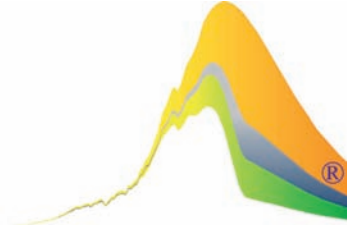


# CARBON COUNTDOWN

THE CAMPAIGN FOR  
**CONTRACTION & CONVERGENCE®**



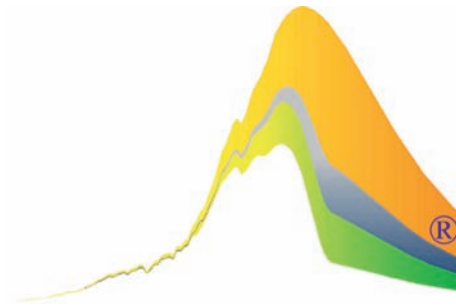
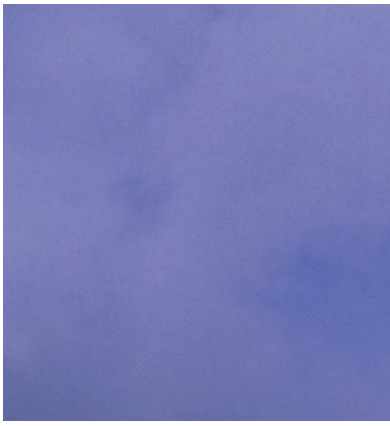
THE GLOBAL COMMONS INSTITUTE





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## 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®

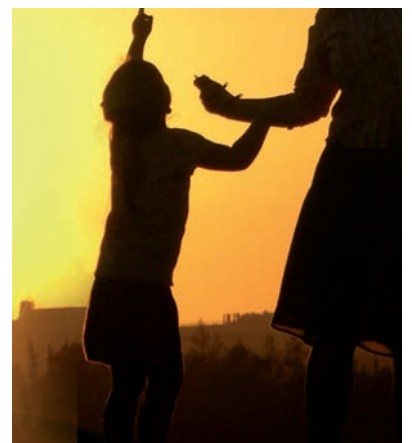
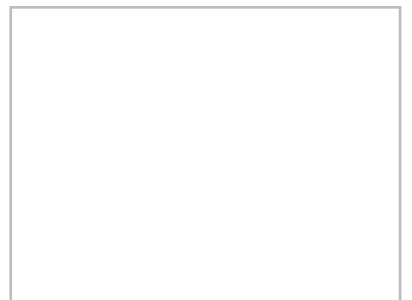
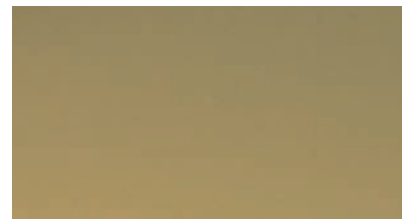
C&C is founded on IPCC climate science and embraces the UNFCCC principles of equity, precaution and sustainability. It has wide international support amongst businesses, professional bodies, academic institutions, faith groups, national, regional and local governments.

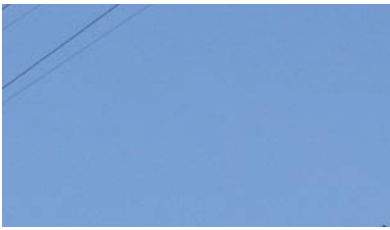
C&C schedules a global reduction of emissions (contraction) that keeps CO<sub>2</sub> concentrations from rising beyond an agreed safe level. It proposes emission entitlements for every country and a scheduled convergence to equal per person entitlements by an agreed date. In this way, convergence reduces 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.

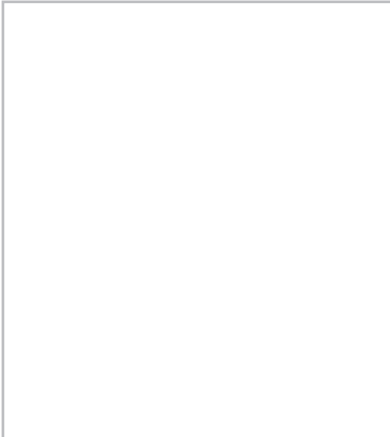
However, individual and collective actions to mitigate climate change will remain inadequate unless we enact completely the full-term international agreement proposed by the UNFCCC to which our governments are signatories. There is a real and growing danger that any local successes are hostage to global 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 CO<sub>2</sub> 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 CO<sub>2</sub>. The target is under review.

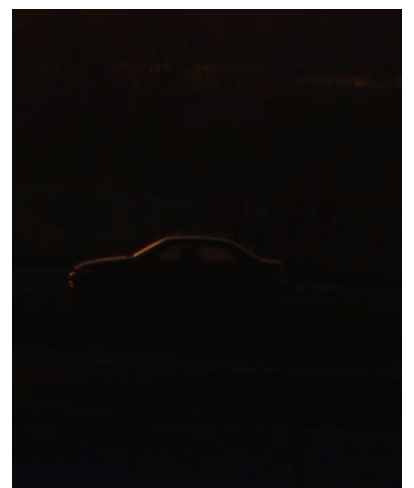
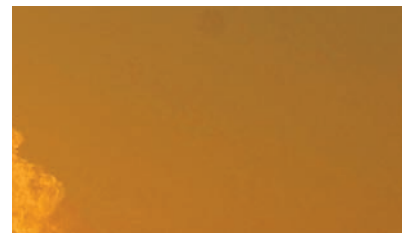
The US did not ratify the Kyoto Protocol, nor has the federal government set any targets for emissions reduction. However, individual states have taken the initiative. California has set a unilateral target of 25% reduction in emissions by 2020 and about twenty other states, along with a number of Canadian 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](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.

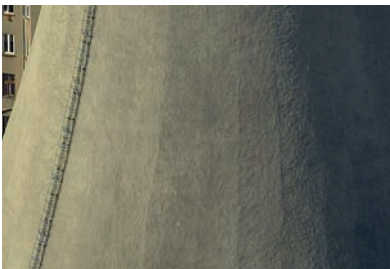
In September 2007, when mediating between supporters and opponents of the Kyoto Protocol, the German Government went further by proposing the Contraction & Convergence approach as the basis of the post-Kyoto agreement.



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?

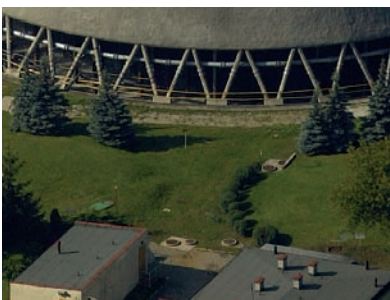


## CONTRACTION & CONVERGENCE - THE PROPORTIONATE RESPONSE

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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 CO<sub>2</sub> in the atmosphere and on the global cap on emissions necessary to achieve





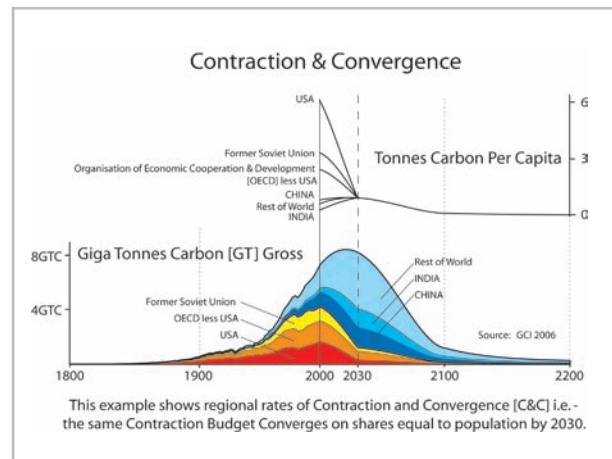
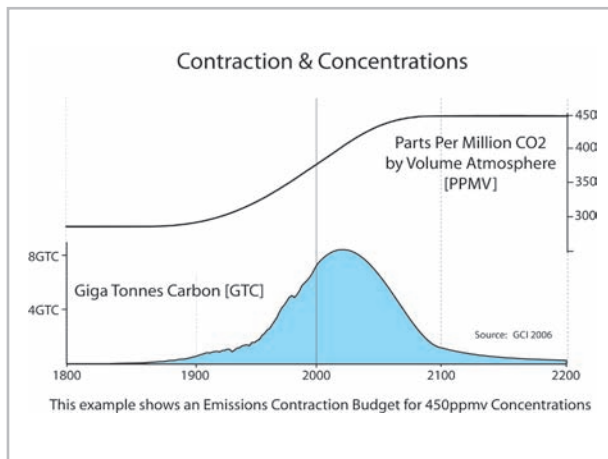
it. A level of 450 parts per million has until recently been regarded as the upper limit for keeping under the maximum global temperature increase of 2 degrees centigrade above the pre-industrial average. A science-based limit must be set by international agreement within the UNFCCC process.

## C&C BASICS

From inception of a global agreement, C&C schedules the mandatory annual global contraction (reduction of emissions) that keeps CO<sub>2</sub> 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.

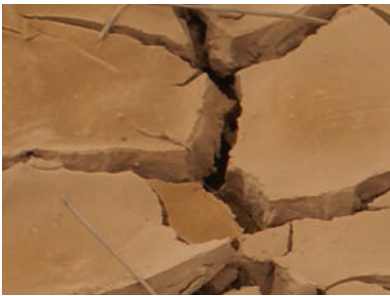
C&C also proposes emission entitlements to every country. While starting with current emissions, it proposes a scheduled convergence to equal per person entitlements for everyone on the planet by an agreed date. This way, convergence reduces the carbon shares of the developed over-emitting countries 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.

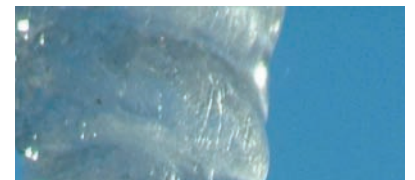
These initiatives are bringing new opportunities and improved competitiveness for those engaged in them, but are they helping to solve the climate problem?

## DO THE NUMBERS ADD UP?

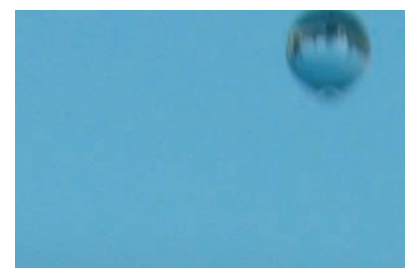
There are serious limits on the contribution to global emissions reduction by these means. We cannot know the impact of our efforts without having an ultimate global target for GHG concentrations and mutually agreed emissions reduction trajectories for achieving this. The Stern Review emphasised that 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".

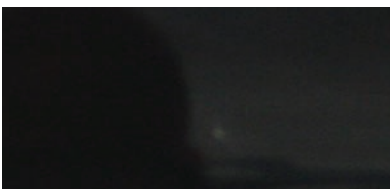
Since then, support for C&C has continued to grow strongly whilst the political process has hardly moved on. The 2007 Bali agreement is little more than a statement of intent by policy-makers to make some of those "courageous decisions" by 2009. They will need all the help and encouragement they can get.



# 5

## 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:

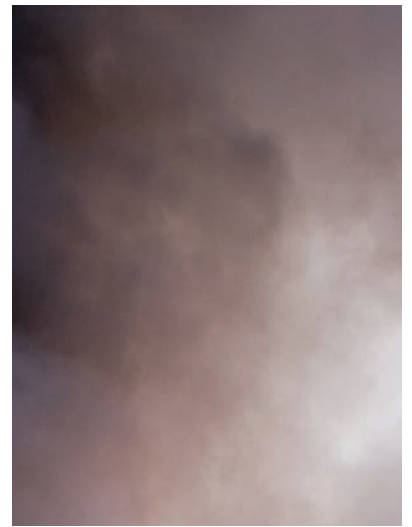
- *Support Contraction & Convergence as the formal basis of UNFCCC negotiations for a global agreement on climate,*
- *Be entered on an open global C&C register,*
- *Informally advocate the Declaration to others within a sector-relevant community,*
- *Supply executive level signature endorsing these conditions and the Declaration.*

The Global Commons Institute will: -

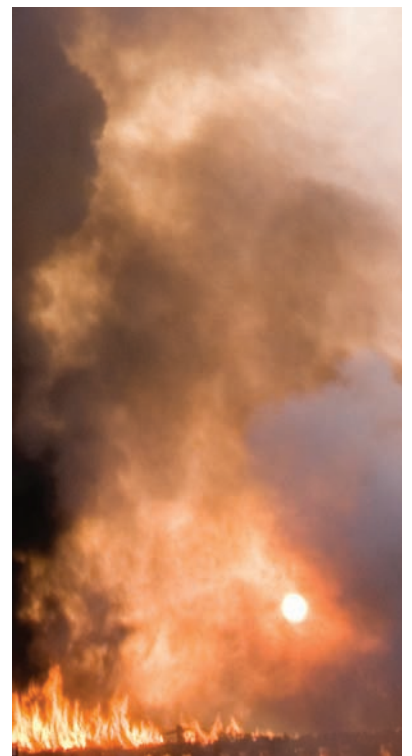
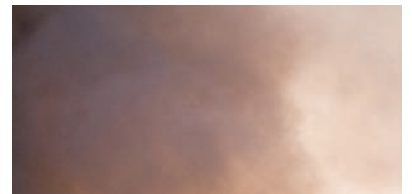
- *Maintain a public register of signatory organisations*
- *Publish periodic research and survey materials related to climate change issues and the campaign*
- *Keep the UNFCCC and other relevant bodies periodically updated with progress*
- *Inform elected political representatives, forming cross-party consensus on climate change policy, of progress in developing the C&C constituency.*

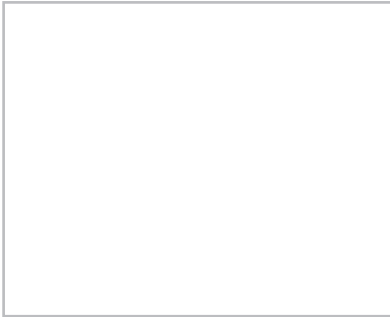
Organisations can also choose to display the C&C logo on house media, under licence.

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.

# 6

## THE GLOBAL COMMONS INSTITUTE

### 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.

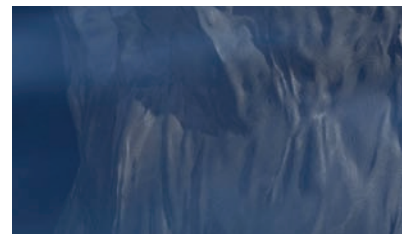
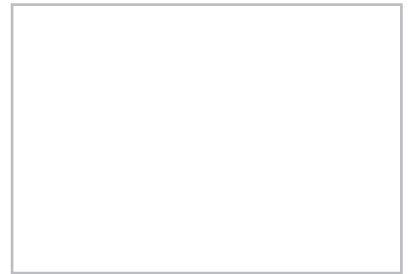
Coupled Atmosphere-Ocean General Circulation Models (AOGCMs) used by the UK's Hadley Centre are the most complex climate models in use, consisting of an Atmosphere General Circulation Model (AGCM) coupled to an Ocean General Circulation Model (OGCM). Some recent models include the biosphere, carbon cycle 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 CO<sub>2</sub> 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](http://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](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/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](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](http://www.gci.org.uk/temp/COP3_Transcript.pdf)

### **The C&C Booklet 13 languages from COP-1111 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/Mega_Doc_1989_2004.pdf)

<http://www.gci.org.uk/Archive/>

[All\\_2000\\_2007\\_reduced\\_file\\_size.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/correspondence/EAC_response_GCI_300904.pdf)

[http://www.gci.org.uk/briefings/EAC\\_Final\\_C&C.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/APGCCC_Evidence_single_A4_pages.pdf)

[http://www.gci.org.uk/briefings/Consensus\\_Report.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](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](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](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](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 CO<sub>2</sub> measured in billions of tonnes of carbon between 1800 – 2000.*
- *Rising concentration of atmospheric CO<sub>2</sub> as parts per million by volume (ppmv) between 1800 – 2000.*

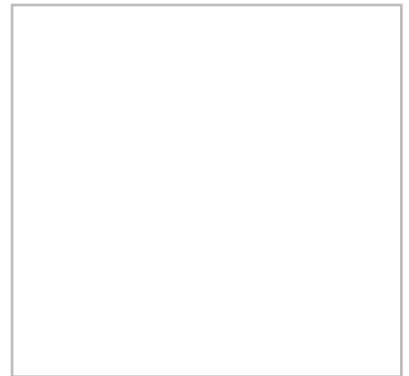
The key questions for integration are in four columns:

- *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:

<b>ACCEPTABLE RISK:</b>	<b>C1</b> (bottom row) global GHG emissions contraction complete by 2050 so concentrations end up around 400/450 ppmv with damages potentially still under control.
<b>DANGEROUS RISK:</b>	<b>C2</b> (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.
<b>IMPOSSIBLE RISK:</b>	<b>C3</b> (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 CO<sub>2</sub> 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

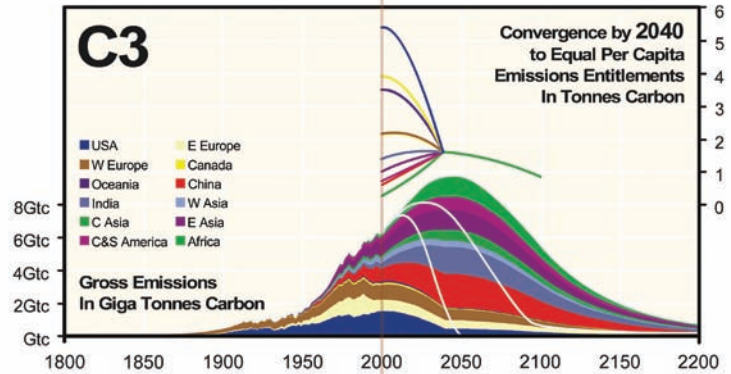
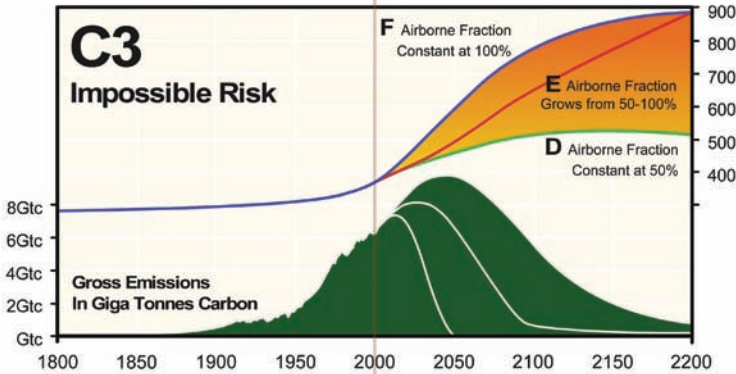
OBJECTIVE

PRINCIPLES: PRECAUTION & EQUITY

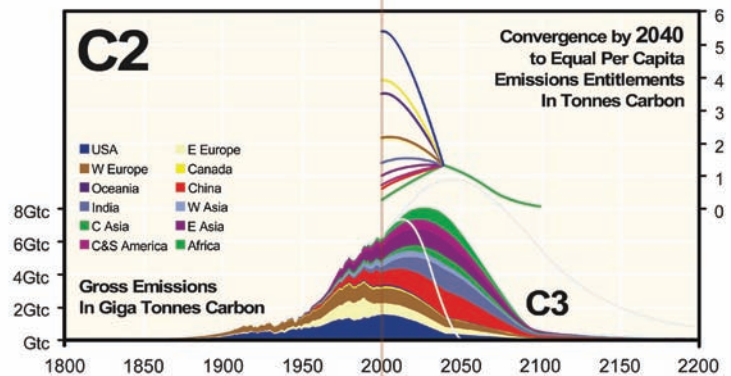
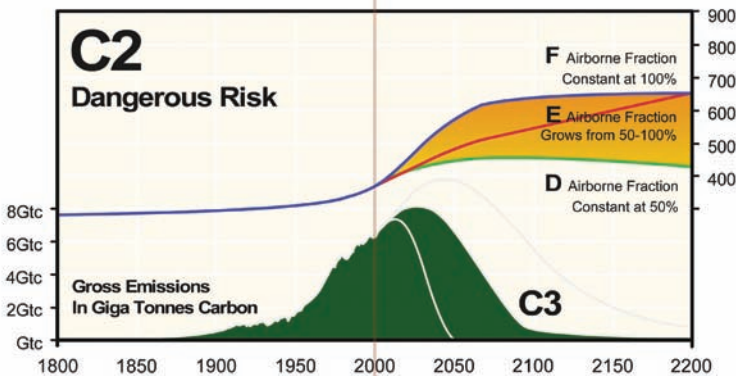
CONTRACTION & CONCENTRATIONS

CONTRACTION & CONVERGENCE

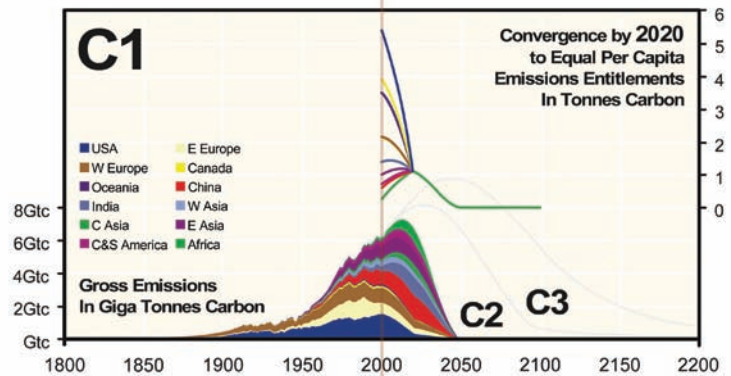
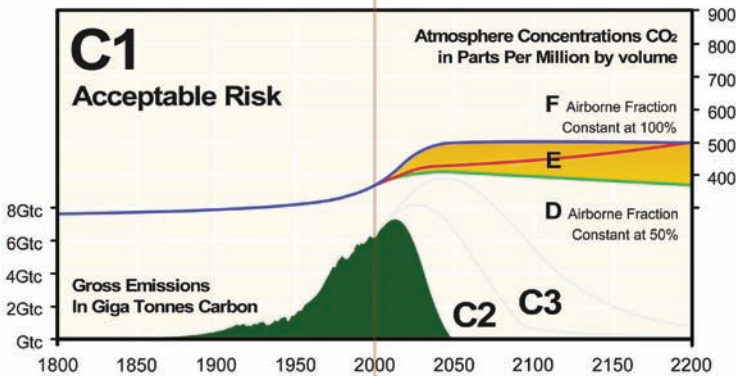
IMPOSSIBLE



DANGEROUS



ACCEPTABLE



This entire animation is on-line at: [http://www.gci.org.uk/images/Final\\_presentation.exe](http://www.gci.org.uk/images/Final_presentation.exe)

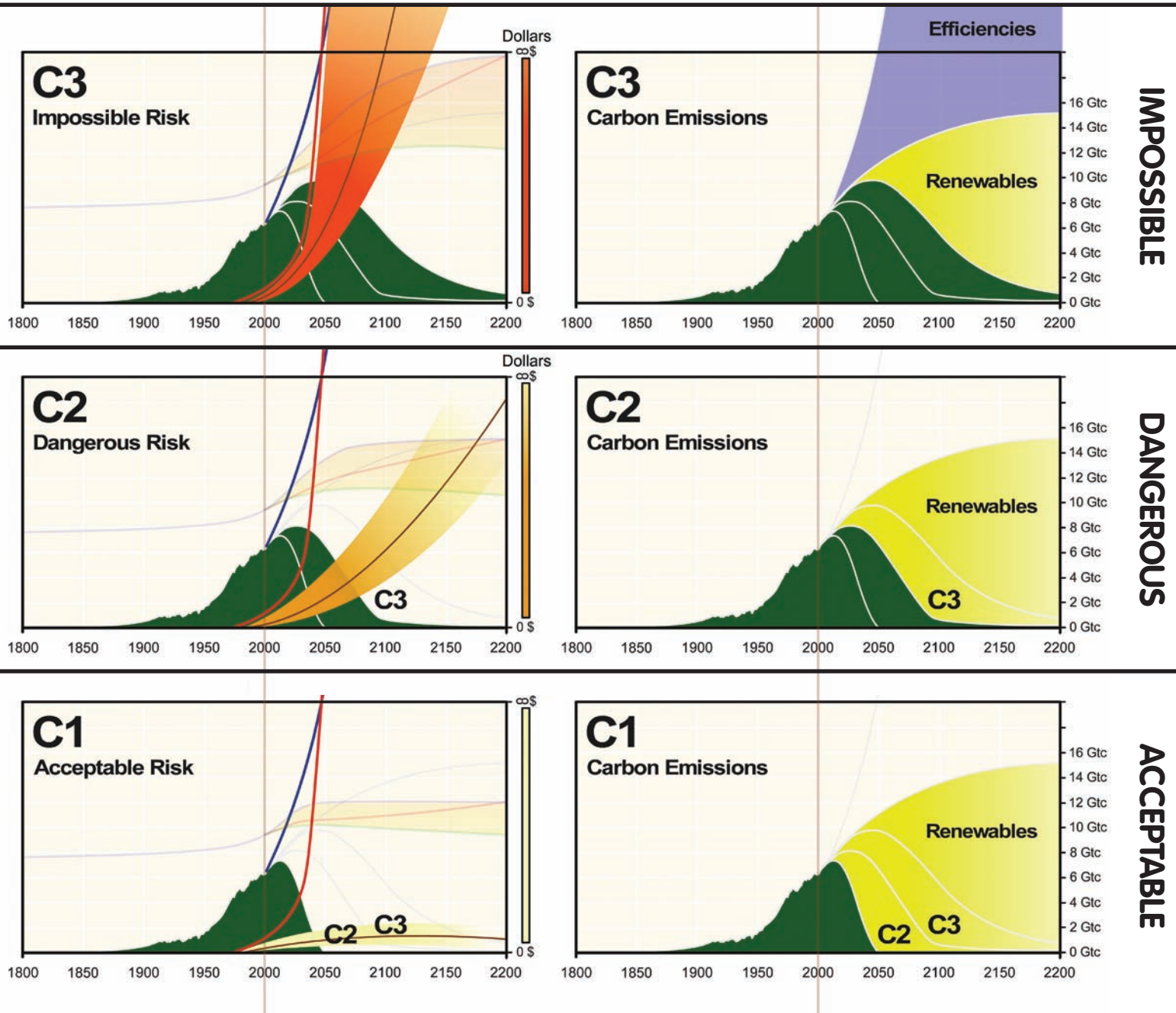
# GLOBAL CLIMATE CHANGE DAMAGE-COSTS/DEVELOPMENT-BENEFITS

DANGEROUS CLIMATE CHANGE

UN/SUSTAINABLE DEVELOPMENT

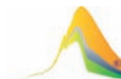
DAMAGE COSTS & INSECURITY

CONTRACTION & CONVERSION



Touch buttons 

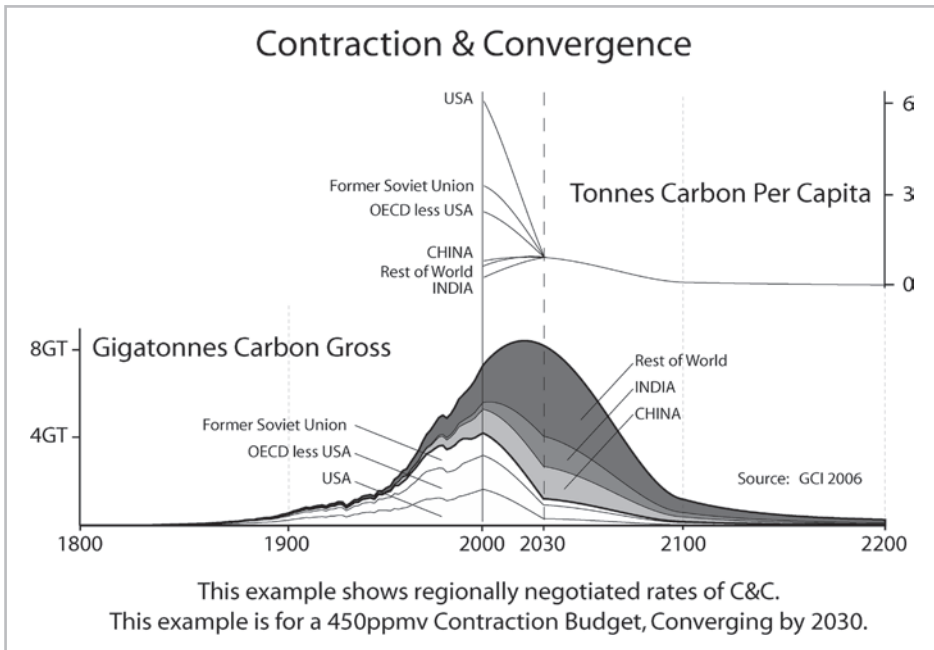
to advance within scenes and logos



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

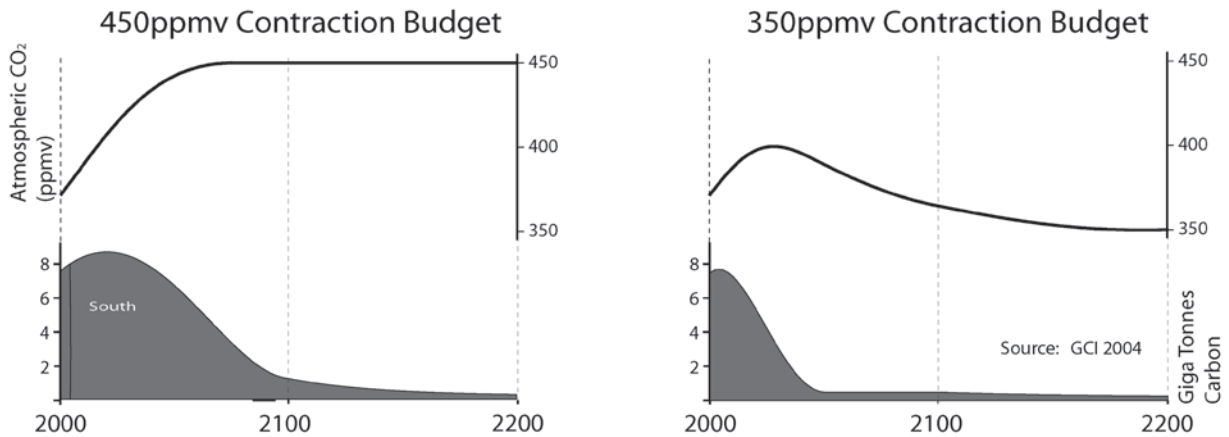
Council on Global Change in its recommendations. [7] In 2003 the secretariat of the UNFCCC said the objective of the UNFCCC, “inevitably requires ‘Contraction & Convergence’.” [8] The Latin America Division of the World Bank in Washington DC said, “C&C leaves a lasting, positive and visionary impression 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](http://www.gci.org.uk/Archive/MegaDoc_19.pdf) [page 116]
- [4] [http://www.gci.org.uk/nairobi/AFRICA\\_GROUP.pdf](http://www.gci.org.uk/nairobi/AFRICA_GROUP.pdf)
- [5] [http://www.gci.org.uk/temp/COP3\\_Transcript.pdf](http://www.gci.org.uk/temp/COP3_Transcript.pdf)
- [6] [http://www.gci.org.uk/Endorsements/RCEP\\_Chapter\\_4.pdf](http://www.gci.org.uk/Endorsements/RCEP_Chapter_4.pdf)
- [7] [http://www.gci.org.uk/Endorsements/WBGU\\_Summary.pdf](http://www.gci.org.uk/Endorsements/WBGU_Summary.pdf)
- [8] [http://www.gci.org.uk/slideshow/C&C\\_UNFCCC.pdf](http://www.gci.org.uk/slideshow/C&C_UNFCCC.pdf)
- [9] <http://www.gci.org.uk/speeches/Williams.pdf>
- [10] <http://www.gci.org.uk/translations.html>

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



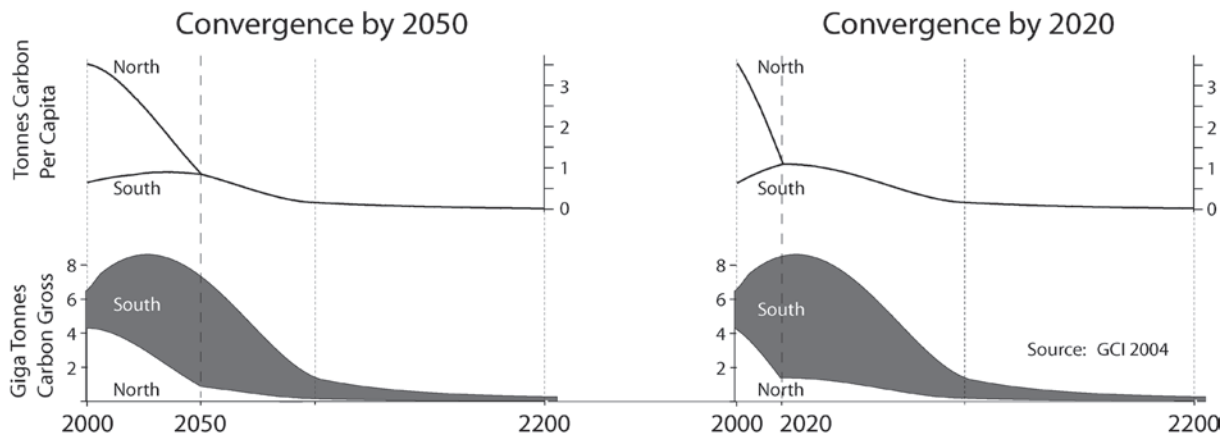
Annual Carbon Emissions contract over time to a sustainable level. This is the "Contraction Event".  
The Choice of a "safe" CO<sub>2</sub> stabilisation level determines the total tonnage of carbon to be burnt during the contraction event.  
Two examples of CO<sub>2</sub> stabilisation levels are shown 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 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).

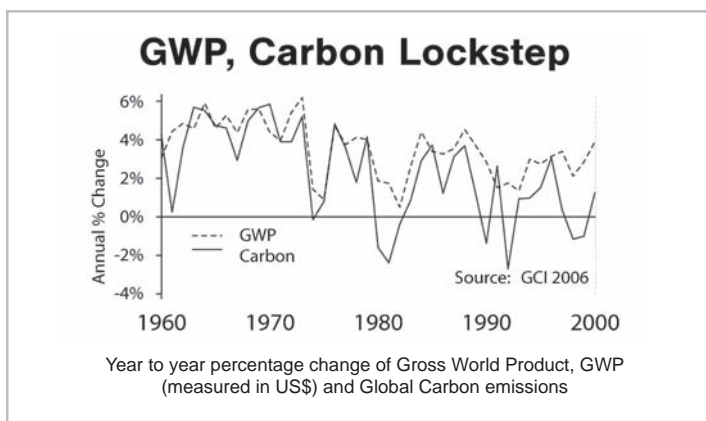
- \* A full-term contraction budget for global emissions consistent with stabilising atmospheric concentrations of greenhouse gases (GHGs) at a pre-agreed concentration maximum deemed to be safe, following IPCC WG1 carbon cycle modelling. [See image above - GCI sees higher than 450 parts per million by volume [ppmv] CO<sub>2</sub> 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
- \* 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](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](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](http://www.wbgu.de/wbgu_sn2003_engl.pdf)
- [9] [http://www.gci.org.uk/Archive/1989\\_2004](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](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](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](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](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.

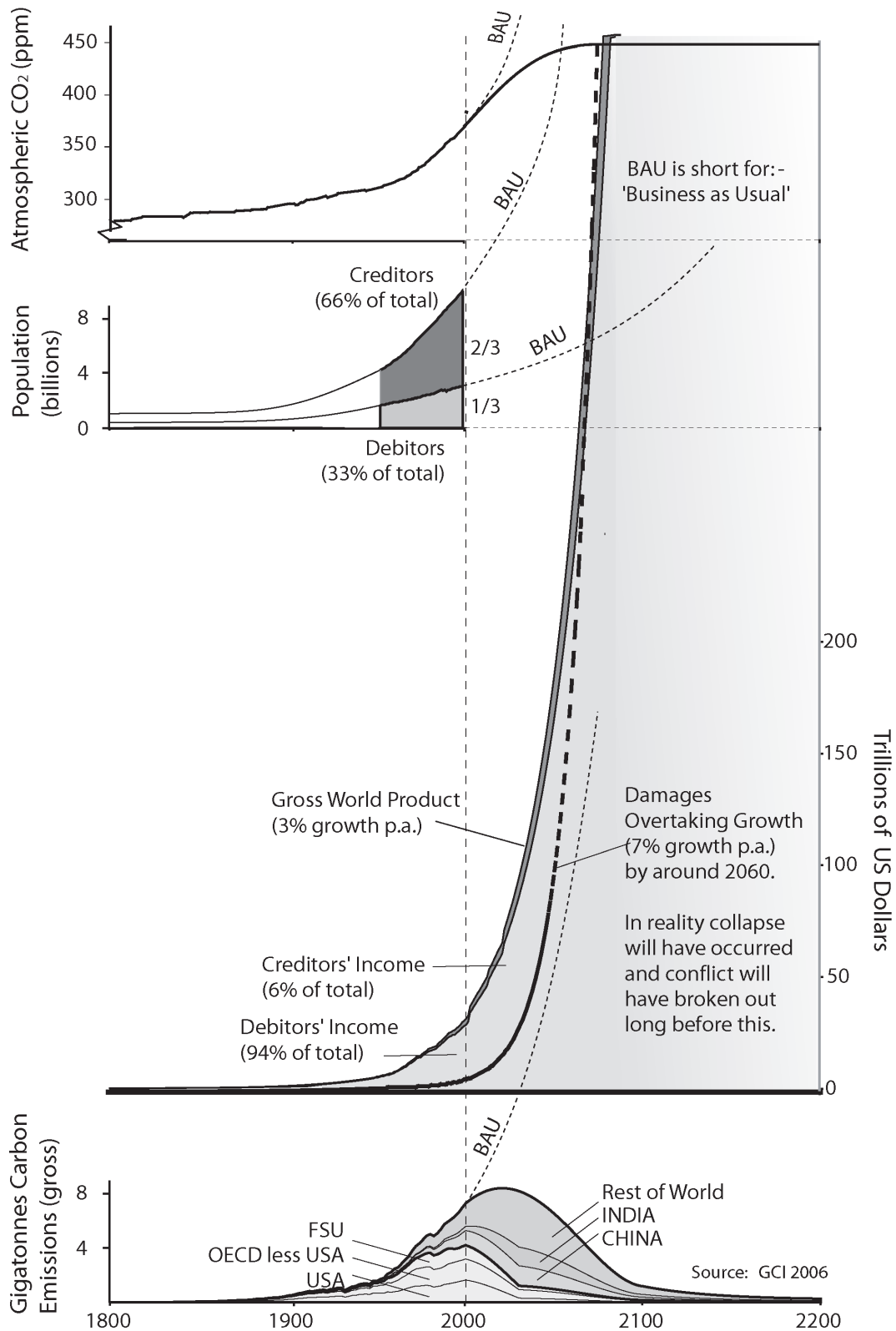
A new feature shown is the rate of economic damages from increasingly 'unnatural disasters' (measured as 'uninsured economic losses' by Munich Re) now rising at 7% per annum, twice the rate of global growth. Another is the devastating and worsening economic asymmetry of "Expansion and Divergence" (E&D). 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.



“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.”  
**RAUL ESTRADA – CHAIRMAN KYOTO PROTOCOL NEGOTIATIONS**



“Achieving the goal of the climate treaty [stabilize GHG concentrations] inevitably requires Contraction & Convergence.”  
**JOKE WALLER HUNTER - UNFCCC EXECUTIVE SECRETARY**



“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.”  
**TOM SPENCER - FORMER PRESIDENT GLOBE INTERNATIONAL**



“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.”  
**INDIAN GOVERNMENT - COP 1 1995**



“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.”  
**CHINA STATE COUNSELLOR DR SONG JIAN - COP 3 1997**



“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”  
**THE AFRICA GROUP KYOTO - COP 3 1997**



“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.”  
**UNITED STATES OF AMERICA - COP 3 1997**



“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.”  
**EUROPEAN PARLIAMENT RESOLUTION 1998**



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.”  
**ANGELA MERKEL - PRESIDENT OF GERMANY 2008**



“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.”  
**NICHOLAS SARKOZY - PRESIDENT OF FRANCE 2008**



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 unbound freedom; ‘Justice without Retribution,’ as Nelson Mandela once demanded.  
**DAVE HAMPTON - CARBON COACH**



"Sweden strives for global emissions converging to equal per capita for all.  
KJELL LARSSON - ENVIRONMENT MINISTER 2000



"Emissions should converge towards equal emissions per inhabitant."  
3RD NATIONAL CLIMATE COMMUNICATION 2001

"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



"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



"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



"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



"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



"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



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



"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



"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





“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 CHALLEN - 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

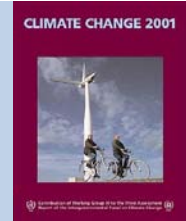
"Business and government cannot solve the problem alone. Solutions must be global and participation of all major emitters is essential. Companies cannot determine the scale of needed investment without a stabilization threshold for greenhouse gas concentrations. The short-term "patchwork" of the Kyoto 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**



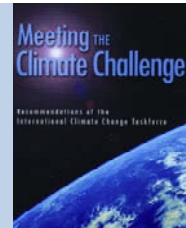
"A formulation that takes the rights-based approach to its logical conclusion is that of Contraction & Convergence" [GCI]

**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



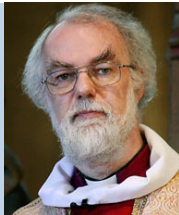
"A framework involving technology together with social, political and economic change with quantifiable targets is the only way forward. This is why we support the well-known concept of "Contraction & Convergence" (C&C) as proposed by the Global Commons Institute as the basis for the agreement. It satisfies 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



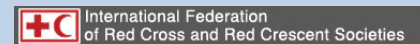
“The approach of contraction and convergence presents a new economic development paradigm for the twenty first century and beyond.”  
MRS. RUNGANO KARIMANZIRA - CHAIR, AFRICA GROUP



“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





"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."

**SIR JOHN HOUGHTON - FORMER CHAIR IPCC WORKING GROUP ONE**



"Many governments around the world have accepted the concept of Contraction & Convergence as the only equitable response mechanism to the threat of climate change."

**GRACE AKUMU - DIRECTOR, CLIMATE NETWORK AFRICA**



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.

**ROSS GARNAUT - CLIMATE STRATEGIST AUSTRALIAN GOVERNMENT**



"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."

**JOHN RITCH - WORLD NUCLEAR ASSOCIATION**



"It is absolutely remarkable that the idea of Contraction & Convergence has taken such a firm hold worldwide in such a short space of time."

**TESSA TENNANT - CHAIR ASSOCIATION FOR SUSTAINABLE & RESPONSIBLE INVESTMENT IN ASIA**



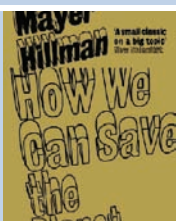
"Contraction & Convergence is an extremely powerful idea and we are moving remorselessly towards it."

**MICHAEL MEACHER - FORMER UK ENVIRONMENT MINISTER**



"... 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."

**WORLD BANK ON CONTRACTION & CONVERGENCE**



"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."

**MAYER HILLMAN - AUTHOR OF HOW WE CAN SAVE THE PLANET**



"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."

**DAVID HALLMAN - WORLD COUNCIL OF CHURCHES**

“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](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

**Aubrey Meyer**, Director GCI

37 Ravenswood Road, LONDON E17 9LY  
e-mail: [aubrey.meyer@btinternet.com](mailto:aubrey.meyer@btinternet.com)  
[www.gci.org.uk](http://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](mailto:terry.oconnell@blueyonder.co.uk)

