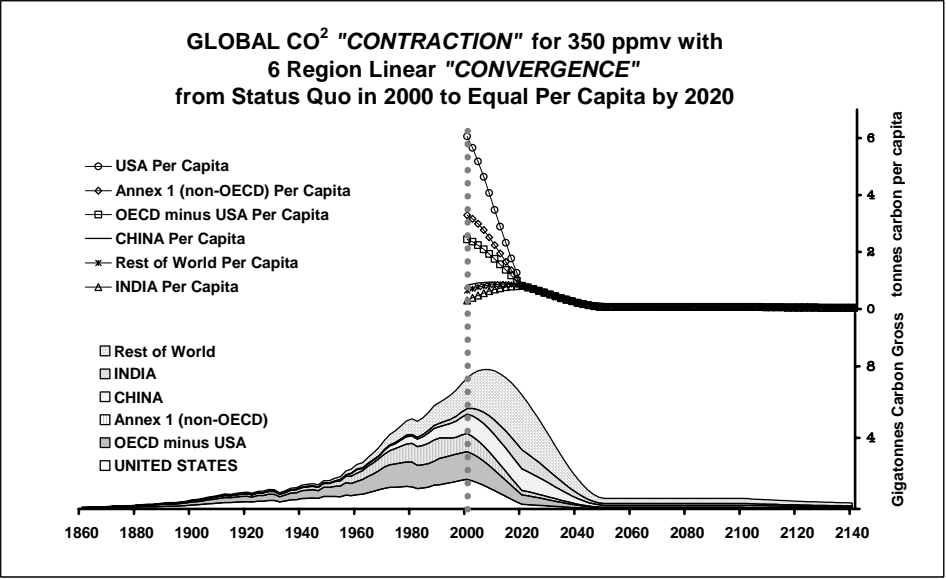
Sustainable Growth

Climate change increasingly augurs potentially catastrophic losses. C&C mitigates this by integrating the key features of global diplomacy and development necessary for long-term prosperity and security. C&C synthesizes the objective and principles of the UNFCCC in a constitutional rather than a stochastic manner, so that the necessary foundation for the transition to a new growth and prosperity is specifically guided by this agreement to the zero carbon energy technologies that make this prosperity with security possible.

¹ CCOptions will calculate any rates of Contraction & Convergence for all countries' CO₂. 3 example page seven

² The example on page eight chosen shows global CO₂ emissions reduced to 40% of 1990 output value by 2100 giving a stable atmospheric concentration of 450 parts per million of CO₂ by 2100. Other contraction 'shapes' are possible for the same concentration outcome. Different rates of contraction are possible leading to different concentration outcomes (see page seven) but damages from climate change increase proportional to delay.

³ The example on page eight shows global pre-distribution of contraction through linear convergence so shares are proportional to international populations by 2050 with figures for population growth frozen from 2050 forwards. Different rates of convergence are possible and different dates of freezing population are possible. Both of these affect the pre-distribution of the tradable emissions entitlements.





House of Commons
Environmental Audit
Committee

The International Challenge of Climate Change: UK Leadership in the G8 & EU

Fourth Report of Session 2004–05

*Report, together with formal minutes, oral and
written evidence*

*Ordered by The House of Commons
to be printed Wednesday 16 March 2005*

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Contraction and Convergence

83. Such calculations provide an interesting and important perspective on the context in which negotiations on a post-2012 framework should take place. The Global Commons Institute (GCI) has been promoting the concept of equal per capita emission allocation since its foundation in 1990, and it has coined the term “Contraction and Convergence” (C&C) to describe its approach. C&C involves two distinct stages—firstly defining the level to which global emissions need to be reduced to avoid dangerous climate change, and secondly allocating this level of emissions to countries on an equal per capita basis.

84. The C&C model put forward by the GCI does not in itself define the mechanisms by which emission reductions are to be achieved whether through emissions trading, international taxes, or regulatory approaches. Nor does it stipulate the actual level at which emissions should be stabilised, or indeed the timescales over which the targets should be set. It does, however, graphically illustrate the consequences of varying these parameters, and provides a useful framework within which to set targets and frame policy responses. The real strength of the model, however, arises from the manner in which the concept of equity underpins it.

85. Given the scale of the reductions which are needed, there is now a growing awareness of the need for a ‘full-term’ framework such as the one C&C provides. Indeed, it is difficult to argue with the fundamental principle of equal per capita allocations, and various witnesses—including the Under-Secretary of State of the Foreign Office and the Director-General of the CBI—acknowledged the viability of the model.⁶⁸ This is also reflected in the joint memorandum submitted by DEFRA and the FCO,⁶⁹ and in the recent report from the International Climate Change Taskforce which explicitly accepted that equal per capita emissions allowances should form the basis for a long-term solution. While, in their memorandum to us, Barclays Capital set out a vision of an all-embracing international ETS involving 60 year targets determined by a C&C approach.

86. Any framework which involves radical emission reductions would in practice resemble the Contraction and Convergence approach advocated by the Global Commons Institute. Indeed, in terms of domestic policy aims, the UK Government has already implicitly accepted this approach in adopting the 60% carbon reduction target for 2050; and it is therefore inconsistent not to adopt such an approach internationally. We do not see any credible alternative and none was suggested in evidence to our inquiry. We therefore recommend that the UK Government should formally adopt and promote Contraction and Convergence as the basis for future international agreements to reduce emissions.



House of Commons
Environmental Audit
Committee

Beyond Stern: From the Climate Change Programme Review to the Draft Climate Change Bill

Seventh Report of Session 2006–07

*Report, together with formal minutes, oral and
written evidence*

*Ordered by The House of Commons
to be printed Tuesday 10 July 2007*

HC 460

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**"The Government's policy towards the UK's
2050 target is clearly incoherent."**

"The Government remains committed to limiting global warming to a rise of 2°C; but it also acknowledges that, according to recent scientific research, a cut in UK emissions of 60% by 2050 is now very unlikely to be consistent with delivering this goal.

It is true that where the Stern Review talks about the required distribution of emissions cuts between developed and developing countries, it does (just about) correspond to the Government's existing line on its 2050 target. Referring to research which analyses four different mooted ways of apportioning emissions cuts **including Contraction and Convergence** - Stern concludes that "for all developed countries, action to meet a 450ppm CO₂e goal would require quotas to be set in line with a reduction in emissions of 70-90% on 1990 levels by 2050, and for a 550ppm CO₂e goal the reduction would be at least 60%."

But while the Office of Climate Change was justified in telling us that the "at least 60%" target in the draft Bill is within the range discussed in the Stern Review,⁹⁴ this is clearly the minimum in emissions reductions which the Stern Review sets out. In fact, Stern states that this would correspond to a 63%-99% chance of exceeding a warming of 2°C, and describes this level of global warming as "a dangerous place to be, with substantial risks of very unpleasant outcomes".

We recommend that the 2050 be strengthened to reflect current scientific understanding of the emission cuts required for a strong probability at stabilising warming at 2°C.

We recommend that the Government publishes the rationale for its 2020 and 2050 targets, preferably including the central formula upon which they are based, in the Climate Change Bill. This rationale should make clear the size of complementary caps on annual emissions required of other blocs of nations, the stabilisation target for global atmospheric concentrations of greenhouse gases, and the resulting projected temperature rises, which are implied by the Bill's targets for annual emissions from the UK, as well as the central assumptions used by the Government in making these correlations.

The Bill should state that if the Secretary of State proposes to revise these targets, he must publish the rationale for the new target in like manner. Above all, the Government must draw attention, at home and abroad, not just to percentage targets for the annual emissions in a certain year, but even more to the absolutely crucial issue of the cumulative total budget of greenhouse gases that the world can afford to emit by 2050 if it is to have a reasonable chance of holding global warming to 2°C.

In terms of the way in which this cumulative global budget is divided up among individual nations, **we recommend the Government explicitly endorses, and promotes internationally, the Contraction and Convergence method**, or a method similar to it."

Under this method, emissions budgets allocated to each nation would be progressively amended until all would arrive at an equal per capita level, consistent with an internationally agreed stabilisation level.

As we have previously noted, the Government has implicitly accepted this principle by endorsing the RCEP's recommendation for a 60% cut in UK CO₂ which was based on Contraction and Convergence.

We have also concluded that any framework which involves radical emissions reductions would in practice resemble Contraction and Convergence, given the current imbalance in per capita emissions between the developed and developing world, and the resultant necessity for the bulk of emissions cuts to come from developed nations in order to meet a global stabilisation target.

But this only underlines the inconsistency in the Government's framing of a target to reduce UK emissions without advocating an international agreement based on Contraction and Convergence, or something very similar.

C&C links and references

C&C briefing with references is at: - www.gci.org.uk/briefings/ICE.pdf

The C&C framework is supported by manifesto commitments from the **Welsh Nationalists [Plaid Cymru]** and the **Scottish Nationalists** and the **Liberal Democrats** and the **Greens** and the **Respect Party**.

http://www.gci.org.uk/presentations/RSA_C&C_G-8_Quotes.pdf

Many individual Labour Party MPs advocate C&C, **some Conservative MPs** do too.

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=29500&SESSION=875>

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=27350&SESSION=873>

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=27080&SESSION=873>

The network of support for the C&C framework is now considerable. With its initial introduction in 1990, C&C was established and has been on the record as a formal well-supported position at the UNFCCC since 1996: -

<http://www.gci.org.uk/briefings/zew.pdf>

http://www.gci.org.uk/briefings/UNFCCC&C_A_Brief_History_to1998.pdf

<http://www.gci.org.uk/Endorsements/UNEPFI5f.pdf>

Indeed the United Nations Framework Convention on Climate Change (UNFCCC) administration itself has said since 2003 that: - *"Contraction and Convergence is inevitably required to achieve the objective of the convention"*: -

http://www.gci.org.uk/UNFCCC/C&C_Janos_Pasztor_UNFCCC.pdf

The Africa Group of Nations have supported C&C since before COP-3 1997, United Nations Framework Convention on Climate Change (UNFCCC): -

http://www.gci.org.uk/briefings/AFRICA_GROUP.pdf

The transcript of COP-3 Kyoto as C&C was agreed at climax of COP-3 in 1997: -

http://www.gci.org.uk/temp/COP3_Transcript.pdf

The C&C Booklet 13 languages from COP-11 12/2005: -

<http://www.gci.org.uk/briefings/MONTREAL.pdf>

An archive with a 15 year history of this campaign: -

http://www.gci.org.uk/Archive/Mega_Doc_1989_2004.pdf

The Urgency Briefing: -

"Can we do Enough Soon Enough: History and Future Airborne Fraction of Emissions Increasing"

http://www.gci.org.uk/briefings/RSA_Occasional_Paper.pdf

shows some of the serious consequences of substituting the politics of blame for global strategy, and highlights the risks of atmospheric concentrations rising much faster than originally supposed because the fraction of emissions retained in the atmosphere is increasing, above the acceleration of emissions per se.

An issue to some is that C&C merely describes generically an 'outcome' of many future aspirational phases of the Kyoto Protocol. This is what the corporations collectively call 'an inadequate patchwork', see slides 20/1 here: -

http://www.gci.org.uk/presentations/RSA_C&C_G-8_Quotes.pdf

To cure this very randomness, C&C formally means the structure a of full-term, concentration-target-based framework endowed by GCI from the outset, as accepted for example by DEFRA: -

http://www.gci.org.uk/correspondence/Meacher_15_11_02.pdf

and in 2004 by the House of Commons Environmental Audit Committee and result: -

http://www.gci.org.uk/correspondence/EAC_response_GCI_300904.pdf

http://www.gci.org.uk/briefings/EAC_Final_C&C.pdf

C&C briefing to the May 2006 all-party enquiry into climate-consensus and result: -

http://www.gci.org.uk/briefings/APGCCC_Evidence_single_A4_pages.pdf

http://www.gci.org.uk/briefings/Consensus_Report.pdf

C&C AT THE CLIMAX OF THE KYOTO [COP3] UN CLIMATE NEGOTIATION, 10 12 1997

For full transcript of final COP-3 Kyoto negotiation, see: -
http://www.gci.org.uk/temp/COP3_Transcript.pdf



THE AFRICA GROUP [Rungano Karimanzira]:

" 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 "

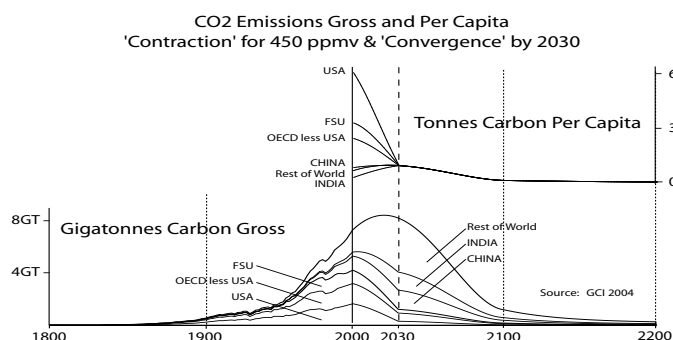
CHAIRMAN [Raul Estrada Oyuela]:

"I thank you very much. May I ask again the distinguished delegate of the USA if they have another suggestion to propose in connection with the proposals made by the distinguished delegate of India he does "



UNITED STATES OF AMERICA [Jonathon Pershing]:

" 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 "



For details of widespread support for C&C, see: -

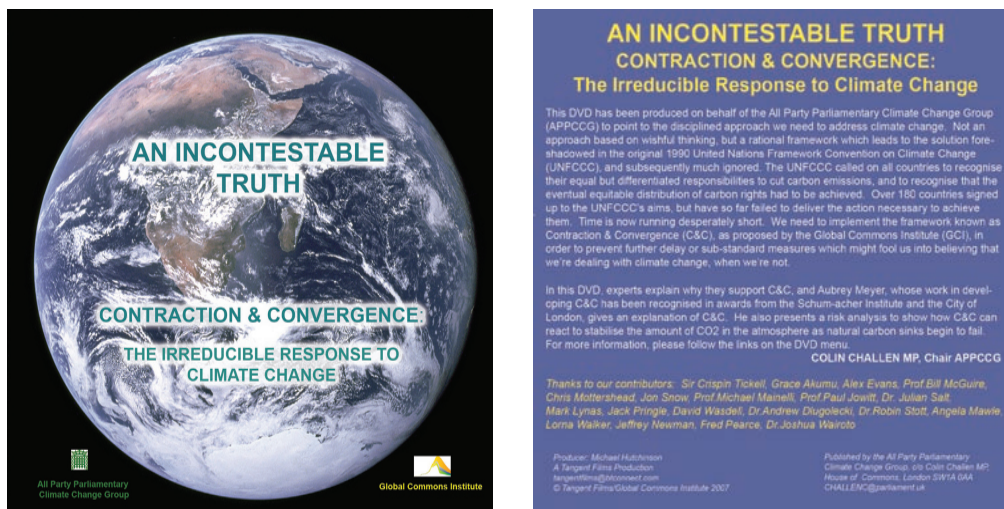
http://www.gci.org.uk/briefings/EAC_document_3.pdf

http://www.gci.org.uk/events/City_of_London_Award_Sheet_03.pdf

http://www.gci.org.uk/Archive/Mega_Doc_1989_2004.pdf

C&C DVD from UK All Party Parliamentary Group

A DVD - The Incontestable Truth - commissioned by the UK All Party Parliamentary Group on Climate Change presenting Contraction and Convergence has been distributed to all UK MPs and Peers. It is endorsed by numerous eminent spokespersons who are interviewed at length on the DVD.



Copies of the DVD can be obtained by written request to GCI [aubrey.meyer \[at\] btinternet.com](mailto:aubrey.meyer@btinternet.com)

Alternatively, as a large file [overnight download] interview material is retrievable at this link: - http://www.gci.org.uk/images/Contraction_and_Convergence_Challen_et_al.mpg

The DVD also includes a heuristic animation of Contraction and Convergence for a risk analysis of different rates of sink-failure endorsed by prominent industry persons. This is a large file [overnight download] and is retrievable at this link:

http://www.gci.org.uk/images/Contraction_and_Convergence_Risk_Analysis_Sink_Failure.mpg

A context animation the arguments, presented at the Royal Institute of British Architects [RIBA] international conference in Venice last October, is here: -

http://www.gci.org.uk/images/Final_presentation.exe or

http://www.gci.org.uk/images/CandC_model_context_animation.swf

[Note: - touch buttons to advances *within* scenes and touch logos to advance *between* scenes].

GCI's definition statement for C&C is here: -

<http://www.gci.org.uk/briefings/ICE.pdf>

General referencing for the C&C provenance is here: -

<http://www.gci.org.uk/links/detail.pdf>

A concept/context map of C&C comparing three rates of change for

[a] Contraction and Concentrations

[b] Contraction and Convergence

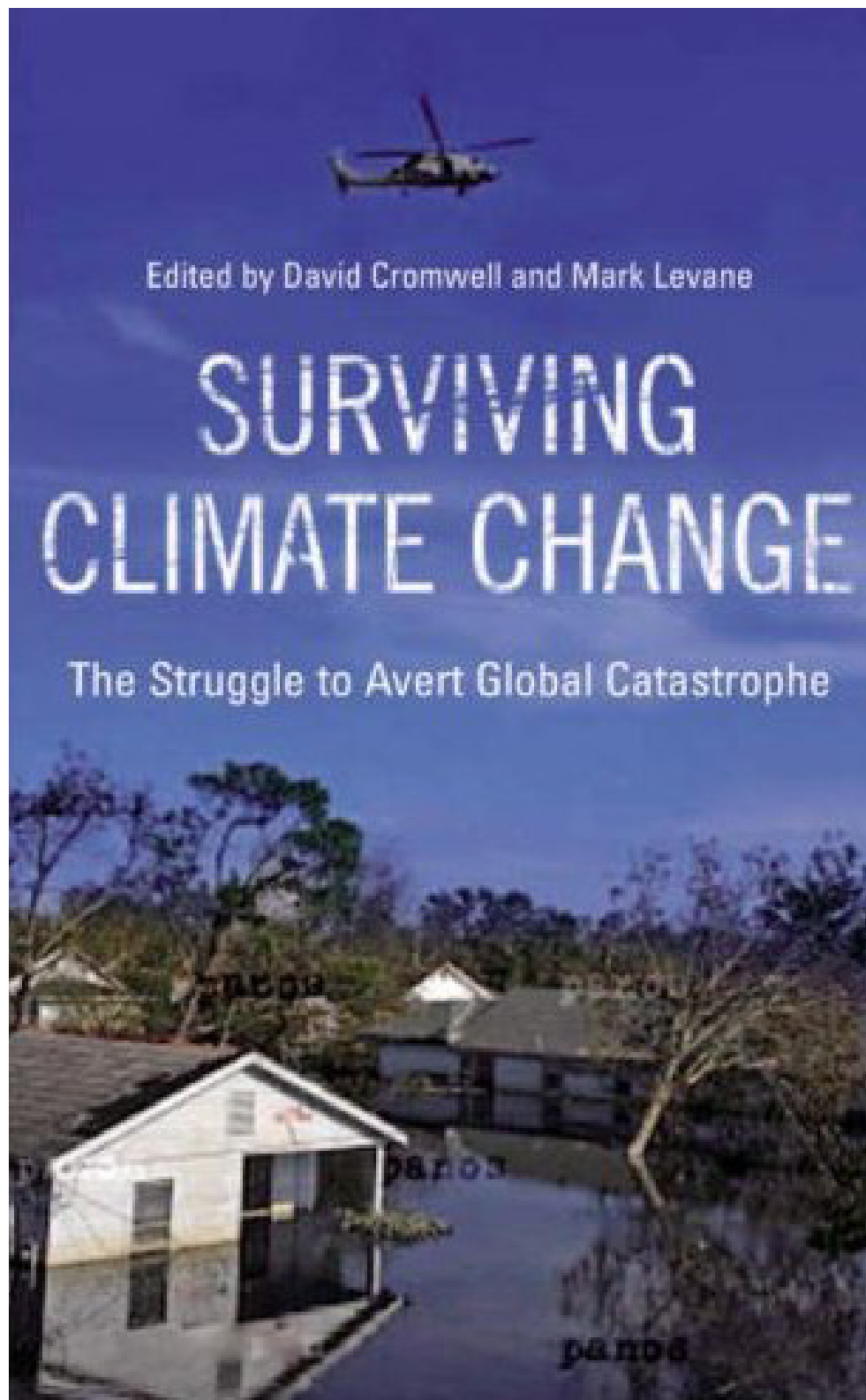
[c] Benefits of Growth versus Damages from Climate

[d] Contraction and Conversion

is here: - http://www.gci.org.uk/images/Deepat_Bonn.pdf

Some promotional material is here: -

http://www.gci.org.uk/Movies/Contraction_and_Convergence_Promo.mpg



1

The Case for Contraction and Convergence

Aubrey Meyer

I was born in the UK in 1947. I grew up in South Africa in the 'apartheid era' after the Second World War. 'Unity is Strength' was the motto of the then White Nationalist Government of the country yet 'Separate Development' was their decreed strategy. Even to a child, the segregation – or 'apartheid' – under this unity was a political oxymoron. This divided and asymmetric state made the Beloved Country weak for the lack of unity. This lesson now applies to our beloved but divided planet. Change is inevitable. May it be moderated for the better, even as we integrate cost and benefits of 'development' in the struggle to avoid the worst of global warming and climate change.

Early on my interest was focused by music. By the time I was 21, I was making my living playing and writing music in Europe. Still under this influence by the age of 40, I had become a parent and also very scared by the deeply asymmetric politics of global warming and climate change. There was nowhere to escape this. I became involved in efforts to correct these trends and twenty years on I am still.¹

To musicians integration is everything. How music and musicians fit together, how we make the shared energy work to make music, is all about intelligent time measurement and design. Though creatively alive, music is very precise about counting. Timing and tuning to shared reference points are fundamental to the power of live music. It was not obvious to me when I was younger that principle precedes practice, and that this has both timeless stability and political relevance.

A current example of this is the East West Diwan Orchestra.² It was started in 1999 by the late Edward Said and Daniel Barenboim for children of Arab and Jewish families in the conflicts of the Middle East. The young players' attraction to music makes it possible for them to come together as equals from two sides of a conflict into the shared framework of music making. The Diwan Orchestra sets a global

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standard of peaceful cooperation, based on the musical principles of measuring and common reference points, and of working together despite differences, to produce something beautiful.

CONTRACTION AND CONVERGENCE LEADS PRACTICE WITH PRINCIPLE

The contemporary example of the East West Diwan Orchestra actually suggests a model for a global framework of reconciliation and ecological recovery in the years ahead. If, as a species, we are to avoid dangerous climate change and survive, we need to start counting from fundamentals with the core resonance of reconciliation. In practice this means keeping within the precautionary limits and using the pragmatic rationale of counting people's rights under these limits as equal.

This does not mean we are all equal. It means that to survive, we are all equally and collectively rationed by the limits that preserve us. The resonance of this in the text of the United Nations Framework Convention on Climate Change (UNFCCC) is 'common but differentiated responsibilities'.

Thus, the objective of the UNFCCC is to stabilise rising greenhouse gas concentration in the atmosphere at a value that is safe, based on principles of both precaution and *equity*. The UNFCCC necessarily adheres to contraction and convergence, first proposed by the London-based Global Commons Institute (GCI) in 1990 (see below). Contraction and convergence is a policy framework that combines the precautionary principle and the principle of equity. The framework was explicitly approved by the UNFCCC Secretariat in 2003 with the statement that 'the objective of the UNFCCC inevitably requires Contraction and Convergence'.

We can restate the above key causes of the UNFCCC as follows. Let us regard humanity, crudely, as being composed of two groups: high-energy users and low-energy users. The use of energy is directly related to carbon dioxide emissions (and that of other greenhouse gases). All of us share the common goal of atmospheric stabilisation, but some of us need to do more than others. Hence 'common but differentiated responsibilities'. Since the low carbon emitting nations can still increase their emissions before they reach the sustainable average, 'the share of global emissions originating in developing countries will grow to meet their social and development needs'. By implication, then, the high-carbon emitting nations must contract fastest and greatest: 'the developed country Parties must take the

Key Clauses in the United Nations Framework Convention on Climate Change

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 ... stabilisation 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 minimise 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). In the past, cost-effective measures have been used to target pollutants, notably CFCs, in the form of trading via markets under a global maximum limit or 'cap'. 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.

lead in combating climate change'. Obviously the goal is sustainable emissions levels – so these two sides of the discussion inevitably lead to convergence. The lock opens and the water rushes out until both sides are level.

Many individuals, organisations and, indeed, nations have concurred that Contraction and Convergence (C&C) is the necessary policy framework that stems from the UNFCCC agreement, structured so that we are all in tune with each other, and in time to save the planet. What then does C&C exactly propose?

THE PRINCIPLE OF CONTRACTION AND CONVERGENCE

C&C is a global climate policy framework, formulated on the basis of equal rights, and has been proposed to the United Nations ever since 1990 by the Global Commons Institute (GCI), as a means to achieving the UNFCCC climate change objectives.

C&C calculates a global carbon budget for what is deemed a 'safe' climate, e.g. limiting global temperature rise by 2°C. This enables greenhouse gas reduction scenarios to be calculated in the process of contraction. The global carbon budget can be shared by international negotiation, along a timeline with the final goal of achieving equal rights: this is the process of convergence. The commitment to a global treaty based on this negotiation can enable policies and measures to be organised at rates that avoid dangerous global climate change (see Figure 1).

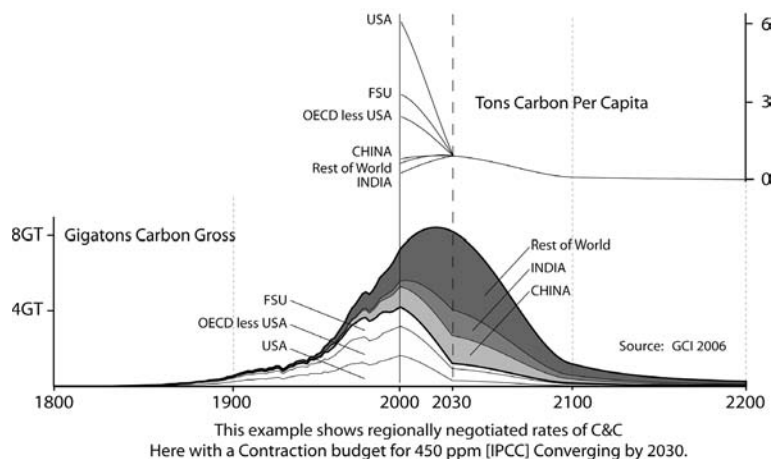


Figure 1 Contraction & Convergence.

Rates of contraction (Figure 2) and convergence (Figure 3) may be revised periodically as scientific understanding of the relationship between rising concentrations and their impacts on our world develops.

To get agreement to arrive at this juncture we need to concur with what Tony Blair has correctly called 'a rational science-based unity rather than more rounds of division'.³ With the C&C definition closely based on the text of the UNFCCC which formalises into international law what must by definition be a numerate process,

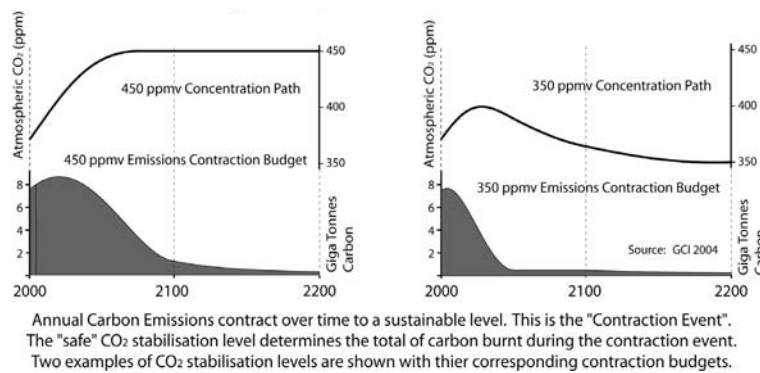


Figure 2 Negotiating Rates of Contraction.

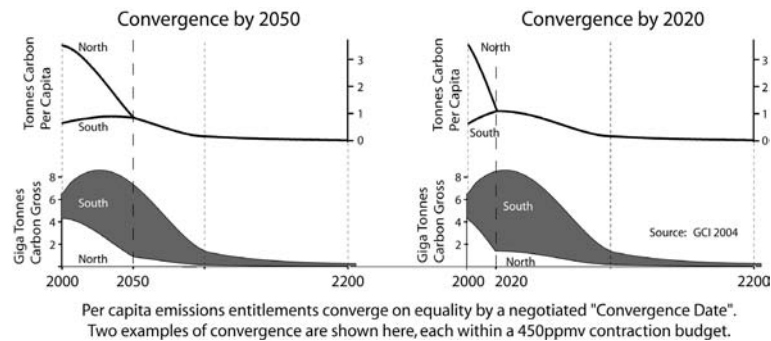


Figure 3 Negotiating Rates of Convergence.

The Contraction and Convergence framework proposes:

- (a) A full-term contraction budget for global emissions consistent with stabilising atmospheric concentrations of greenhouse gases (GHG) at a concentration maximum deemed safe by the UNFCCC.
 - (b) The international sharing of this budget as a pre-distribution of entitlements that result from a negotiable rate of convergence to equal shares per person globally by an agreed date (for example, 2030).
- These entitlements will be internationally tradable.

the issue thus unavoidably turns on the global measurement of GHG concentrations.

The C&C approach enables the UNFCCC process to be constitutionally numerate. It makes it possible to define a budget

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from a GHG concentration target and a convergence date by when per capita entitlements to emit have become equal, whatever rates of C&C are negotiated. Its calculus is first and foremost tied to the carbon limit and the people consuming within it, that is, before it is tied to any gain or loss of money or Gross World Product (GWP) arising. The tradability of the entitlements predistributed this way creates equilibrium between future carbon consumption and future climate.

'DOUBLE JEOPARDY' – ASYMMETRIC GROWTH AND CLIMATE DAMAGES

In stark contrast, the world at large is increasingly now haunted by the growth, divisions and conflicts of separate development. Money and power pursue each other and in this 'expansion and divergence' the 'disconnects' are discordant and dangerous. On the left side of Figure 5, we see the global asymmetry of dollar-based purchasing power: two-thirds of moneyless people routinely share 6 per cent while the other third spend the remaining 94 per cent, thus primarily causing the GHG emissions accumulating in the global atmosphere and driving climate changes.⁴

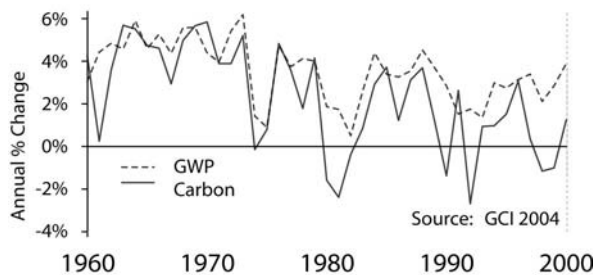
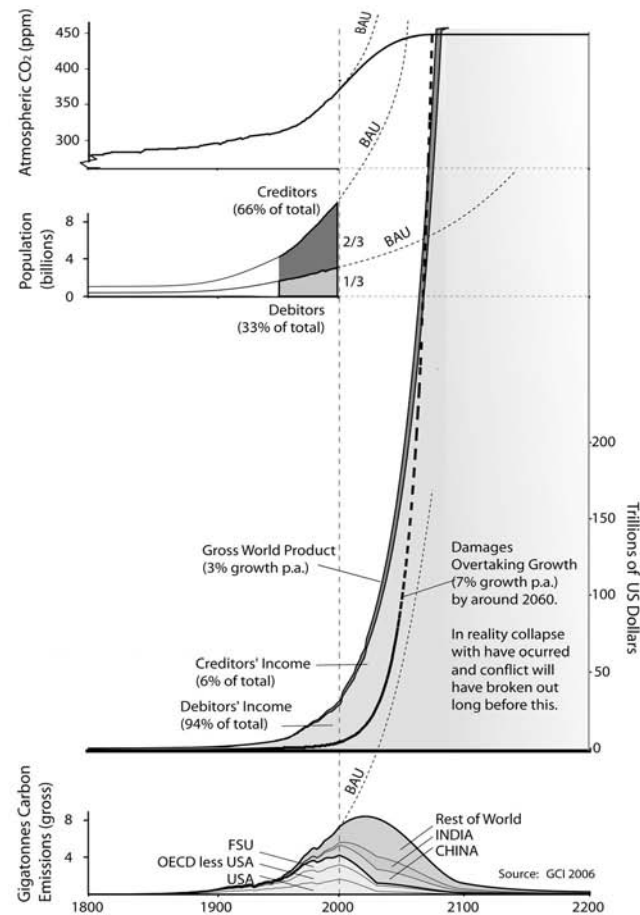


Figure 4 GWP, Carbon Lockstep.

As Figure 4 shows, this money – or Gross World Product – is a close proxy for pollution, namely global carbon emissions. The growth of these emissions over the last two hundred years of fossil fuel dependency has raised global temperature by one degree Celsius and triggered a rate of damages from an increasingly unstable climate that is twice the rate of growth in the economy (shown in Figure 5). The situation is critical. These trends are worsening and the poorest, particularly in small islands and Africa, are most vulnerable to the impacts of climate change.



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 *un-economic*. When damages are subtracted from this growth, it is clear the net-growth is increasingly negative.

Asymmetric and damaging net-negative 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: -

- [1] resource conservation,
- [2] global rights,
- [3] renewable energy and
- [4] ecological recovery.

Figure 5 Asymmetric Growth & Climate Damages 'Double-Jeopardy'.

The injustice is acute. Many suffer great hunger or thirst. Many are forced to migrate as their lives are threatened. Many already die. This climate change induced mortality of innocent third parties is largely ignored; the poor and disadvantaged are discarded at the margins of the current system of expansion and divergence.

And while the monetary economy is compulsively force-focused on the 'benefits of growth', it is de-linked from the 'costs of climate damages'. As the right-hand side of Figure 5 indicates, climate-related damages increasing at a yearly rate of 10 per cent will overtake economic growth of 3 per cent per annum by the year 2065.

But, as the damage costs are subtracted from the benefit of economic growth, the benefits of growth are thus relentlessly deleted. For now, the accounts still disguise this as the necessarily cost-free discards of 'progress'.

THE RELATIONSHIP BETWEEN THE EMISSIONS AND ATMOSPHERIC CONCENTRATIONS OF GREENHOUSE GAS ON A GEOLOGICAL TIMESCALE OF 400,000 YEARS

Thanks to ice-core sampling, data for atmospheric concentration of CO₂ and temperature go back about half a million years before the present.^{5,6} Throughout the ice-core record, up until the Industrial Revolution, temperature and greenhouse gas concentration moved up and down closely in step as shown in Figure 6. They oscillated because of natural change processes, between clearly defined upper and lower limits, but never went outside these boundaries. For CO₂, those limits were 180 and 280 parts per million by volume (ppmv); for methane (CH₄), 300 and 700 parts per billion by volume (ppbv); and for temperature, 5 and 15 degrees Celsius.

The leap in CO₂ concentration from 280 to 380 ppmv and CH₄ concentration from 700 to 1700 ppbv in the last two hundred years is faster and higher than anywhere in the geological record and has been accompanied by a one degree rise in global average temperature.

The rates of change in the human economy, since industrialisation began in the West around 1800, have had an impact on the atmosphere that is very different from the geological record. The ice-core records suggest very strongly that further global warming is to come.

Understanding this is fundamental to devising and being guided by a rational and strategic framework of GHG emissions for the purpose of restraining dangerous human-induced rates of climate change on the biosphere.

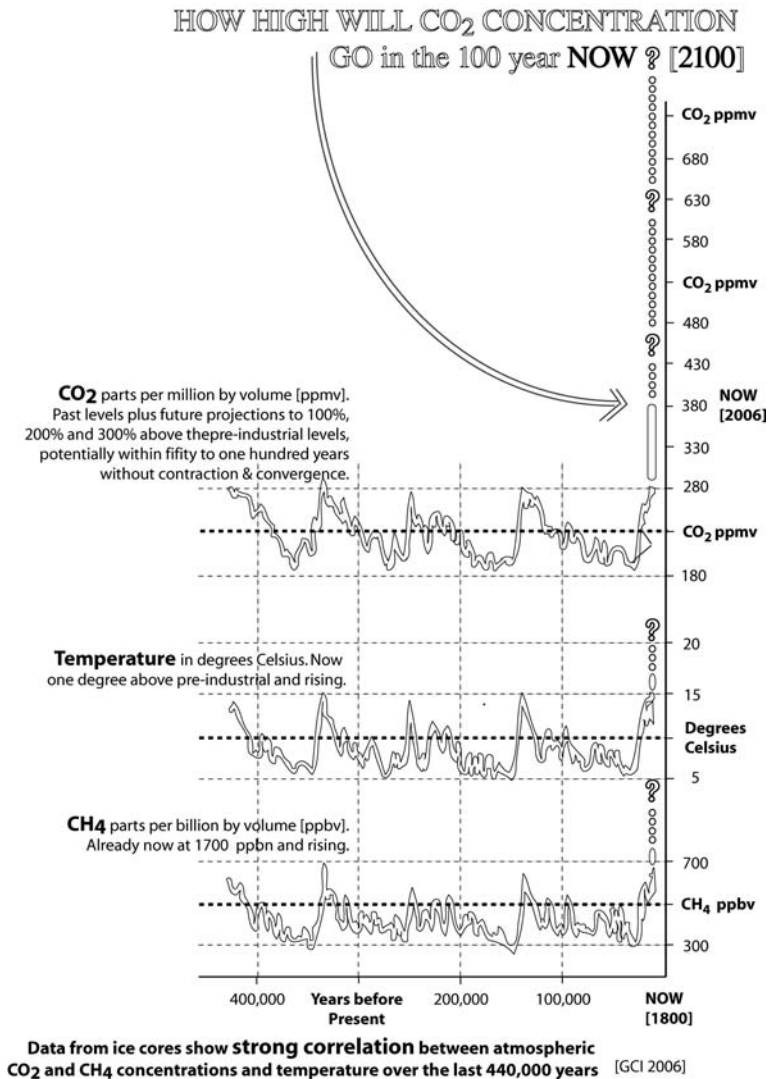


Figure 6 How high will CO₂ concentration go?

This chapter, and indeed this book, offers some insights into this, guided by the notion that to solve a problem you have to solve it faster than you create it. This is 'the battle of the rates' and we have to win it to survive.

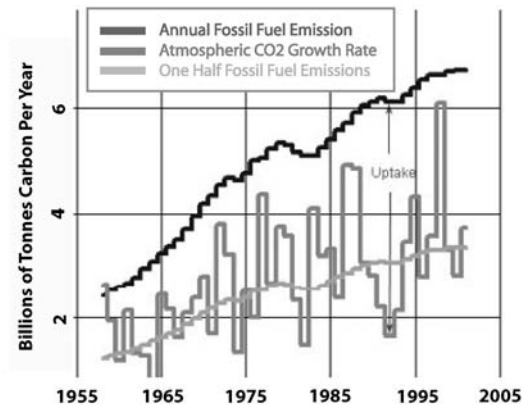


Figure 7 Atmospheric Growth Rate of CO₂.

THE RELATIONSHIP BETWEEN THE EMISSIONS AND ATMOSPHERIC CONCENTRATIONS OF GREENHOUSE GAS EMISSIONS FROM 1800 TO NOW AND BEYOND

The battle of the rates

Over the last two hundred years, human behaviour has disturbed the equilibrium of the natural carbon cycle and the balance of climate stability. CO₂ emissions from fossil fuel burning have raised atmospheric concentration by 40 per cent (see left half of curves plotted in Figure 9) until now, resulting in close to a one degree Celsius rise in global temperature.

Yet, in spite of the clear and present danger of increasingly dangerous rates of climate change beginning to take hold, uncertainty still surrounds the policy debate around how much to modify this behaviour in future. Over the next two hundred years (see the right half of Figure 9), the uncertainties about what the overall systemic reaction to this 'policy' will be can be reduced to 'the battle of the rates'.

The questions are: what will the rate of atmospheric accumulation of greenhouse gas emissions from now on actually be, or how high will atmospheric greenhouse gas concentration be allowed to rise? In other words what does it really take to solve this problem faster than we are creating it?

To answer this it is necessary to look at the relationship between

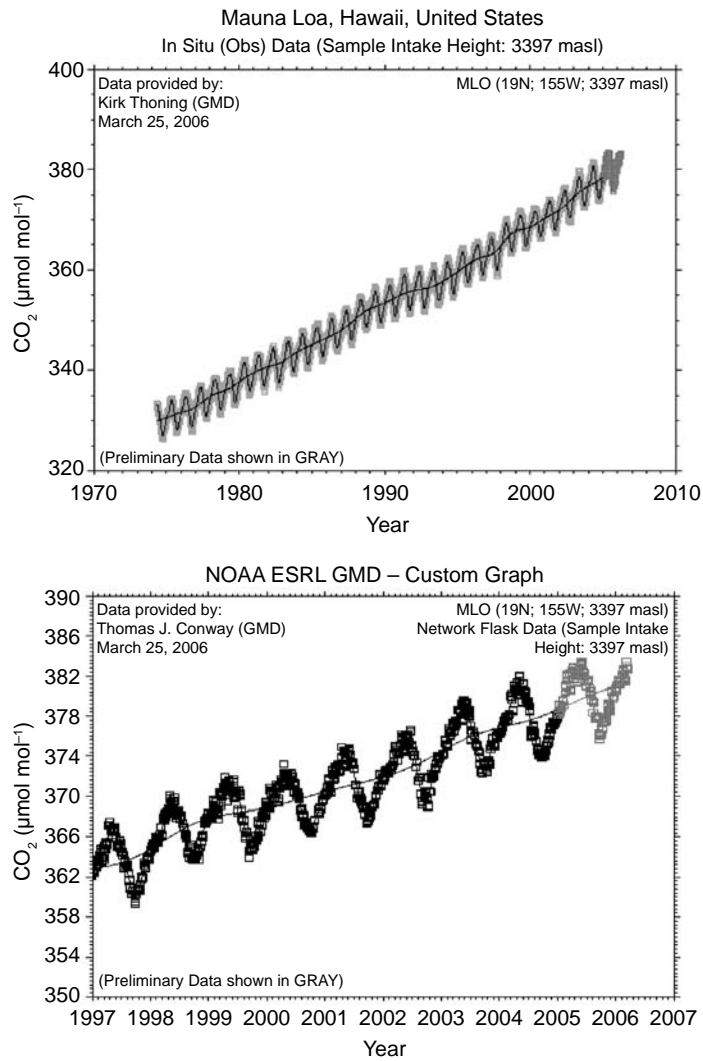
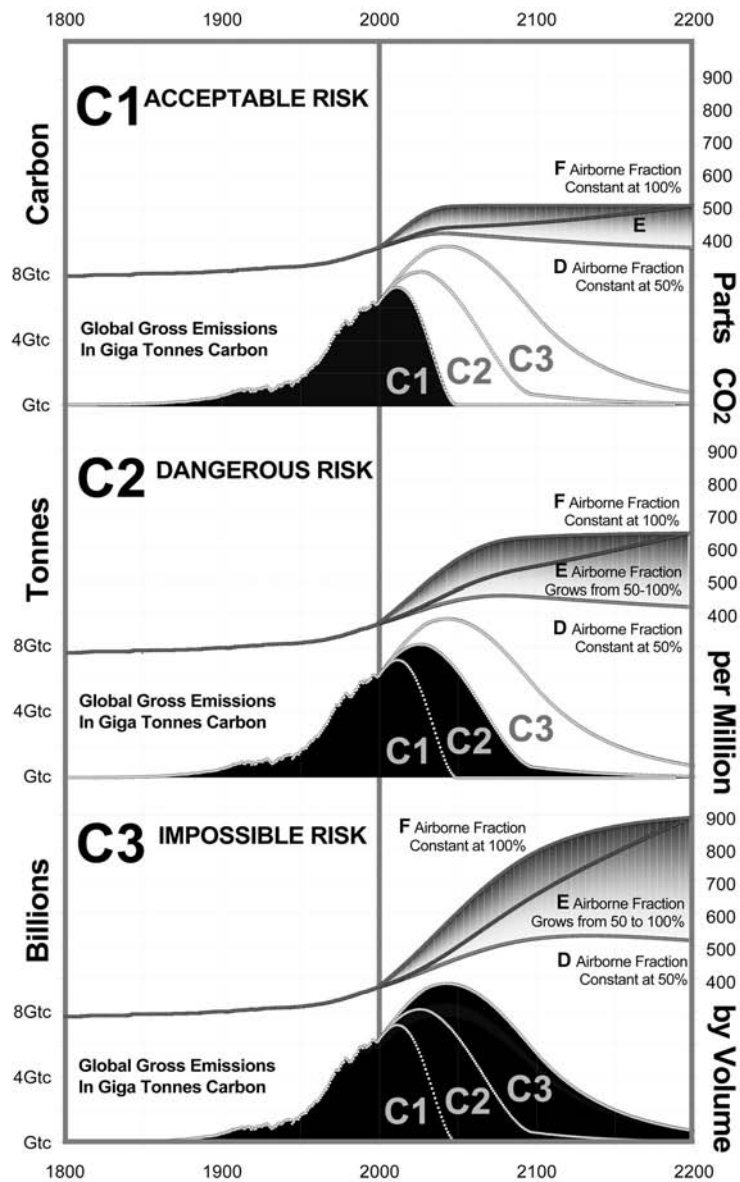


Figure 8 CO₂ measured at Mauna Loa Observatory.

now varying extent to which these are increasingly retained there. The relationship between emissions and atmospheric concentration

Contraction & Concentrations



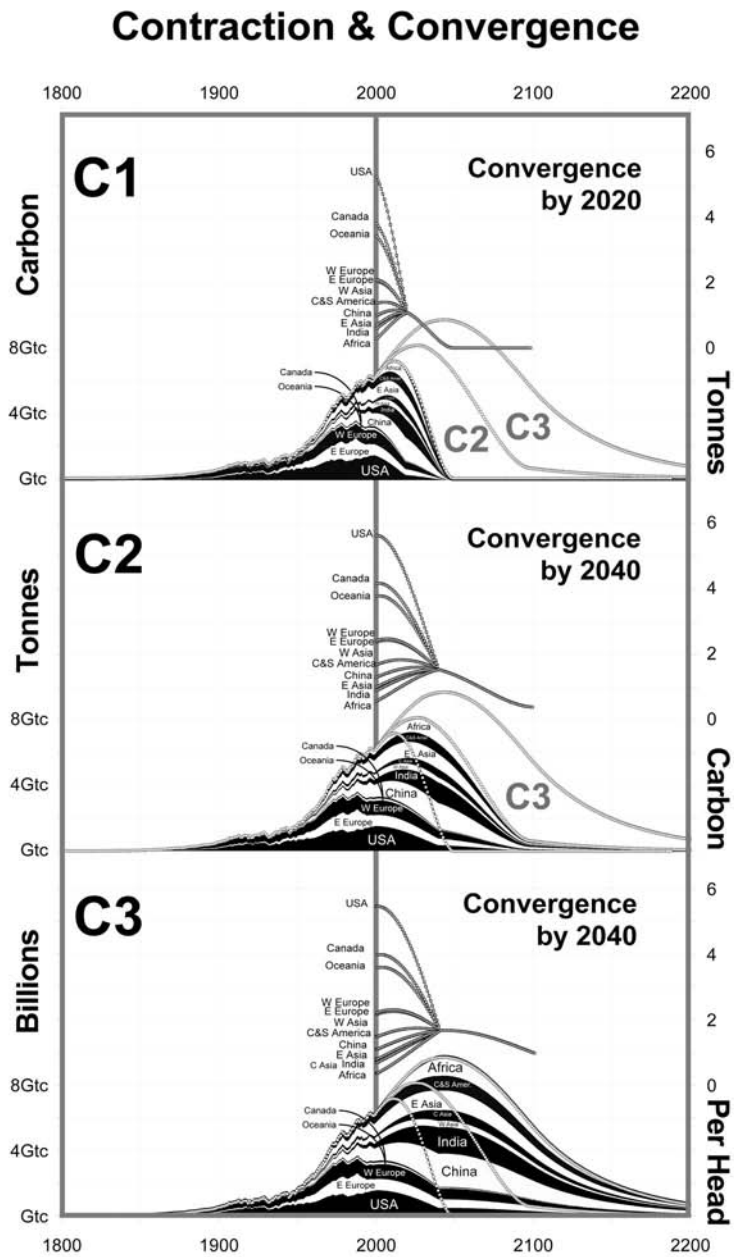


Figure 9 Comparing risks from emissions budgets C1, C2, C3.

each year's emissions has been retained in the atmosphere, and 50 per cent has been returned to apparently enlarging 'sinks' for the gas in the biosphere.

A tap flowing into a bath provides a familiar analogy for this all-important relationship.

'Bath tap' analogy

The dominant greenhouse gas from human sources is CO₂. The relationship between atmospheric CO₂ concentrations and the emissions of CO₂ from human sources is a 'stock-flow' relationship and can be thought of as a 'bath-tap' analogy. Just as the bath accumulates the flow of water to it from the tap, the atmosphere accumulates the flow of emissions to it from sources such as the burning of fossil fuels. Emissions are the short-term flow to the atmosphere which slowly accumulates a fraction of these as long-term stock.

On the flow side, the bath-tap analogy extends further by introducing the 'plug hole' through which water is drained away. The tap represents the various sources of carbon emissions in the real world; the plug hole represents their natural 'sinks'. Sinks in the real world are, for example, oceans and forests in which some of the 'extra' CO₂ in the atmosphere is 're-absorbed'.

If the plug hole is open while the tap is on, the level of water in the bath (the stock) may only slowly rise. In other words, the water level of the bath is the net balance of the rates of flow into the bath through the tap and out of the bath through the plug hole. If the tap water runs in at twice the rate that it drains away through the plug hole, the net rate of water accumulating in the bath is 50 per cent, or half the rate, of the flow from the tap into the bath.

If the bath approaches the point of overflowing, the tap needs to be turned off completely to avoid overflow. The bath level however, continues to rise even while the tap is being turned off and at least until it is turned off. That is, it takes time to turn the tap off, and during that process there is a risk that the bath could spill over. The analogy refers here, in the real world, to the possibility of climate runaway, where we would no longer have any control over global warming, as positive feedbacks (self-reinforcing effects) would take over from human impacts.

In the case of the present atmosphere the danger of the overflow is increasing, not decreasing. Emissions are increasing, while sinks are failing due to increased forest combustion, warming and acidification

of the oceans. Consequently the airborne fraction of emissions is increasing too.

In the analogy, the tap is opening wider, the pressure behind it is increasing, the plughole is blocking up, the rate at which the bath is filling is accelerating and there are more and more people in the bath wanting to fill it. The likelihood of the bath overflowing is itself rapidly growing.

PRESENT CO₂ 'PATH INTEGRALS' – EVIDENCE OF 'AGGRAVATED RATES OF ACCUMULATION' OF ATMOSPHERIC CO₂

Covering the last two hundred years, good data exist for both CO₂ emissions from burning fossil fuel and atmospheric CO₂ accumulation, or concentrations in parts per million by volume (ppmv) and weight in gigatonnes (GTC). One part per million by volume of CO₂ in the global atmosphere equates to a weight in carbon of 2.13 billion tonnes (gigatonnes).

Observed data from the Mauna Loa Observatory (MLO) of the US Government⁷ shows that the 'Constant Airborne Fraction' (CAF) of emissions now appears to be changing.

On average the fraction of emissions from fossil fuel burning being retained in the atmosphere is growing, as is shown in Figure 4. The more recent trend in the raw data are shown in the two panels of Figure 5.

These data make it possible to determine the effect of having the higher – or 'aggravated' – rates of atmospheric CO₂ retention persist into the future. These are shown in the projections from the C&C model in the charts C1 (convergence by 2020), C2 (convergence by 2040) and C3 (convergence by 2040) that are in Figure 9. The rate of increase in atmospheric CO₂ until recently has been 1.5 ppmv per annum: the carbon weight of this annual increase is therefore approximately 3.3 GTC. This is around half the weight of annual emissions which is currently about 6.5 GTC.

The point of great concern here is that over the period 2003–5, the rate of atmospheric increase has jumped to nearer 3 ppmv per annum. This gives a loading of the atmosphere by weight that is roughly equal to, not half, but all the emissions from fossil fuel burning. This suggests that roughly the equivalent of 100 per cent of emissions were retained in the atmosphere in these years. This is 'aggravated accumulation'.

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This was not foreseen in the carbon cycle modelling within the Intergovernmental Panel on Climate Change (IPCC) in the first three of its assessment reports between 1990 and 2001. These reports on the science of climate change, and the carbon contraction budgeting linked to different levels of GHG stabilisation in the atmosphere, did not as a result engage with the issue of 'aggravated accumulation'.

FUTURE CO₂ 'PATH INTEGRALS'

The charts in Figure 9 project three scenarios for future rates of CO₂ stabilisation in the atmosphere. These 'path-integrals' are carbon consumption added up over time.

They project the contraction budgets for carbon emissions published by the IPCC in the 1995 Second and 2001 Third Assessments, for: (1) 350 parts per million by volume (ppmv), (2) 450 ppmv and (3) 550 ppmv. These IPCC reference curves are shown by line D in each case against the emissions contraction budgets also quoted by IPCC.

In each of these three reference cases, the curves for atmospheric accumulation are projected using the C&C model to show the aggravated path-integrals of rates of CO₂ accumulation in the atmosphere into the future at:

- a) 50 per cent CAF, as given with the original IPCC determined rates and integrals of emissions contraction budgets (path 'D' in the three examples shown);
- b) 100 per cent CAF, in other words the theoretical maximum rate of atmospheric retention of GHG emissions from human sources (path 'F' in the examples shown); and
- c) a rate of GHG retention in the atmosphere that gradually increases from 50 per cent to 100 per cent over the next two centuries (paths 'E' in the three examples shown).

The scenarios shown are 'pairs' of emissions budgets and atmospheric concentrations that should have been stable at IPCC given values, but can rise faster along paths 'E' (combined in first chart of Figure 9):

- C1. An emissions budget for 350 ppmv as determined by IPCC, may well rise through 500 ppmv (here called 'acceptable risk').
- C2. An emissions budget for 450 ppmv as determined by IPCC, may well rise through 650 ppmv (here called a 'very dangerous risk').

- C3. An emissions budget for 550 ppmv as determined by IPCC, may well rise through 900 ppmv (here called an 'impossible risk').

The justification for doing this relies on the data already returned (and quoted above) showing that the aggravated rate of emissions accumulation in the atmosphere is already occurring intermittently. The purpose of doing this is to highlight the much greater extent of risk with which we are already confronted as the likelihood of aggravated rates of accumulation persisting into the future is real. The point of concern is that conditions of runaway rise climate change will take hold if preventive action is not urgently taken.

These 'aggravated rates of accumulation' are a fundamental strategic consideration as we try and determine a stable future over the next few decades since

- the future, obviously, has not yet occurred;
- governments are still caught in poor understanding and indecision about 'policy' to modify human fossil fuel consumption beyond 2012 when the Kyoto Protocol to the UNFCCC expires;
- politicians are operating under the increasingly challengeable assumption that there is still time to stop dangerous rates of climate change from taking hold.

Some commentators, notably scientist James Lovelock, already take the position that it is all too late; in the 'bath-tap' analogy, the bath is inevitably now going to overflow. The priority test to keep in mind for policy to prevent this catastrophe is to compare path integrals for:

- (a) the rate at which we cause the problem with our global emissions total where this rate is understood as the possible and likely rates of atmospheric accumulation and,
- (b) these rates against the rates at which we are organising globally to stop triggering dangerous rates of climate change by contracting our global emissions total fast enough to avoid catastrophe.

We can reasonably measure the rate at which we presently still continue to cause the problem much faster than we act to avoid it by reference to the Kyoto Protocol. In its given time period of 2008–12, the Kyoto Protocol will theoretically and at best have avoided emitting a few hundred million tonnes of CO₂ (measured as carbon)

to the atmosphere. During the same period we will have added several billion tonnes of carbon to the atmosphere from emissions: virtually business-as-usual. As soon as we factor aggravated accumulation into this it is clear that the end result will be that by 2012 we will be more, not less, deeply committed to the accelerating rate at which we are causing the problem than the response rates of C&C that are necessary to avoid it.

CAN WE SOLVE THE PROBLEM FASTER THAN WE ARE CAUSING IT?

As comparison of the three scenarios laid out here demonstrates, the risks of GHG concentrations rising faster and higher than has been suggested, and potentially completely beyond the ability of human decision taking to mitigate, are already clearly great and worsening. What is shown in the graphics of Figure 9 narrows and compares the ranges of uncertainty about concentrations to being between bands D (lowest) and F (highest) in each case.

This makes it possible to draw some very obvious conclusions about (1) the risks of acceleration in what we face and (2) what the accelerated rates of C&C are that it may take to avert these risks, in other words to solve the problem faster than we are causing it.

If the bath is not to overflow we need to be working more for scenario-type C1, not giving in to C3 as is the case with Sir David King, the government's chief scientist.⁸

Very much with an eye on the unresolved tension between the world's major GHG polluters – the US, India and China – King has taken the view that the *real politik* driving this expansion of consumption now overshadowing the entire global community, is to aim for a cap of 550 ppmv CO₂ atmospheric concentrations. This, said King, was a 'reasonable' target. Anything less would be 'politically unreasonable'. Indeed, if King recommended a lower limit 'he would lose credibility with the government'.⁹ But setting such a high limit means that the likelihood of preventing more than a two degree rise in global temperature is just 10–20 per cent. As Guardian columnist and green campaigner George Monbiot noted: 'Two degrees is the point beyond which most climate scientists predict catastrophe: several key ecosystems are likely to flip into runaway feedback; the biosphere becomes a net source of carbon; global food production is clobbered, and 2 billion people face the risk of drought. All very reasonable, I'm sure.'¹⁰

The truly alarming implication of King's stance is that his understanding of the contraction requirement to stay below this 550 ppmv maximum is based on IPCC carbon cycle modelling where the airborne fraction of emissions was assumed constant at around 50 per cent. When we allow for the aggravated rates of accumulation discussed above, King's 550 ppmv CO₂ prognosis is more probably headed to 1,000 ppmv and, hence, a runaway acceleration towards climate catastrophe. King, like many of the experts, appears either not to have understood the implications of aggravated accumulation in the C2 and especially the C3 scenarios. Or perhaps for political reasons he is ignoring this for now.

This is more than alarming. King has posed climate change as a greater threat than terrorism. But by saying, in effect, that the politically acceptable solution is to aim for 550 ppmv CO₂, his use of the word 'threat' is wholly misleading. It is certainly possible and almost inevitable that the aggravated rates of retention will increasingly become the norm if we persist with emissions control as envisaged in the Kyoto model. There is a point beyond which they certainly will become the norm, and on our present trajectory we are closing on it dangerously.

Avoiding this outcome means the underlying programme of global carbon emissions C&C must be agreed and internationally implemented at rates faster than those shown for 550 ppmv CO₂. The alternative is the slope of atmospheric concentration of CO₂ and other greenhouse gases, and temperature, running away out of control. To make the relevant comparison, contrast 'Acceptable Risk' C1,D with 'Impossible Risk' C3,E.

The contraction profile for C3 is three times the 'weight' (i.e. the total area under the curve) of the C1, but the concentration trajectories cited are virtually the same.

WAR ON ERROR: TRANSCENDING FALSE DICHOTOMIES

The circumstances in which the next few decades of human development take place are inevitably going to be profoundly reflexive. The implications of failing to prevent dangerous rates of global climate change are almost too dreadful to contemplate. As argued by palaeontologist Michael Benton, mass extinction events such as the Permian 251 million years ago were almost certainly the result of rapid non-linear climate changes, triggered by sudden greenhouse gas loading of the atmosphere and temperature increases.¹¹ The

difference is that then there were no human beings; now there are – us. Against this background, political integration of people on the left and on the right into a consensus-backed rationale for action is urgently required and already long overdue.

The economics of 'expansion and divergence' brings 'omnicide'

This globally 'separate development', just as in South Africa, is neither moral nor, since it has triggered a global security crisis, is it sustainable. Indeed a creeping madness inhabits this 'economic growth' and dealing with this is now fundamental to resolving our global dilemma. The very future of humanity as a whole is relentlessly deleted, when one third of people are unwittingly attached to a false accounting which, in the words of Colin Challen, the Chairman of the all-party climate group of UK MPs, operates like the Third Reich as 'the economics of genocide'.¹² Uncorrected, this future increasingly warms to become how the rich finally commit suicide by continuing to rob the poor. As the historian Mark Levene puts it, this is the 'economics of omnicide' as all are inevitably vulnerable to the effects of climate changing out of control.¹³

In 1995 the IPCC Second Assessment Report was published. After bitter battles over the 'value-of-life' during its preparation, this intergovernmental 'consensus' report openly repudiated the global cost-benefit-analysis of climate change carried out by economists who claimed to have demonstrated that it was cheaper or more cost-effective to adapt to climate than to mitigate and prevent it. It was not the procedure per se that was condemned, it was the assumptions behind the valuation of the assets at risk. These said valuation was proportional to income, so the climate-caused death of a poor person was one fifteenth the value of a dead rich person. When the climate mortality was summed globally, the net effect was to demonstrate that adaptation to climate change was the 'efficient' or cheaper option.¹⁴

It is this which demands a change in the accounting. Thus, we need a war on error, on the fixation with 'efficiency' and what former World Bank economist Herman Daly has called 'uneconomic growth'. It requires amnesty with the actuality of ecological limits and with each other as people. Success is possible if 'efficiency' is understood as at best a derivative of the principles of the UNFCCC, namely 'precaution' and 'equity'. Success is governed by the safe and stable limits that preserve us all and the global constitutional norm that values the right to life, regardless of income, as equal. This is a security

proposition, more than any ethical construct. The alternative: to share the proceeds of unsustainable growth unequally, with conflict and failure the inevitable consequence.

SEQUENCING PRINCIPLE AND PRACTICE IN THE BATTLE OF THE RATES

The ‘ultimate objective’ of the UNFCCC (see box on page xxx) is to stabilise the rising atmospheric concentration of greenhouse gases at a level that prevents dangerous anthropogenic interference with the earth’s climate system. The Convention declares ‘qualitatively’ that this must be done based on the principles of precaution and equity. Quantitative guidance however, remains vague. It is expressed as aversion to danger by noting the per capita emissions differentials and ‘differentiated responsibilities’ of ‘parties’ for the historic contributions to the atmospheric build-up of GHG. Subject to the limit that saves us, a quantitative methodology is required to reconcile the process to the limit. Without this there is the real danger of global failure swallowing local success.

It is said that principle without practice is useless while practice without principle is dangerous. If ever the latter were true it is now and principle must precede and inform practice if we are to have any chance of avoiding dangerous rates of climate change. Specifically, this means that we have to solve the problem of climate change faster than we cause it. So consistency with a principled methodology for measuring the rate at which we cause the problem, against which we can demonstrate the faster rate at which we cause the solution, is a *sine qua non* for success.

The Convention uses the words ‘ultimate objective’. As it stands, this does not sequence principle and practice. So some choose to limit the meaning of the word ‘ultimate’ to ‘eventual’, where the words mean merely the eventual future outcome of UNFCCC. Others recognise in ‘ultimate’ the sense of ‘fundamental’. Here, the fundamental, perpetual and pervasive purpose of the Convention, before, during and throughout the process is recognised. It is in this sense that quantitatively principled methodology precedes process. Increasing momentum of human emissions on the atmosphere is already evident. Dangerous rates of climate change and its catastrophic damage effects will occur unless we stop this momentum by rapidly contracting these emissions. For this contraction to be globally effective and sufficient, it must be guided by an international C&C agreement with its practice quantitatively structured on that principle.

As the UN, through the vast majority of its members who were party to the Convention, are still legally committed to its achievement, the claim here thus, is that the UNFCCC *is*, by definition, the 'United Nations Framework Convention for Contraction & Convergence' (UNFCCC&C).

PRACTICE WITHOUT PRINCIPLE LEADS TO GLOBAL TRIAGE

The 'Berlin Mandate' was agreed at the first Conference of the Parties (COP-1) to the UNFCCC in Berlin April 1995, to establish a Protocol to the UNFCCC. Between 1995 and 1997, the 'ad hoc group on the Berlin Mandate' (AGBM) was chaired to this purpose by Raul Estrada Oyuela, a distinguished career diplomat from Argentina. In August 1997 the AGBM met for the seventh time, a few months before COP-3 in Kyoto in December 1997 and the creation of what would become known as the 'Kyoto Protocol'.

During this meeting of the AGBM, Chairman Estrada appeared at a very large conference for the press and the NGOs to report on progress and take questions. Emission-trading had come into play and everyone knew that the political argument had come to centre on one question above all others: 'how would the multilateral commitments on emissions control be defined and quantified?' A new word had resulted from the acronym of the point at issue namely 'Quantified Emissions Limitation Reduction Options' or 'QELROS': or put more bluntly, who got how much and why.

By this stage, GCI had established two clear benchmarks in the debate. The first was C&C as the meta-concept for calculating QELROS in a scientific and constitutional manner. The second – considered notorious – was that the so-called Byrd-Hagel Resolution (BHR) of the US Senate in July 1997¹⁵ amounted, in fact, to C&C.¹⁶ The BHR was all or nothing. It embraced QELROS globally, as *quantified reductions* alongside *quantified limitations* of emissions for all of the developed and the developing countries all on the same account. GCI took the view that C&C was the only way to negotiate what the resolution called for, as anything devoid of a concentration target and more complicated than C&C would be rich in contested assumptions and recreate the arbitrary sub-global conditions that the US had been objecting to all along. In other words, the US rejects the notion that only part of the world, the developed nations (listed in Annex I of the Kyoto Protocol), should be made responsible for acting on

climate change. Why, for instance, should the US have obligations to act but not China?

Indeed, whether the Senate had intended it or not, BHR was tentatively seen, by the US climate delegation *inter alia*, as C&C by definition. At a special series of meetings in Washington in July 1997, officials of the US government asked GCI to raise support for this understanding, particularly in India and in China. We did this on visits to those countries during July and when reporting back in August we also secured a collective statement to the UNFCCC from the Africa Group of Nations affirming the need for C&C. As the record would show, all this would feature clearly at the end of COP-3.

As he reported to the AGBM 7 press conference, Chairman Estrada was familiar with all these developments. His news however was desultory. The US continued objecting to the one-sided nature of the negotiations and the commitments on offer; the European governments and NGOs were effectively hostage to this BHR demand for a global solution. At the end of the session I publicly asked Estrada if the QELROS were seen as a function of an atmospheric greenhouse gas concentration target or whether it was the other way around, that the concentration value was simply seen as the result of whatever haggling had taken place in the QELROS negotiation. To much laughter from Greenpeace and its cohorts in the Climate Action Network, who had wrongly interpreted GCI's support for a global solution as support for the US position *per se*, he said, 'Aubrey in this process what happens in practice is what happens and you make up the principles afterwards to explain what happened in practice.' In other words, while Estrada afterwards apologised for the rebuff, what he was actually saying amounted to a case of 'make-it-up-as-you-go-along'.

A few years later Estrada published a paper in which he recalled the exchange thus:

In a meeting with NGOs during the Kyoto Protocol negotiations, Aubrey Meyer asked me which differentiation criteria were being used in the process. As negotiations were very flexible, I answered that at the end of negotiations I would explain those criteria, and that allowed me to get out of the situation among the laughs of the audience. When the negotiation ended and the Protocol was adopted, Aubrey Meyer asked me again which were the criteria, and since I didn't know the answer, I simply said that with QELROS agreed criteria were no longer relevant.¹⁷

Candid as he was, the blunt truth is that what Estrada had revealed was an example of the aleatory – a term used in music for elements chosen at random – at the highest level of climate change politics, even more farcical than gesture politics. It is as if someone who waves their arms around believes that by doing so this makes them the equal of a great virtuoso violinist, say, of the ilk of Jascha Heifitz. The simile is harmless but what it illustrates is not. The UN climate negotiations are fundamentally flawed by the evolutionist folly that just plucking ‘promising’ numbers for QELROS out of a hat will do. The hope is that everyone will fail to notice the difference between the signal of what is required and the noise of what is actually happening. In the final hours of COP-3 the global allocation of tradable emission permits was debated. The US accepted in principle the C&C signal led by the Africa Group, India and China.¹⁸ But when the UK remained silent, Estrada suspended the meeting saying that all the work done was in danger of being lost. The remnant noise became the Kyoto Protocol.¹⁹

Even ‘evolutionists’ could see by the end of 1997, however, that dangerous rates of climate change would not be averted by this aleatoric approach. Instead, it would collectively lead us to a kind of global triage – the sorting of the priority order of patients waiting for medical treatment – leaving us increasingly unfit to survive. Indeed, as matters are currently unfolding, such a process of triage has already begun.

A further insight into how this has been happening is provided through the person of James Cameron, an architect of Kyoto and emissions trading and a UK Government advisor turned ‘carbon trader’. In 1990 Cameron’s ‘Centre for International Environmental Law’ (CIEL), in association with Greenpeace, encouraged the vulnerable Small Island States of the South Pacific and the Caribbean to form the Association of Small Island States (AOSIS). As the islands are mostly low-lying and very vulnerable to sea-level rise, the group took on the status of ‘canary-in-the-mine’, a memento mori for us all, if dangerous rates of climate change are not avoided.

By 1995, however, Greenpeace and CIEL had persuaded their clients that salvation lay in them presenting what became known as the ‘AOSIS Protocol’ to COP-1. Refuting the need for ‘globality’ defined by common sense and the US Government, this stated that the developed countries should only tighten their emission reduction ‘commitments’, as in the UNFCCC, in exchange for no control of emissions by anyone else. At COP-2, in 1996, the US rejected this as ‘unrealistic’. When the US presented their Byrd-Hagel Resolution

a year later, Greenpeace attacked it as 'Byrd-brained'²⁰ whilst also arguing that global emissions must be reduced to zero by 2050 to avert a global climate disaster.²¹ This was the same as the C1 scenario of 'Acceptable Risk' as defined above, a position GCI had argued since introducing C&C at COP-2 in 1996. As anyone could see that C&C was obviously required to achieve this, from that day to this it remains a mystery why Greenpeace and Mr Cameron have routinely denounced all calls for C&C. All the more peculiar, one might add, given that Greenpeace and others have described the paltry outcome of the COP-3 as 'a farce' and recognised that AOSIS have shifted from being an endangered species to being a certain discard in the emerging reality of triage. Moreover, since then Greenpeace has repositioned itself and the NGOs at the margins of the triage in a process now nearer the C3 scenario of 'Impossible Risk', and with Mr Cameron now operating as 'Carbon Capitalist' and trader par excellence at these lucrative margins. Indeed, Cameron has recently added Africa to the growing pile of discards that the C3 scenario inevitably causes and the economics of genocide inevitably requires:

The Africans are in a perilous position. They will not be rescued by 20 years of debate about C&C. Nor will they be rescued by the Carbon Market [or] beneficiaries of [it]. They're going to have to really look to the possibilities that do exist in altering their economies to cope with very high fossil fuel prices and Climate Change at the same time . . . some combination of looking at land use and land use change issues; of coping more effectively with the water resources which are there; of growing biocrops; of ensuring that renewable energy technology is made available at low cost.²²

C&C IS 'QUANTUM' AND IT COUNTERS DESPAIR WITH THE MOMENTUM OF HOPE

It is neither sane nor sanguine to defend the notion of unequal rights and simply discard vulnerable third parties. If we continue this, a growing global apartheid increasingly separates us from each other, sanity and the planet. If, and only if, we correct this 'in-time and 'in-tune', can the really violent and potentially terminal 'corrections' of a changing global climate still be avoided. Let the attractors of right resound.

The challenge is organising a C&C framework in preference to being further disorganised by structure-less commerce of 'expansion and divergence', triage, conflict and chaos. It is simply not enough

to rely just on more guesswork and patchwork and end up doing 'too little too late'.

Against this, counsels of despair are increasingly being voiced by eminent scientists such as James Lovelock, the creator of the *Gaia* theory.²³ He now suggests that it is already all too late. Although he has good reason to because of the 'aggravated rates' of GHG accumulation, this is nonetheless the 'victim's perception'. This must be weirdly amusing to the people who have said that there is no climate problem, only now to convert to saying that there *is* but there is no solution: it is all just too vast for the intelligence of humanity.

C&C says there still is time to define the goal-driven framework for solutions. However, for this to work, the international politics needs urgently to be freed from the stalemate by division that explains the failure of the Kyoto Protocol. For the last fifteen years one half of the world has felt that it is being asked to do too much too soon in exchange for the other half of the world doing (or what is seen as doing) 'too little too late'. When the US oil industry took the position that 'there isn't a problem and you can't solve it without developing countries' (sic), this was simply the obverse of the juvenile 'green' organisations who took the position that 'there is a problem and you can solve it without developing countries'. The measurement challenges in this daft stalemate made effective negotiation of the UNFCCC impossible. The Kyoto Protocol was the result. Worse, the European Trading Scheme, seen as a gold standard by its 'free-market' advocates, recently descended into bathos as European governments effectively took to bribing polluters to join it. Enron's fraud was mild by comparison but the pork-barrel basis of GHG permits pre-allocation is the problem.

This hastens the danger of runaway climate change. To stop this requires measures that are congruent with the context of what is already an acute time-dependency. Survival for the human species is now a race against time. We have to solve this problem understanding that the 'we' involved is 'global', with all of us fitting into the available space-time that is left.²⁴ With a clear implication derived from 'do unto others', the context is almost biblical but it also raises fundamental questions of identity and culture as to:

- 'what' is being measured?
- 'how' we are measuring what is being measured?
- 'what' is the time-dependent unit of measurement?

- ‘how’ is value being assigned?
- ‘who’ is doing the measurement?

As in love and quantum mechanics, the measurer and the measured are interactive; the observer’s observation affects the observed. The strongest reason to deconstruct the inequality in the cost-benefit of expansion and divergence is simply that the economic science of inequality breeds climate failure. Kyoto’s defenders unwittingly underwrite this. Though they reject the goal-less model, or guesswork, of pure *laissez faire*, they also reject the goal-focus of the C&C framework as somehow worse. Interestingly, it is for this reason that even transnational corporate leaders have taken to calling the Protocol an ‘ineffective patchwork’. In the absence of a global GHG concentration target, they say they cannot address the drift into climate chaos.²⁵

CONCLUSION: C&C DEFENDS ONLY TWO ASSUMPTIONS

The political equivalent of the quantum particle/wave dichotomy has Kyoto knowing where it is but not what its effect is or where it is going. C&C knows what its effect is and where it is going, because it defends only two core assumptions of numeracy (limits and equal rights), it is simple and simply says so. This science-based rationale gets increasing traction while Kyoto loses it to the goal-free poker-economics of ‘multi-criteria trade-offs’ and third party discards.

Consider again Einstein’s vexed riddle as to whether God ‘plays dice’. The game could not be played unless the dice existed. Principle simply precedes practice and so informs it. The dice are structured so and the game is programmed by the dice. Avoiding dangerous rates of climate change is the dice game we now play. Only in unity can we be determined not to lose. Contraction and convergence counters despair with the momentum of hope. Without such vision, much of humanity will simply perish.

FURTHER INFORMATION ON CONTRACTION AND CONVERGENCE

C&C definition statement and Bill:

http://www.gci.org.uk/briefings/C&C_Bill_Pledge.pdf

Zoom-able global past/future C&C ‘map’:

http://www.gci.org.uk/images/C&C_Bubbles.pdf

Animated C&C demonstration:

56 Surviving Climate Change

[http://www.gci.org.uk/images/CC_Demo\(pc\).exe](http://www.gci.org.uk/images/CC_Demo(pc).exe)

C&C pledge statement:

<http://www.gci.org.uk/kite/pledge-text.pdf>

C&C support and background:

<http://www.gci.org.uk/links/detail.pdf>

C&C history:

http://www.gci.org.uk/Archive/Mega_Doc_1989_2004.pdf

C&C news service:

<http://lists.topica.com/lists/GCN@igc.topica.com/read>

NOTES

1. http://www.gci.org.uk/AubreyMeyer/CV_Aubrey_Meyer_1.pdf
2. http://en.wikipedia.org/wiki/West-Eastern_Divan
3. Tony Blair, 'Get real on climate change', *Observer*, 30 October 2005
4. <http://www.gci.org.uk/articles/Nairob3b.pdf>
5. <http://cdiac.ornl.gov/trends/co2/graphics/vostok.co2.gif>
6. http://www.ncdc.noaa.gov/paleo/icecore/antarctica/vostok/vostok_data.html
7. <http://www.mlo.noaa.gov/LiveData/FDataCCG.htm>
8. David King, 'The nuclear option isn't political expediency but scientific necessity', *Guardian*, 16 December 2005.
9. George Monbiot, 'The chief scientific advisor has become a government spin doctor', *Guardian*, 25 October 2005.
10. Ibid.
11. Michael J. Benton, *When Life Nearly Died: The Greatest Mass Extinction of All Time*, Thames and Hudson, 2003.
12. Colin Challen, 'We must think the unthinkable and take voters with us', *Independent*, 28 March 2006.
13. Mark Levene, personal communication, 29 June 2006.
14. <http://www.ipcc.ch/pub/sarsum3.htm#seven>
15. <http://www.nationalcenter.org/KyotoSenate.html>
16. <http://www.gci.org.uk/briefings/C&C&ByrdHagel.pdf>
17. http://www.gci.org.uk/briefings/Paper7_EOyuela1.pdf
18. http://www.gci.org.uk/temp/COP3_Transcript.pdf
19. Aubrey Meyer, *Contraction and Convergence: The Global Solution to Climate Change*, Green Books, 2000.
20. <http://thomas.loc.gov/cgi-bin/cpquery/T?&report=sr054&dbname=cp105&>
21. <http://archive.greenpeace.org/climate/arctic99/html/content/factsheets/carbonlogic2.html>
22. http://www.gci.org.uk/speeches/Cameron_RSA_150506.pdf
23. <http://observer.guardian.co.uk/shellenergy/story/0,,1793042,00.html>
24. Challen, 'We must think the unthinkable'.
25. http://www.gci.org.uk/briefings/WEF_Statement.pdf

Garnaut CLIMATE CHANGE REVIEW

DRAFT REPORT

J U N E 2 0 0 8



Garnaut
CLIMATE CHANGE
REVIEW

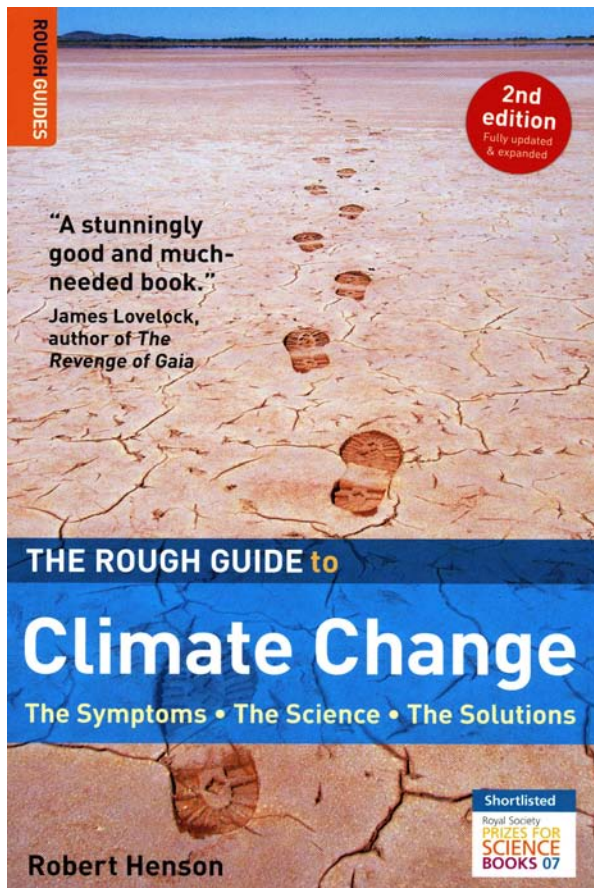
The per capita approach is generally referred to as 'contraction and convergence' (Global Commons Institute 2000) and has figured in the international debate for some time.

Global Commons Institute 2000, 'GCI briefing: contraction and convergence', available at <www.gci.org.uk/briefings/ICE.pdf>, originally published as Meyer, A. 2000, *Engineering Sustainability* 157(4): 189–92.

It has been promoted by India and has been discussed favourably in Germany and the United Kingdom (German Advisory Council on Global Change 2003; UK Royal Commission on Environmental Pollution 2000). Recent reports have shown increasing support for this approach internationally: see, for example, Stern (2008) and the Commission on Growth and Development (2008).⁵

Under contraction and convergence, each country would start out with emissions entitlements equal to its current emissions levels, and then over time converge to equal per capita entitlements, while the overall global budget contracts to accommodate the stabilisation objective. This means that emissions entitlements per capita decrease for countries above the global average, and increase (albeit typically at a slower rate than unconstrained emissions growth) in countries below the global average per capita level. Importantly, emissions entitlements would be tradable between countries, allowing actual emissions to differ from the contraction and convergence trajectory.

The per capita approach addresses the international equity issue transparently: slower convergence (a later date at which per capita emissions entitlements are equalised) favours emitters that are above the global per capita average at the starting point, while faster convergence gives more emissions rights to low per capita emitters. The convergence date is the main equity lever in such a scheme.



DEBATES & SOLUTIONS

Beyond Kyoto: what's next?

The next few years could make or break the global mission to deal with climate change. Kyoto's first compliance period expires in 2012, and as of this writing there is no consensus on what to do next. In December 2005 the largest meeting of climate diplomats in nearly a decade took place in Montréal. While many developing countries were ready to start work, the US resisted up to the last minute, and the chief American negotiator walked out of a midnight discussion. In the end, the diplomats managed to eke out an agreement for a two-year round of non-binding talks under the UNFCCC that "will not open any negotiations leading to new commitments" (as the official wording says).

The next phase began with a meeting in Bali in December 2007, with the pressure on to develop firm commitments that pick up where the initial Kyoto period leaves off. Earlier in 2007, G8 members agreed to "consider seriously" the goal of reducing global emissions by at least half by 2050. Meanwhile, US president George Bush promoted an Asian-Pacific consortium that's considering long-term emissions reductions separately from other players (see below). While meeting in Sydney in September 2007, Asian-Pacific leaders endorsed "aspirational goals" to reduce carbon intensity 25% by 2030 – although this wouldn't necessarily imply any drop in actual emissions (see p.42). Critics noted that the plan is based on targets that are entirely voluntary, and it remains unclear how this strategy will mesh or conflict with the larger UN-based approach.

Much will depend on the American political climate as the decade draws to a close. A new president will take office in 2009, and the victor will likely be more amenable to binding greenhouse targets than was the Bush administration. Moreover, the US Congress moved from Republican to Democratic control in 2007 – a key shift that sparked a diverse set of proposed legislation, with goals ranging from modest to ambitious. If these trends in US politics continue, it's possible that the nation may throw considerable momentum behind post-Kyoto planning from 2009 onward.

Over the Atlantic, there's powerful momentum from the EU as a whole – and from industries that expect to be heavily involved in carbon trading – for a post-Kyoto emissions plan. A big question is what shape such a plan might take, and there's been no shortage of suggestions on the table. A 2004 report from the US Pew Center on Global Climate Change summarized more than forty ideas, with names that range from the grandiose

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(“Orchestra of Treaties” and “Climate Marshall Plan”) through the humble (“Broad but Shallow Beginning” and “Soft Landing in Emissions Growth”) to the droll (“Keep it Simple, Stupid”). The main points in question include:

► **Should there be a single global plan or an array of decentralized alliances?**

As noted above, the US has teamed up with Australia, China, India, Japan and South Korea to form the Asia-Pacific Partnership on Clean Development and Climate. Thus far the alliance – whose members generate half the world’s carbon emissions – is focused on non-binding actions such as sharing technologies for renewable and reduced-carbon fuel sources. With an eye toward boosting this technology-driven approach, the US held a meeting of the world’s fifteen largest emitters in September 2007. However, most of the participants reiterated their support for binding targets. “I think that the argument that we can do this through voluntary approaches is now pretty much discredited internationally”, said UK representative John Ashton.

► **What’s the best time frame to consider?** Some plans are focused on the second Kyoto commitment period (2013–2017), while others extend all the way out to 2100.

► **What type of commitments should be specified?** There is a whole array of possibilities, from emission targets by nation or region to non-emission approaches such as technology standards or financial transfers.

► **How should the burden of climate protection be shared among developed and developing countries?** This remains a key sticking point, as was the case from the very beginning.

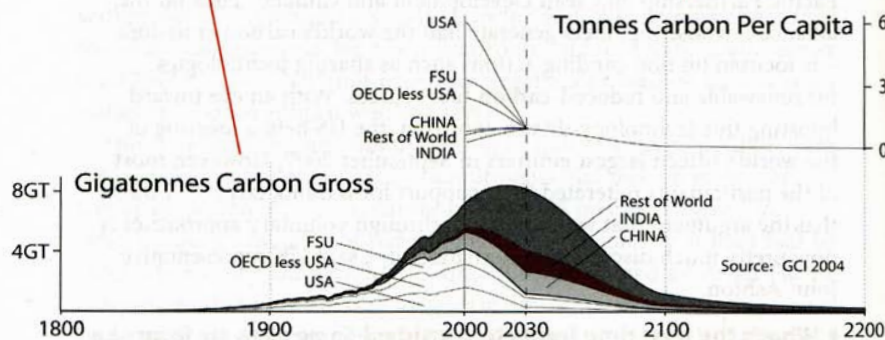
► **How does the world make sure that commitments are enforced?** It’s an issue that many say Kyoto hasn’t fully addressed.

Among the most intriguing plans offered to date is the **contraction and convergence** (C&C) model developed by the Global Commons Institute, a British group headed by Aubrey Meyer. It was introduced by the Indian government in 1995 and adopted by the Africa Group of Nations in 1997 during the run-up to Kyoto. The plan has also received votes of support from the European Parliament and several UK and German advisory groups. The two principles at the heart of C&C are:

DEBATES & SOLUTIONS

► **Contraction:** the need to reduce overall global emissions in order to reach a target concentration of CO₂, with a commonly cited goal of 450 parts per million.

► **Convergence:** the idea that global per-capita emissions, which now vary greatly from country to country, should converge towards a common amount in a process more or less parallel to contraction.



From the Global Commons Institute C&C briefing document, available at www.gci.org.uk/briefings/ICE.pdf
FSU is the Former Soviet Union

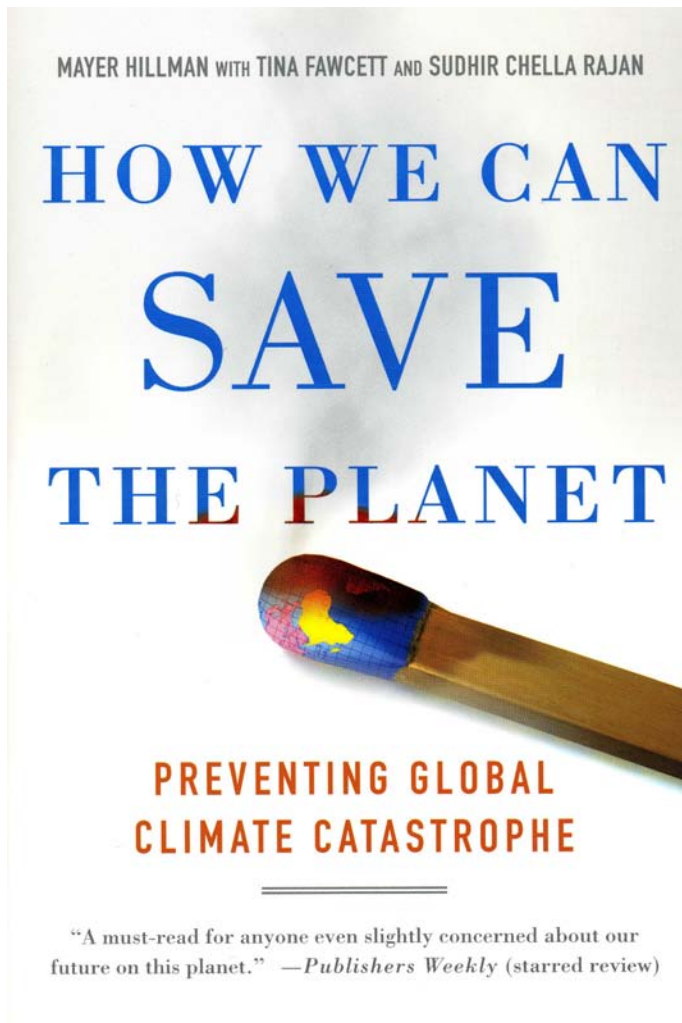
In short, C&C calculates how much carbon the world can emit in order to reach its target, then apportions that total equally among the world's residents based on population. It's an elegant concept that moves the process towards a climate-protected future that virtually everyone recognizes as fair. As ecologist and author Tim Flannery put it in a 2006 speech, "In

"In the politics of climate change, the Kyoto Protocol is the equivalent of kerb-crawling. It is utterly inadequate and doesn't provide the legal framework we need."

Aubrey Meyer, Global Commons Institute

some ways C&C is an ultra-democratic variant of the Kyoto Protocol."

Some critics of C&C point out that it could provide developing countries with an anti-incentive for birth control, since it allocates emissions rights based on population. And many activists feel that the C&C plan lets developed nations off the hook for their hundred-plus years of creating our current predicament. A competing plan, the **Brazilian Proposal**, uses the historical pattern of emissions as a starting point.



The Blueprint for Survival

Contraction and Convergence

The conclusions that can be drawn from parts I and II of this book are that we need to think beyond energy efficiency and renewable energy and toward concepts of sufficiency, of social and institutional reform, and of personal changes that incorporate *much* less energy and lead to *much* lower emissions of greenhouse gases. This chapter describes the only global solution that, in our view, is practicable, equitable, credible, and can be assured of success.

Global, national, and personal solutions are vital because the 80 percent reduction by 2030 target that the authors of this book consider both essential and realistic works only to limit climate change sufficiently if all countries of the world are also engaged in emissions control and have equivalent reduction targets. As chapter 6 showed, the United States has hitherto shuffled its feet on the climate problem, although this does not mean that it cannot take the lead in the future. But, equally vitally, people within the United States must be

engaged in the project—the government cannot do it without its citizens' support. This means devising a national scheme to share out the country's allocation of carbon dioxide emissions. Both global and national approaches are suggested in this and the following chapter, based on political realism and principles of equity and effectiveness.

Climate Change: An Ethical Issue

It is now essential that climate change is seen as an ethical issue complementing the fundamental one of survival. Intergenerational equity must be acknowledged to be at the heart of policy because, as carbon dioxide emissions accumulate in the atmosphere for hundreds of years, much harm has already been caused and our current emissions are accelerating the process. The principle underlying this approach is the same as the ideal of sustainable development, which was expressed in the Brundtland Report of 1987. Our common future, as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs." Equity is key for practical reasons as well. Without equity, transparent in its application, there can be no realistic prospect of public acceptance or political agreement to introduce the measures needed. As it happens, the richest countries that have the greatest capacity to act are the ones that not only have been responsible for historically high levels of emissions but are also currently the most highly polluting. Thus, they are the ones who should and will have to make the greatest changes under an equal-rights framework. In the same way, poor countries, historically having generated a much smaller fraction of emissions, must be given commensurate "devel-

opment space” to provide economic benefits for their people. Luckily, given advances in technology and the prospects for a broader cultural push toward making alternative lifestyle choices, we are virtually guaranteed that their development paths will not blindly follow the disastrous trajectories of their wealthy neighbors. Nevertheless, from an ethical standpoint of providing equal shares, it is essential that they be given corresponding opportunities to those of rich countries to bring their citizens toward prosperity.

What Is Contraction and Convergence?

A global solution requires global agreement. It is widely acknowledged that the Kyoto Protocol, the first international agreement on greenhouse gas reduction, though intended to lead to a succession of treaties, will deliver only modest savings in global emissions even if its targets are met in full. Future treaties will need to involve all countries of the world, not just the developed countries currently committed to reductions under the protocol. This means agreeing on a framework for a global sharing of the finite capacity of the atmosphere to absorb greenhouse gases without serious damage to the climate.

A brilliant, imaginative, and simple means of reaching such an agreement on emission reductions has been put forward. Known as Contraction and Convergence (C&C), it was first proposed by the Global Commons Institute (GCI) in the early 1990s. Recognition of its unique qualities as a framework for combating climate change has grown at an astonishing rate since that date. It is thought by an increasingly influential number of national and international institutions to be the most promising basis for global negotiations.

DESCRIPTION OF ITS CONCEPT

C&C is founded on the fundamental principles that “safe” atmospheric concentrations of carbon dioxide must not be exceeded, and that global governance must be based on justice and fairness. However, this latter requirement has not been included for moral reasons alone; the GCI also claims that it would be essential for getting agreement from developing countries to take part in global emissions reduction. Its phrase “equity is survival” encapsulated the point that there can be no global security unless climate change is restricted to a manageable level, and this cannot be achieved without all countries of the world sharing this common objective.

C&C consists of:

- **Contraction:** an international agreement is reached on how much further the level of carbon dioxide can be allowed to rise before the changes in the climate it produces become totally unacceptable. Once this limit has been agreed, it is possible to work out the rate at which current global emissions must be cut back to ensure that it is not exceeded.
- **Convergence:** global convergence to equal per capita shares of the agreed contraction is phased toward the contraction target by an agreed year.

C&C is a set of principles for reaching agreement. In fact, it simplifies climate negotiations in a remarkable way to just two questions. First, what is the maximum level of carbon dioxide that can be permitted in the atmosphere? Second, by what date should global per capita shares converge to that level? Using C&C does not entail a par-

ticular concentration of carbon dioxide emissions as the safe limit, nor does it set a timescale for reductions.

Determining the safe limit for greenhouse gas concentrations in the earth's atmosphere depends on the sensitivity of the earth's climate to greenhouse gases and the rate at which some of these gases get sequestered in sinks. As noted earlier, according to the Third Assessment Report of the IPCC, an average rise of global temperatures by 2°C (3.6°F) over preindustrial levels is an important threshold beyond which there would be damage to human health, and the earth's ecosystems would be especially dangerous. This requires keeping long-term concentrations of greenhouse gases within 400–450 ppm in carbon dioxide equivalent.

The GCI argues that C&C offers a realistic “framework” to replace the “guesswork” involved in the Kyoto Protocol. The targets in the Kyoto agreement are not based on any reliable understanding of the safe, or at least not-too-dangerous, limits of greenhouse gases in the atmosphere. Rather, the reductions agreed upon were determined by what was considered to be politically possible at the time of the negotiations between the thirty-seven countries involved. By contrast, C&C would use the best current scientific knowledge to set maximum levels of carbon dioxide emissions in the atmosphere, and hence maximum cumulative emissions. While the date of convergence would be subject to agreement, the principle of equal rights for all would remove the potentially endless negotiations that would otherwise occur, with each country making a case that its contribution to global reductions should be modified in light of its special circumstances.

Another critical element of the C&C proposal is that countries have the ability to trade carbon emissions rights. Countries unable to manage within their agreed upon allocations would, subject to veri-

fication and appropriate rules, be able to buy other countries' or regions' unused ones. The lifetime of the allocations would be restricted (to, say, five years) to discourage futures speculation and hoarding. Sales of unused allocations would be likely to generate purchasing power in vendor countries to fund their development in sustainable, zero-emission ways. Developed countries, with high carbon dioxide emissions, would gain a mechanism to mitigate the expensive, premature retirement of their carbon capital stock. They would also benefit from the export markets for renewable technologies that this restructuring would create. At the same time, the application of the C&C proposal would not only have the virtue of making a major contribution to shrinking the gap between rich and poor, both within and between countries, but would strongly encourage the adoption of types of energy with low carbon dioxide emissions.

WHAT WOULD IT LOOK LIKE?

The impact of C&C on the emissions allowances for people from different countries can be seen in the scenario illustrated below (figure 8), in which the limit on carbon dioxide in the atmosphere is set at 450 ppm and convergence is achieved by 2030.

The C&C graph shows how levels of carbon dioxide emissions related to fossil fuels have evolved over time for six blocks of countries: the United States; other OECD countries (which includes all the EU and other European countries, Australia, New Zealand, Japan, and Canada); the remaining countries of the former Soviet Union (FSU); India; China; and the rest of the world. Not surprisingly, most of the historic carbon dioxide emissions prior to 2000 are the responsibility of the developed world. After C&C is intro-

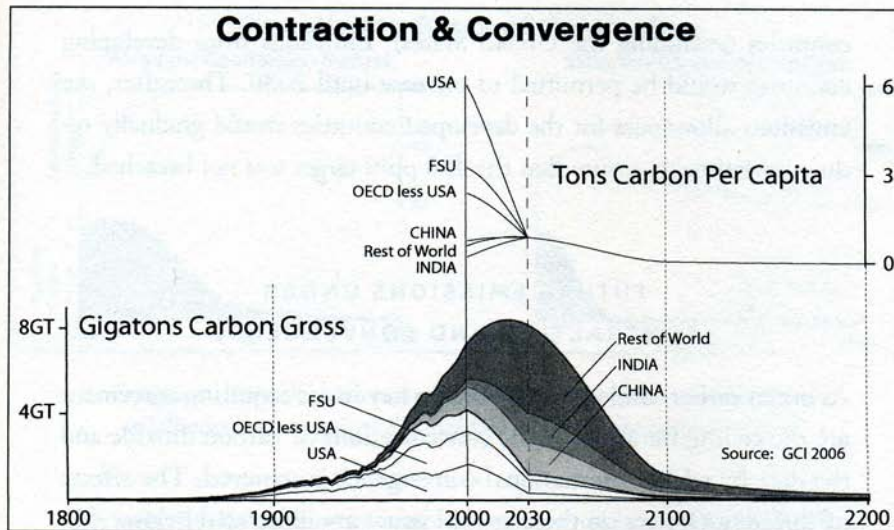


FIGURE 8: Carbon dioxide emissions under C&C (shown gross and per capita) for a maximum of 450 ppm atmospheric concentration achieved by 2100, with "permits" for per capita emissions converging to equality achieved by 2030 (Source: Global Commons Institute, 2006)

duced, for instance in 2000 in this scenario, there is a period of adjustment up to 2030, by which date equal emissions rights have been achieved. The graph assumes that there is no trading between countries; in reality, the pattern of emissions might be rather different from this, with rich countries emitting more, having paid the poorer countries for the privilege of doing so.

The graph shows how per capita emissions of carbon dioxide would change under this C&C scenario. The highest-carbon-emitting countries have to make the largest contributions to the overall reduction in emissions, so the change per capita required is greatest for the United States, followed by the FSU countries and then the OECD

countries (excluding the United States). Emissions from developing countries would be permitted to increase until 2030. Thereafter, the emissions allowances for the developed countries would gradually reduce over time to ensure that the 450 ppm target was not breached.

FUTURE EMISSIONS UNDER CONTRACTION AND CONVERGENCE

As noted earlier, under C&C, the two key issues requiring agreement are the ceiling for atmospheric concentrations of carbon dioxide and the date by which international convergence is achieved. The effects of different choices on these crucial issues are illustrated below.

What is the level at which carbon dioxide should be stabilized? Scientists are increasingly of the view that the only way to avoid dangerous impacts is to limit global average temperatures to 2 degrees Celsius (3.6°F) above pre-industrial levels. There is continued debate about the earth's climate sensitivity, that is to say, the overall responsiveness of the climate to a doubling in pre-industrial greenhouse gas concentrations, which would tell us what 2 degrees Celsius translates into in terms of carbon dioxide concentrations. The prevailing consensus is that we may need to limit carbon dioxide concentrations to as low as 350 parts per million (ppm) if climate sensitivity is as high as many think it could be, or, if we're lucky, to 450 ppm. In what year can the contraction achieve these stabilization concentrations? Again, the consensus is that we must do so by the end of this century.

Figure 9 depicts this for two different pathways (450 ppm and 350 ppm). Although global concentrations of 350 ppm have already been exceeded, it might prove necessary to reduce concentrations back to

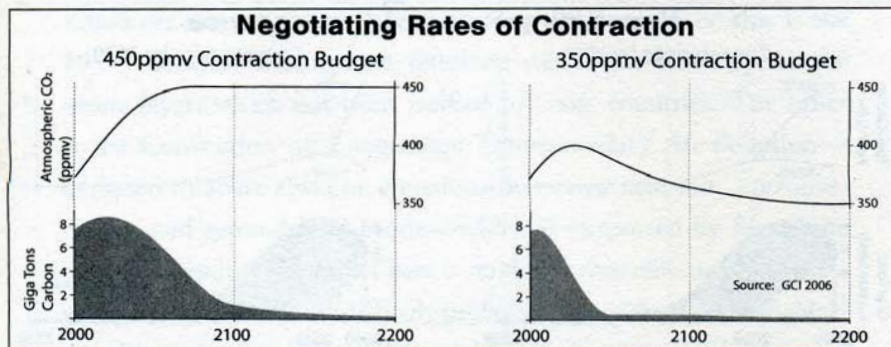


FIGURE 9: Emissions pathways associated with 450 ppmv and 350 ppmv stabilization concentrations (Source: Global Commons Institute, 2006)

this level. In the short term, concentrations would continue to rise, but as the figure shows, if global carbon emissions were reduced to very low levels by around 2050, then atmospheric concentrations could fall to 350 ppm by 2100. Not surprisingly, the remaining carbon budget, that is to say, the degree of freedom we would have to continue to emit greenhouse gases, is much lower in a 350 ppm scenario than in a 450 ppm one. Indeed, annual emissions may also have to be reduced much faster, very significantly by 2050 rather than by 2100, in order to achieve concentrations of 350 ppm.

The second issue to address is how quickly per capita emissions in countries of the developed and developing world should equalize, that is to say, how fast convergence should take place. For a 450 ppm stabilization level, GCI suggests that convergence take place between the years 2020 and 2050, or around a third of the way into a one-hundred-year budget, for example, for convergence to complete. They also stress that negotiations for this at the UNFCCC should occur principally between regions of the world, leaving negotiations be-

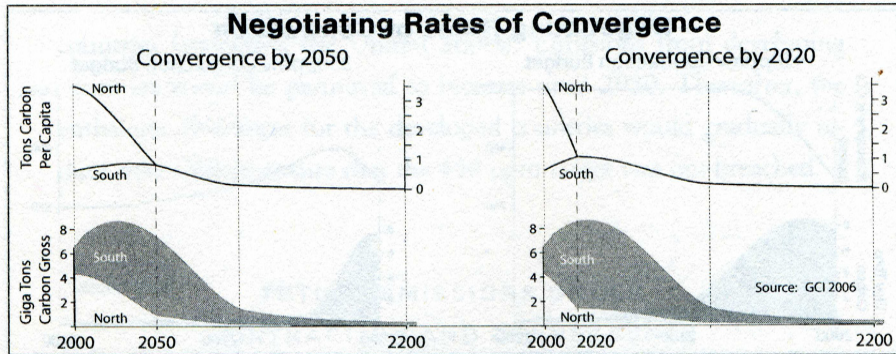


FIGURE 10: Two examples of convergence with a 450 ppm target
 (Source: Global Commons Institute, 2006)

tween countries primarily within their respective regions, such as the European Union, the Africa Union, the United States, and so on.

Figure 10 shows how the total carbon budgets and per capita emissions would work out for the developed world—the North—and the developing world—the South—for two different convergence dates. If convergence on a 450 ppm target was reached by 2020, people in the North would have to reduce their per capita emissions very quickly. The earlier convergence date would also mean that countries of the North would be entitled to a lower share of the global carbon budget than if a convergence date of 2050 were agreed.

How Could It Happen?

A framework based on C&C requires international agreement and political consensus. Although the Kyoto Protocol has turned out to be disappointing, there are good precedents for effective global

