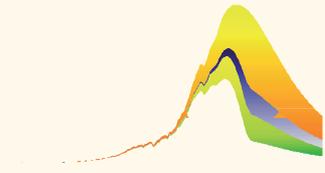


15th November 2007

A Short Flash Animation of Contraction & Convergence[®]



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

At DEFRA
For The Rt Hon Hilary Benn
Secretary of State for the Environment

By Aubrey Meyer [GCI]
At Ravenswood Road
LONDON

*'Be that word our sign of parting, bird or fiend!' he shrieked upstarting,
'Get thee back into the tempest and the night's Plutonian shore!
Leave no black plume as a token of that lie thy soul has spoken!
Leave my loneliness unbroken - quit the bust above my door!
Take thy beak from out my heart, and take thy form from off my door!'*

Quoth the raven, 'Nevermore!'

Edgar Allan Poe



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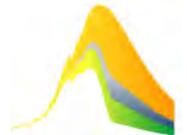
[www.gci.org.uk/Animations/BENN_C&C_Animation_\[Tower_&_Ravens\].exe](http://www.gci.org.uk/Animations/BENN_C&C_Animation_[Tower_&_Ravens].exe)

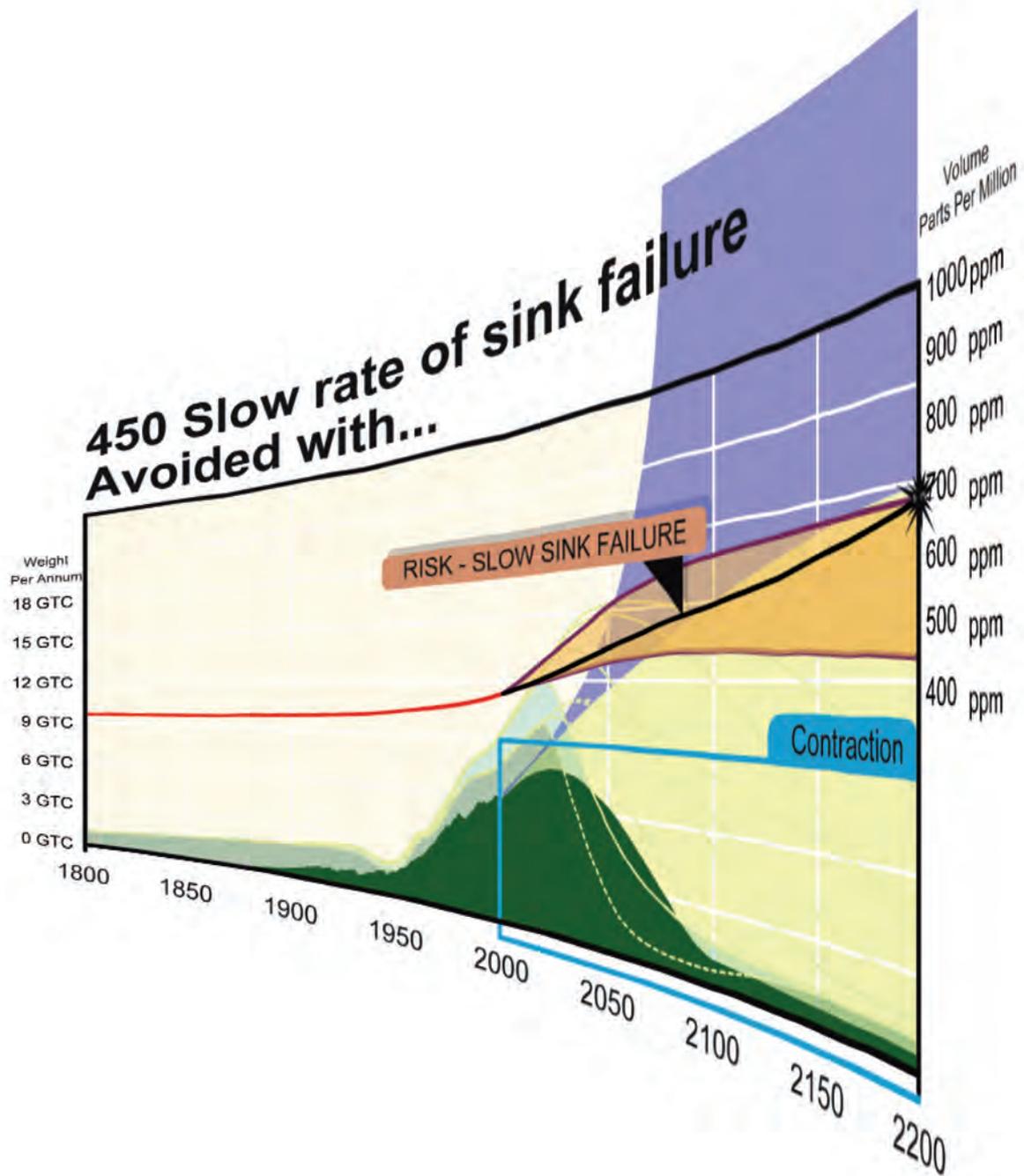
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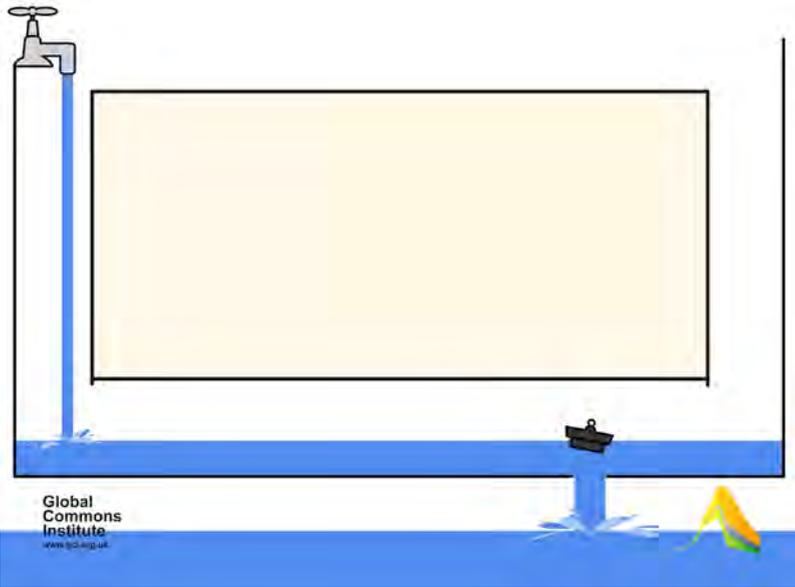
Contraction and Convergence: The irreducible response to climate change





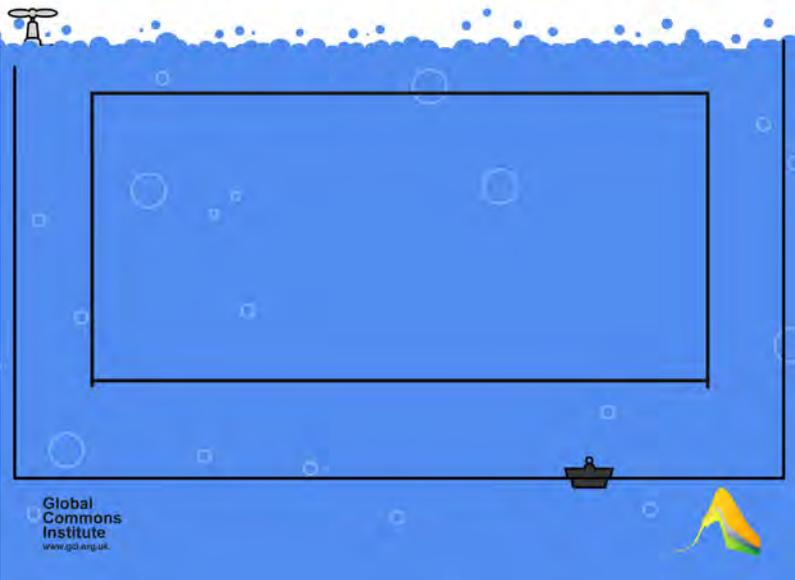
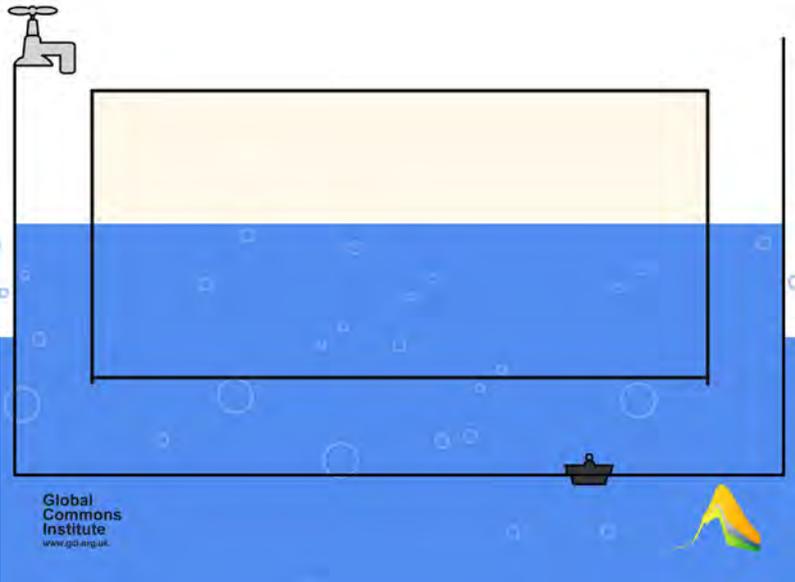
This animation is online at:
http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

Bath/Tap/Plug - Stock/EBB/Flow Analogy For Atmosphere, Source-Emissions, Sinks

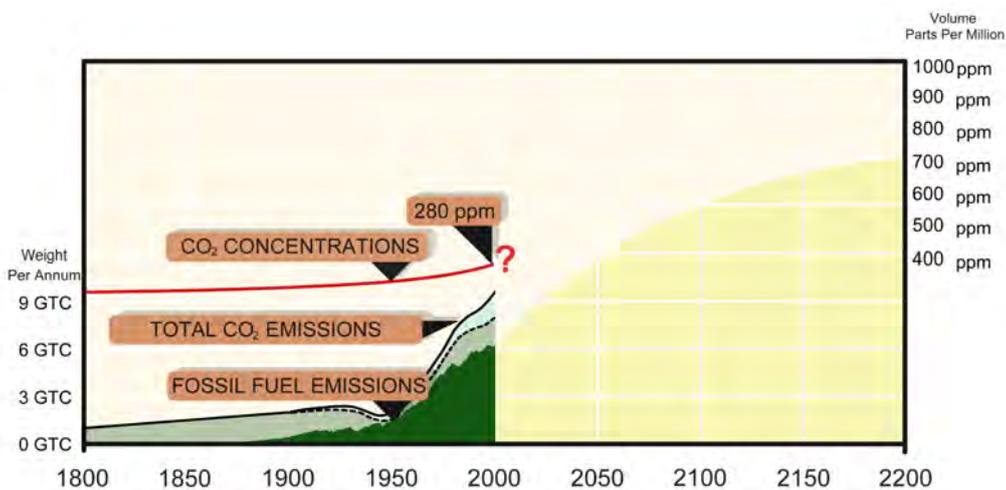
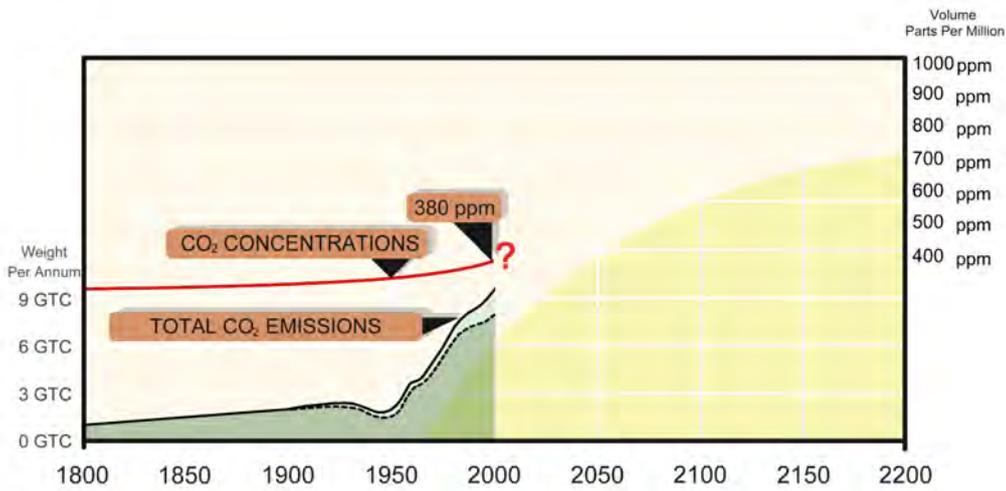
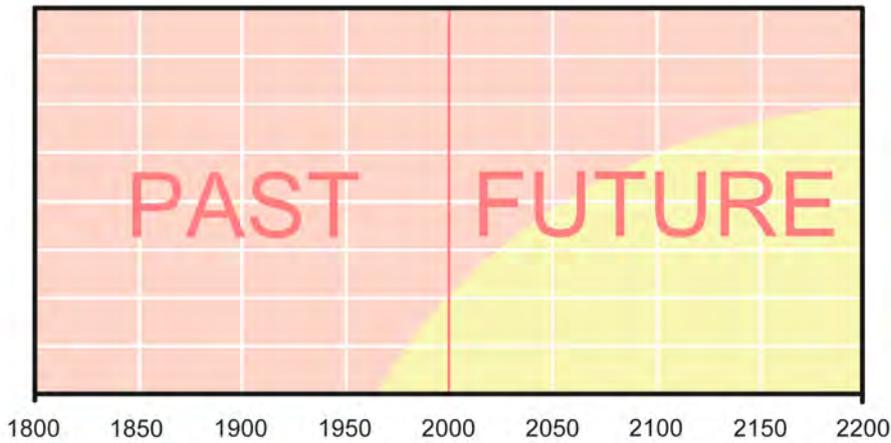


When Tap goes off small bath stops rising

but big bath continues rising and engulfs everything.

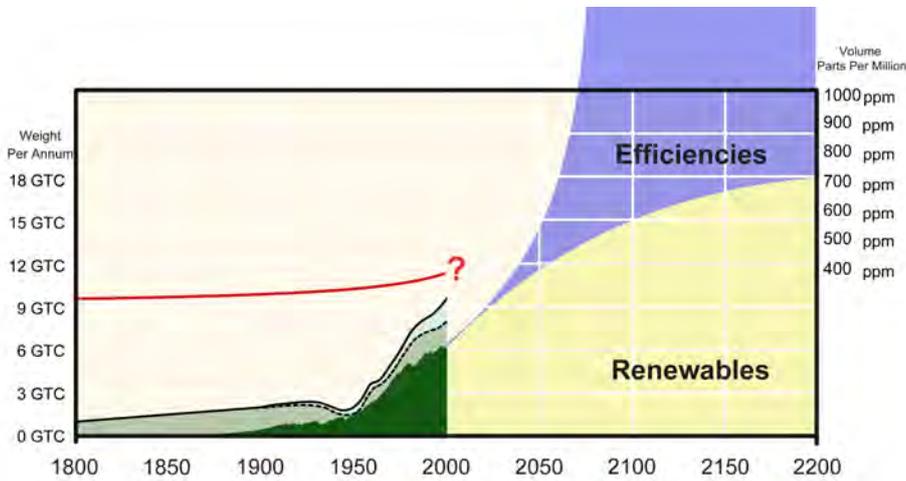
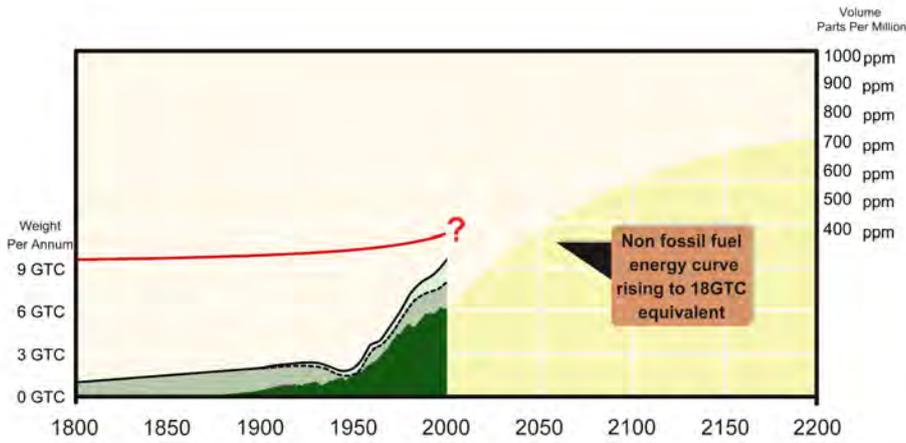


Past 200 years Non/Fossil Fuel Emissions



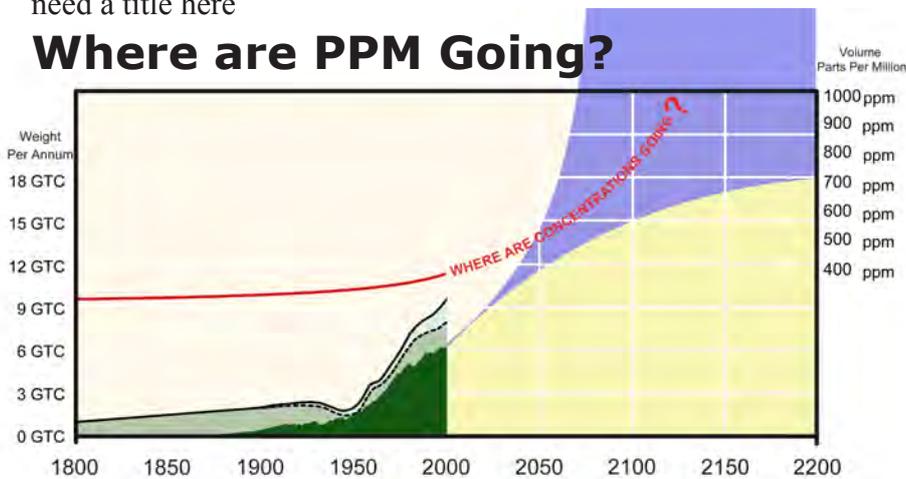
Dark = Fossil Fuel Paler = other Emissions

Without a C&C Framework Renewables & Efficiency are Sun/Moon-shine



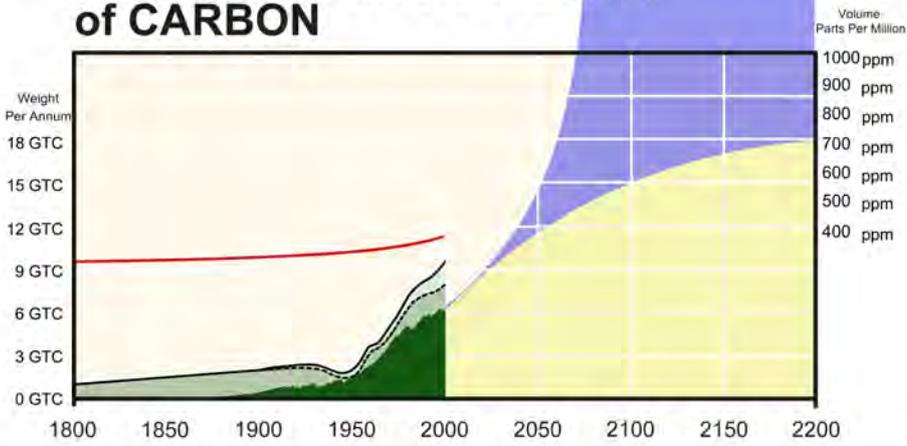
need a title here

Where are PPM Going?

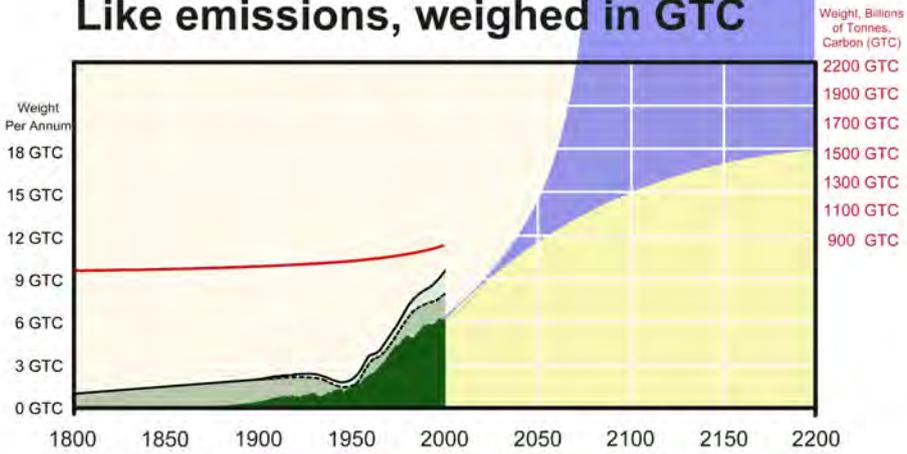


PPMV as Weight Carbon: 1 PPMV = 2.13 GTC

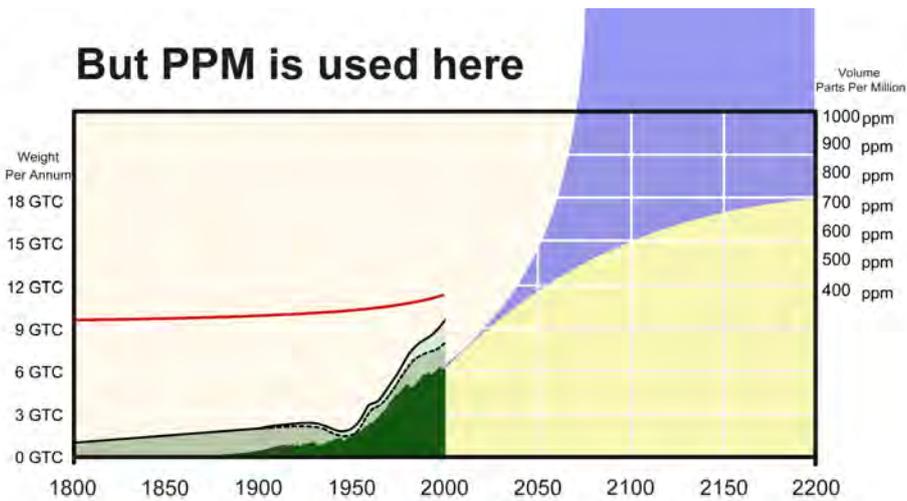
PPM CO₂ are also a WEIGHT of CARBON



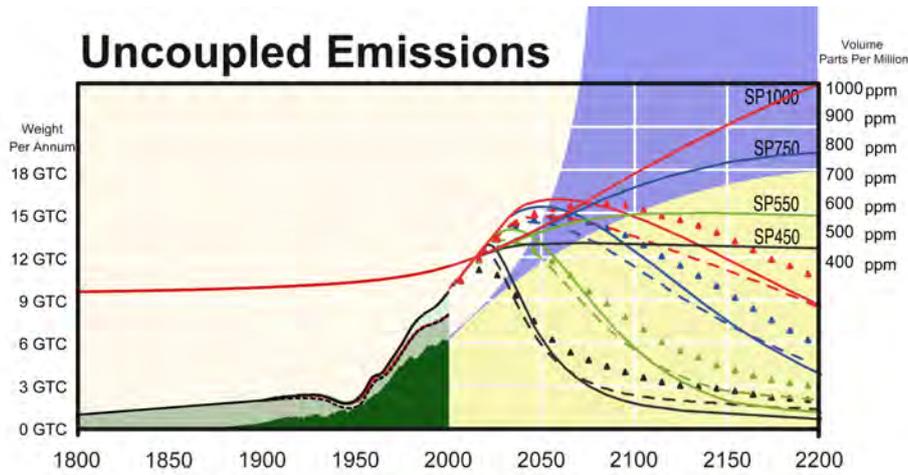
Like emissions, weighed in GTC



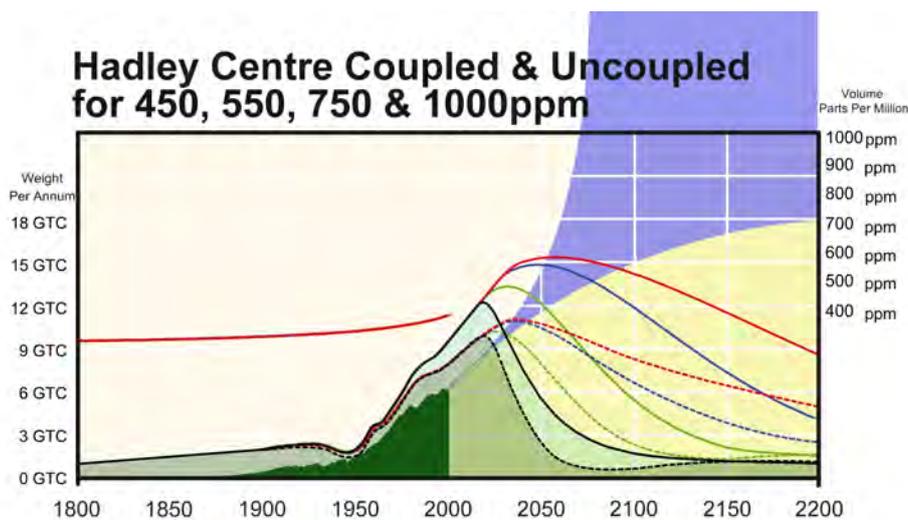
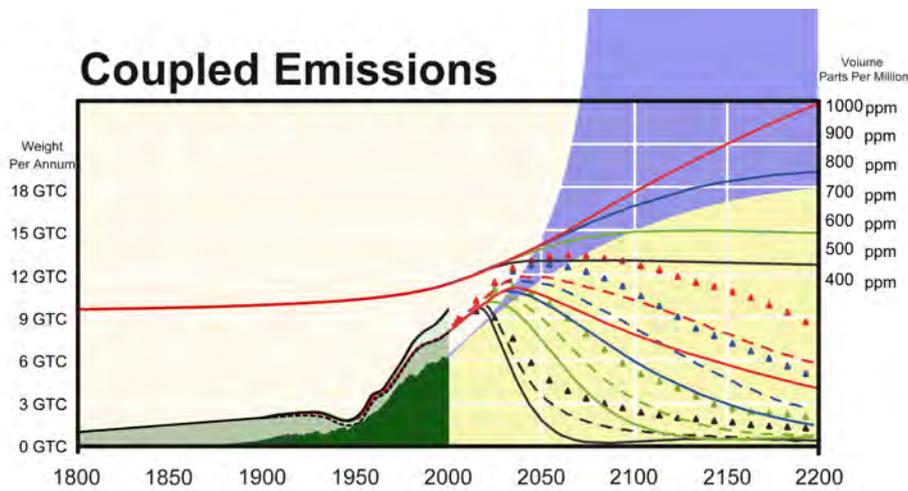
But PPM is used here



IPCC AR4/Hadley; Un/Coupled Carbon Cycles



Can you please wind in the ppmv lines first and then leave them there for this sequence uncoupled/coupled/Hadley . . .

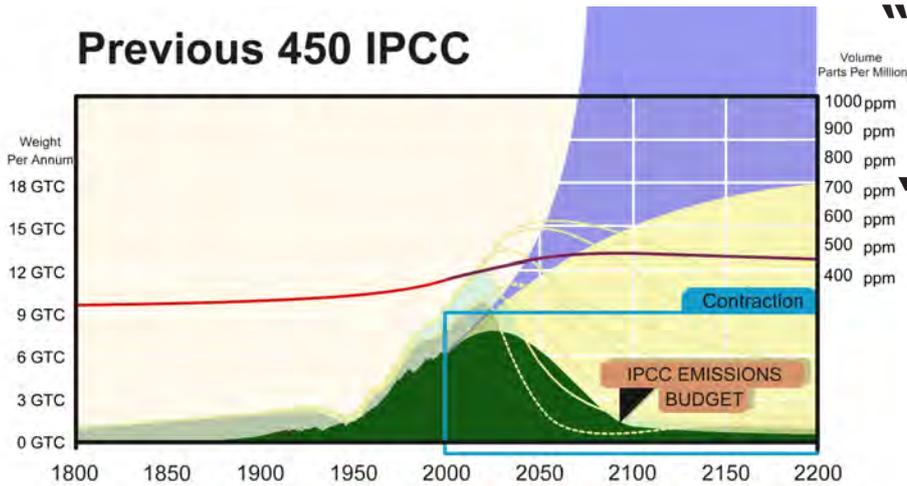


**NB Hadley Coupled for 450 ppmv
ZERO ALL EMISSIONS [fossil/non-fossil] by 2060**

In/Constant Airborne Fraction of Emissions

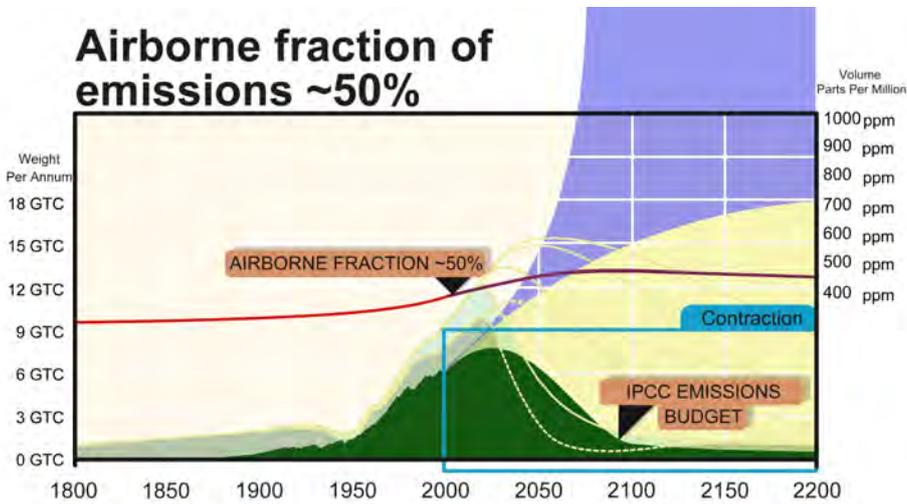
Title as is . . .

“Previous 450 IPCC”



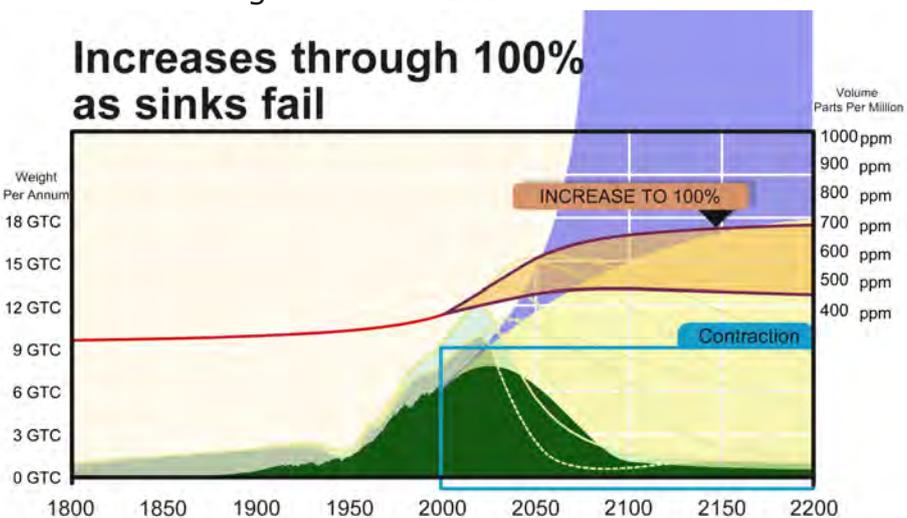
Then mouse-touch change to
“Contraction Budget 550 GTC”

Airborne fraction of emissions ~50%



Title change . . . **“Increase to 100% for Reference”**

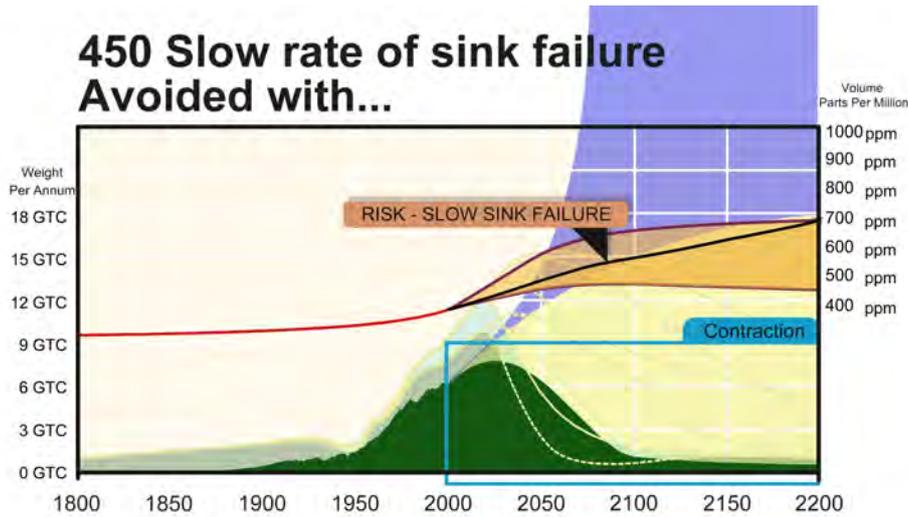
Increases through 100% as sinks fail



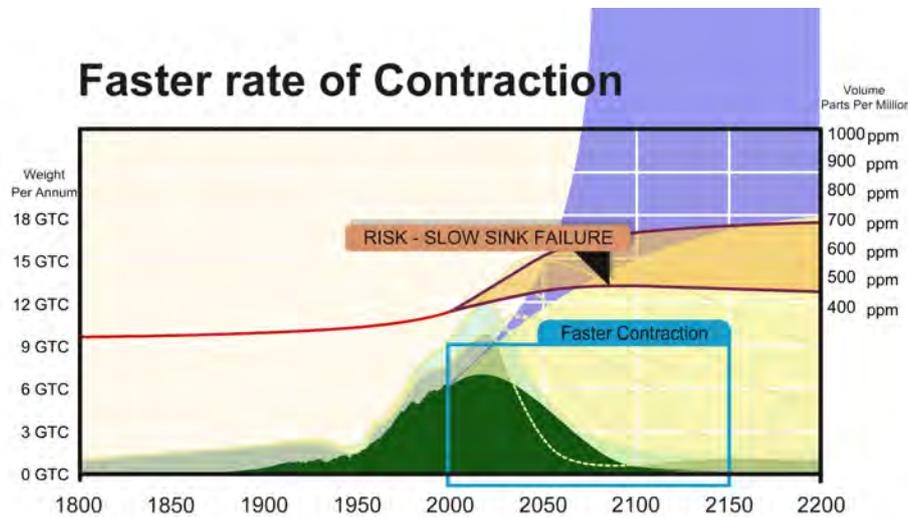
Setup 100% Airborne Fraction Reference to make comparisons of sink-failure

4 Rates of Contraction for 4 Rates of Sink Failure

450 Slow rate of sink failure Avoided with...



Faster rate of Contraction



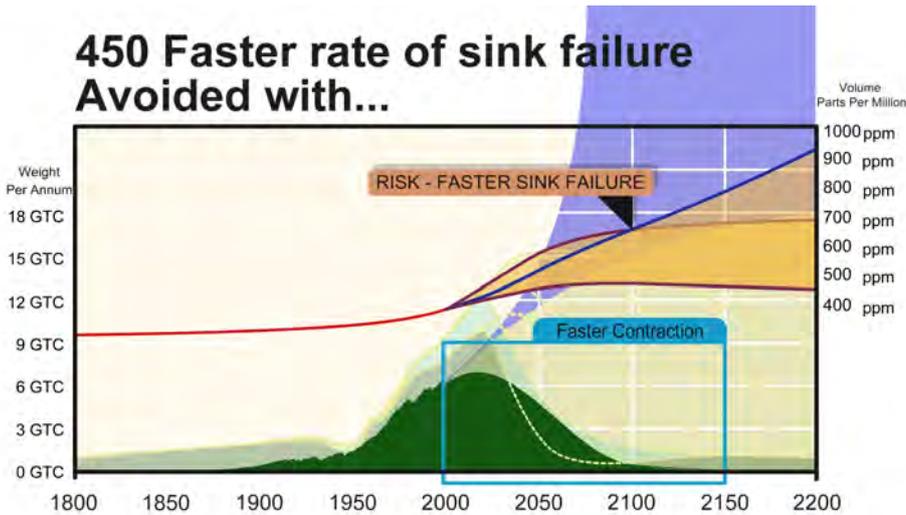
Title as is then title winks “touch me”

and mouse-touch reveals “**Remove 60 Gtc**”

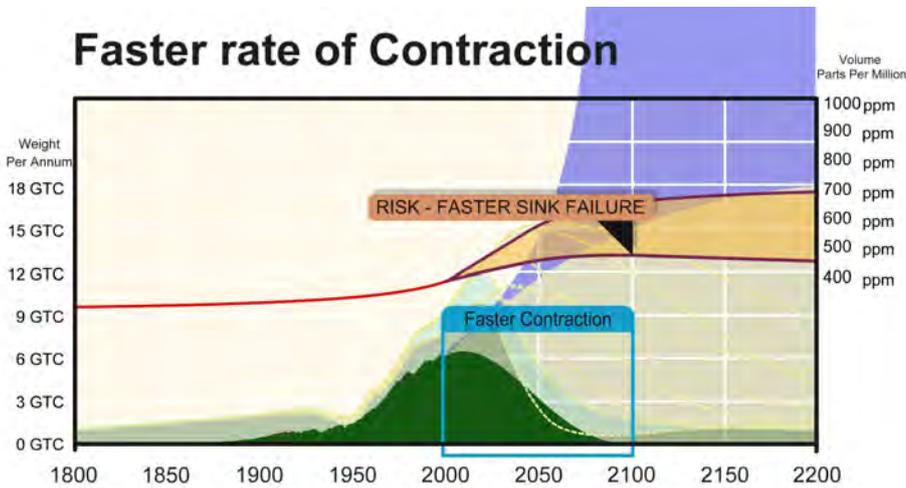
Then contraction moves

4 Rates of Contraction for 4 Rates of Sink Failure

450 Faster rate of sink failure Avoided with...



Faster rate of Contraction



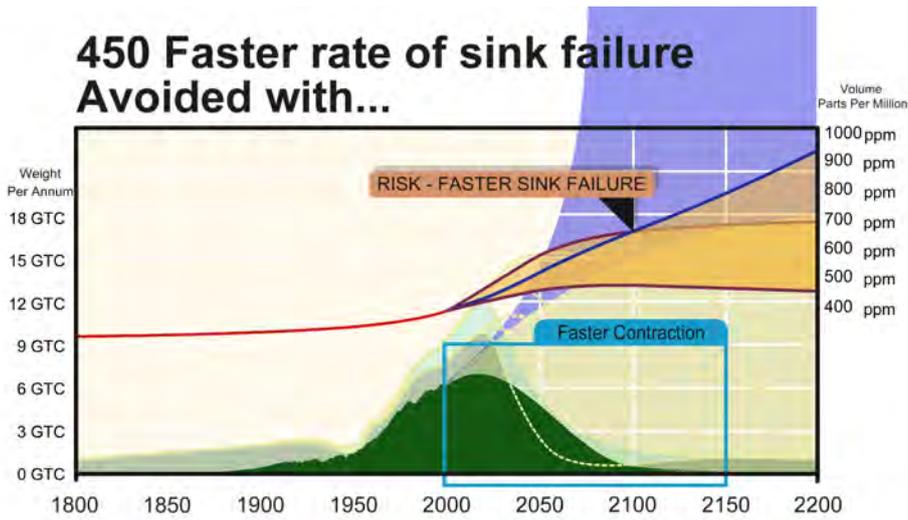
Title as is then title winks “touch me”

and mouse-touch reveals **“Remove Another 60 Gtc”**

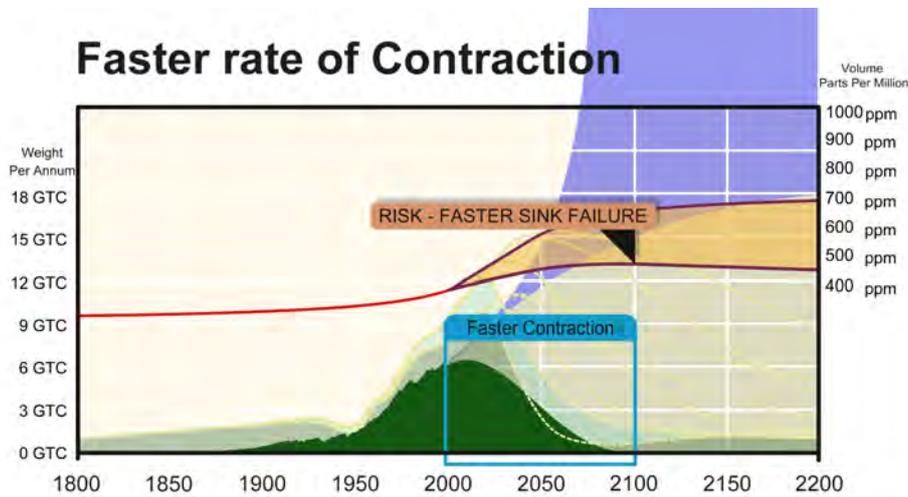
Then contraction moves

4 Rates of Contraction for 4 Rates of Sink Failure

450 Faster rate of sink failure Avoided with...

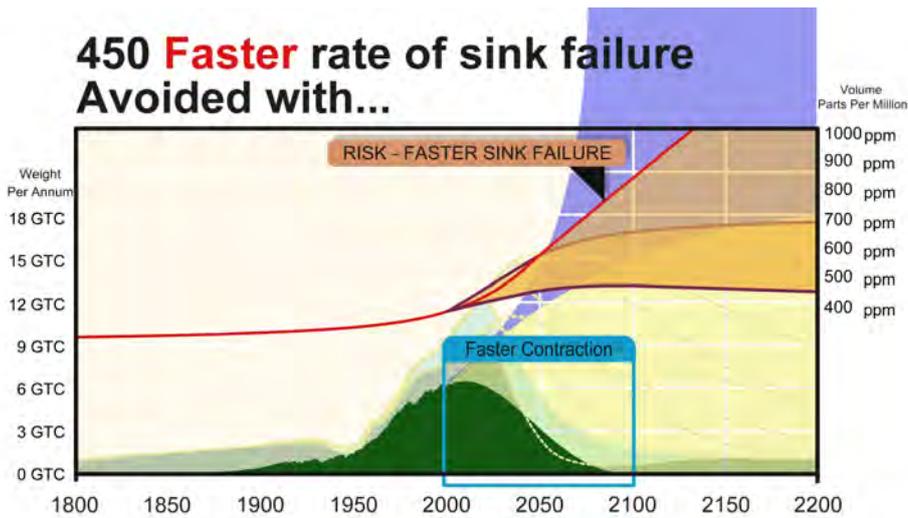


Faster rate of Contraction

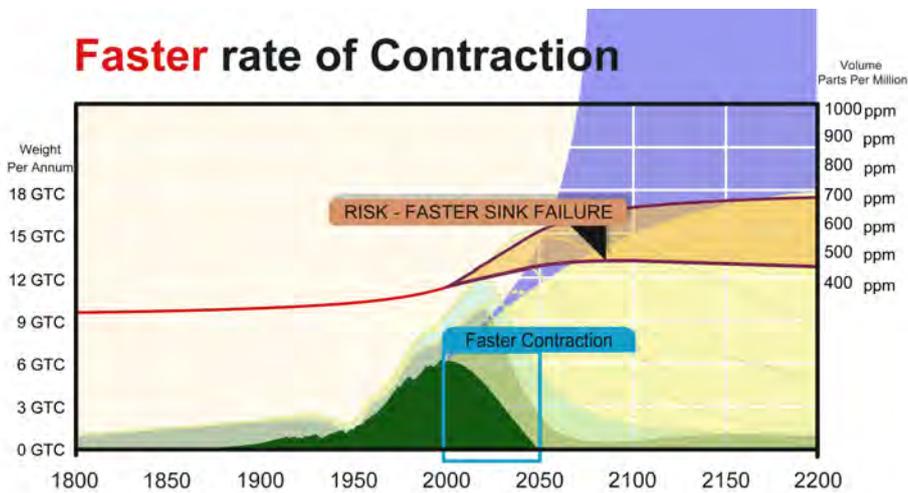


4 Rates of Contraction for 4 Rates of Sink Failure

450 **Faster** rate of sink failure Avoided with...

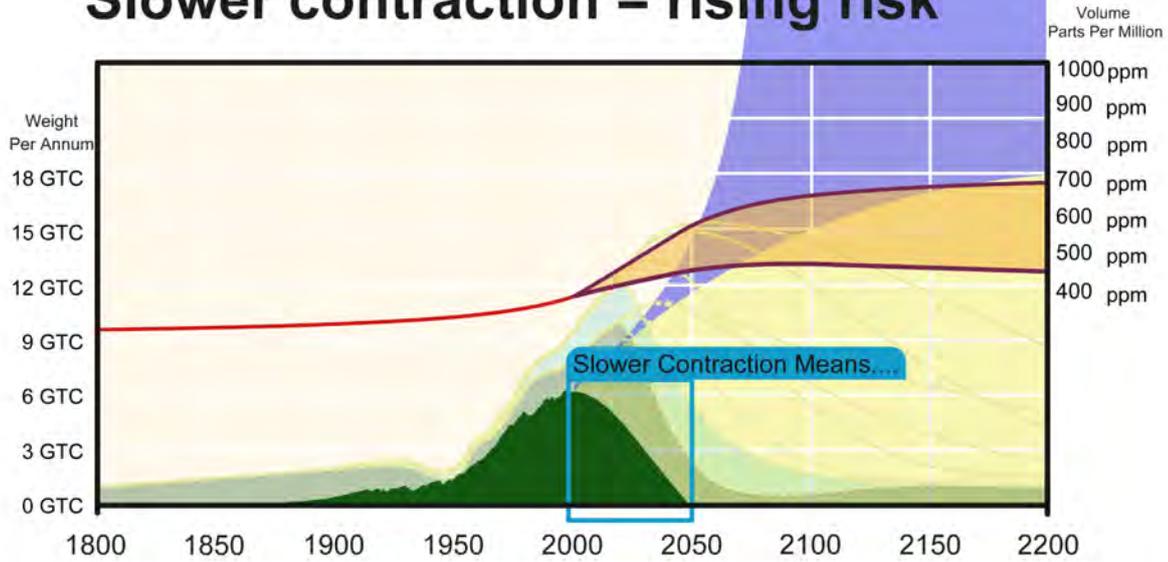


Faster rate of Contraction



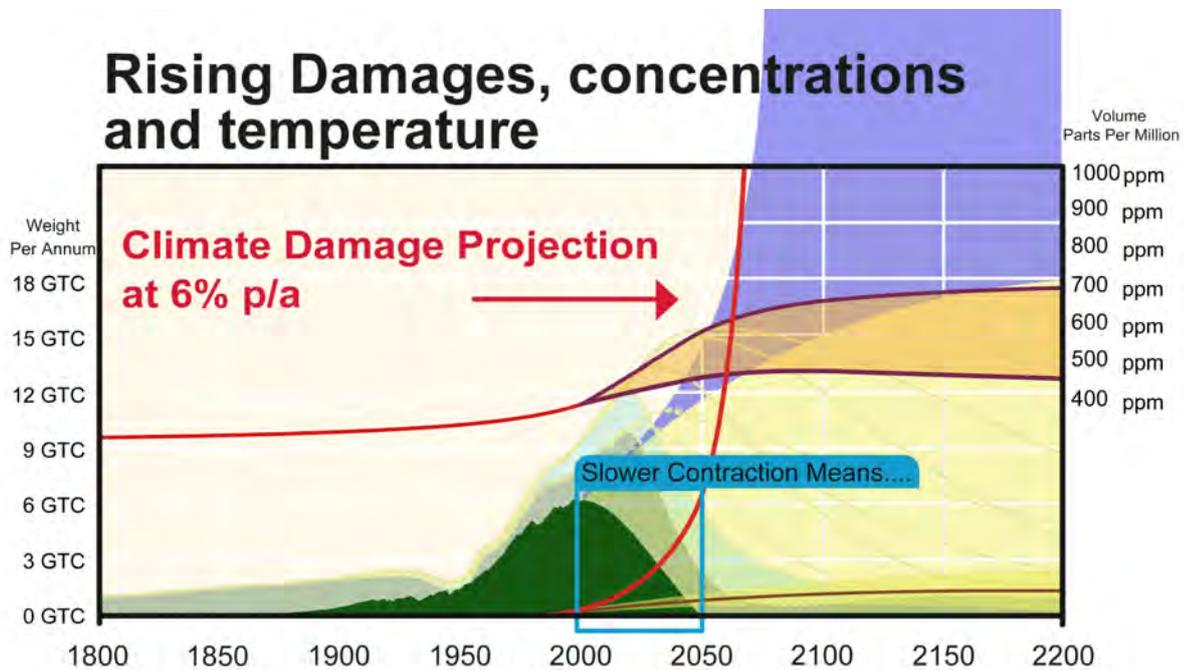
1st Rate of Contraction [FAST] with

Slower contraction = rising risk

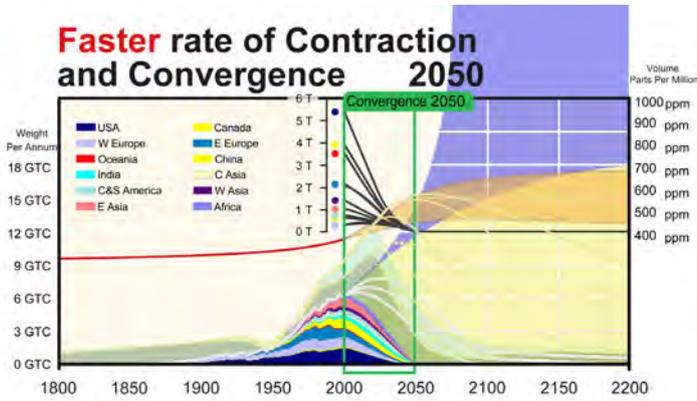


& Low Damages

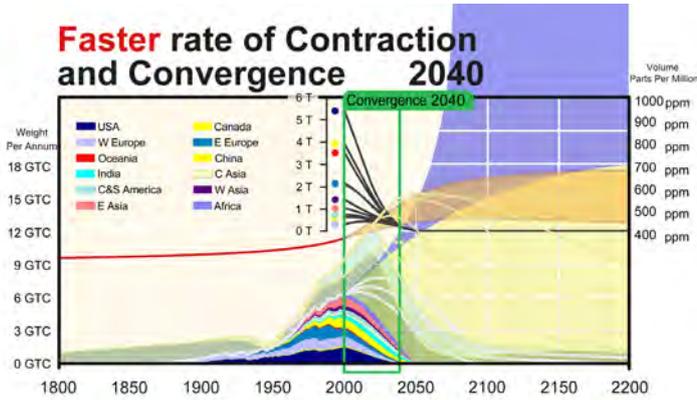
Rising Damages, concentrations and temperature



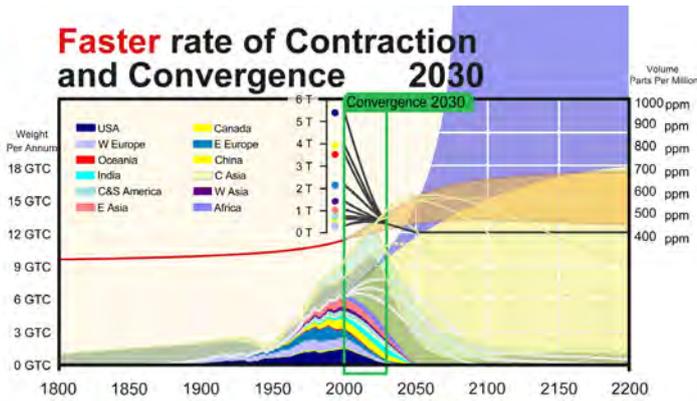
..... 5 Rates of Convergence by 2050



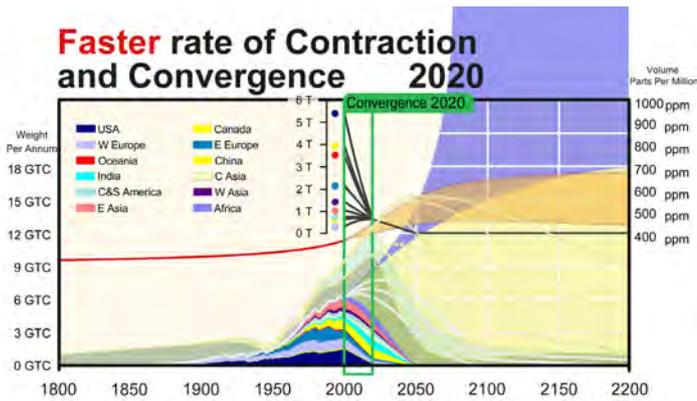
2050



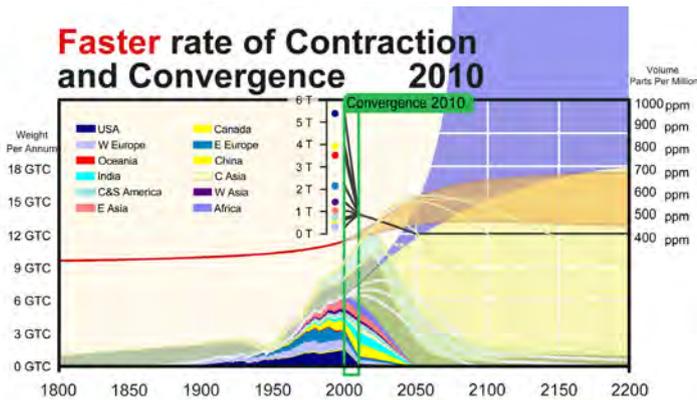
2040



2030



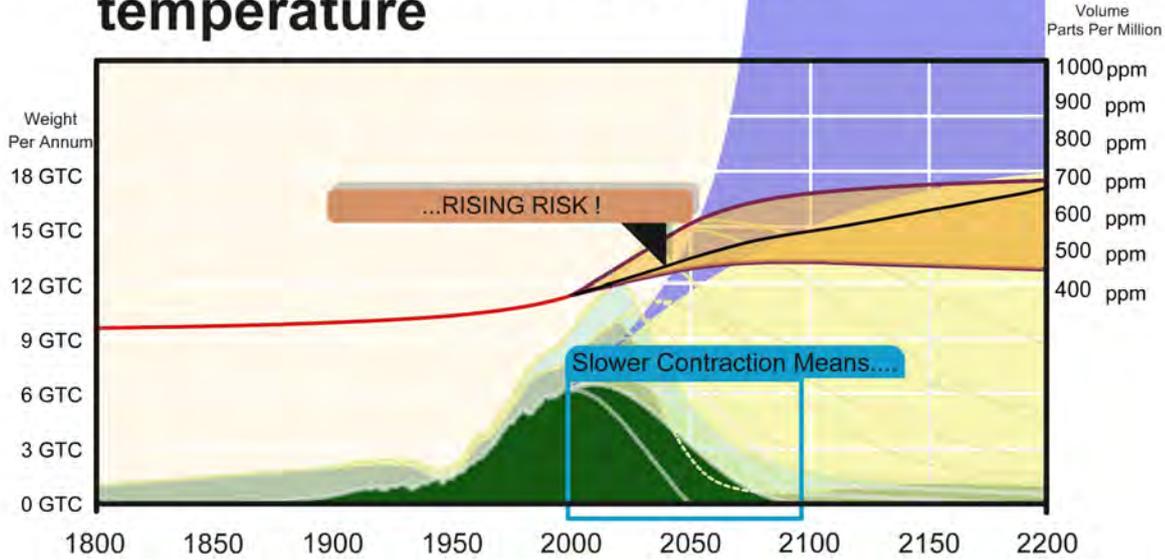
2020



2010

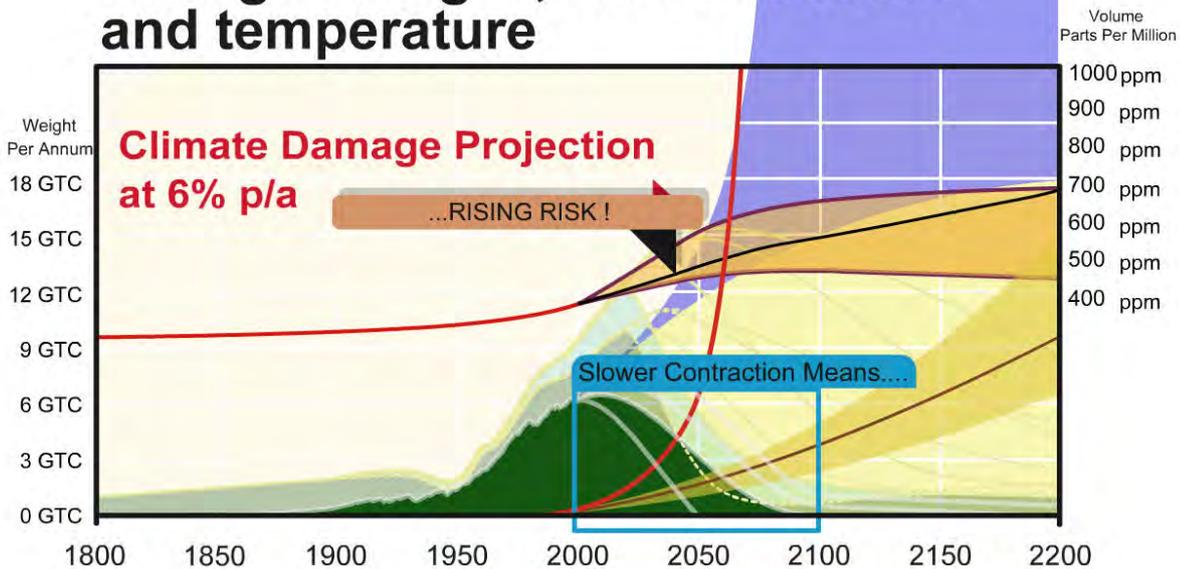
2nd Rate Contraction [SLOWER] Sinks Failing

Higher concentrations and temperature

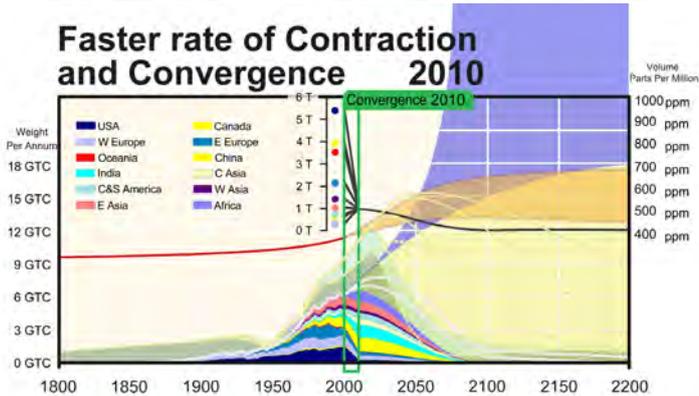
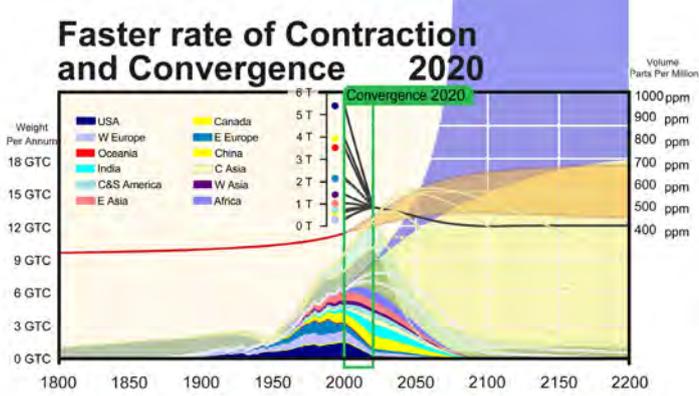
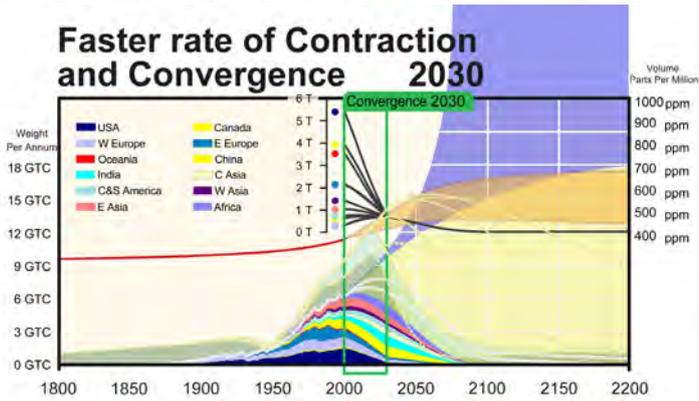
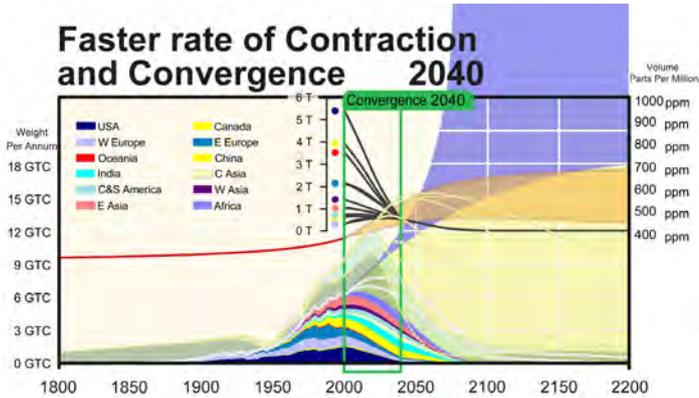
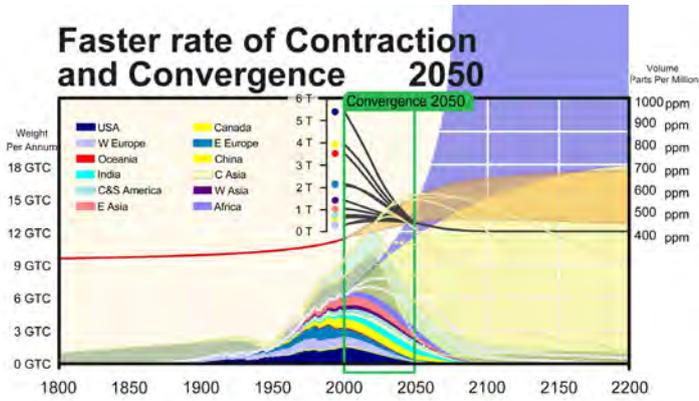


& Rising Damages

Rising Damages, concentrations and temperature



... with 5 Rates of Convergence by **2050**



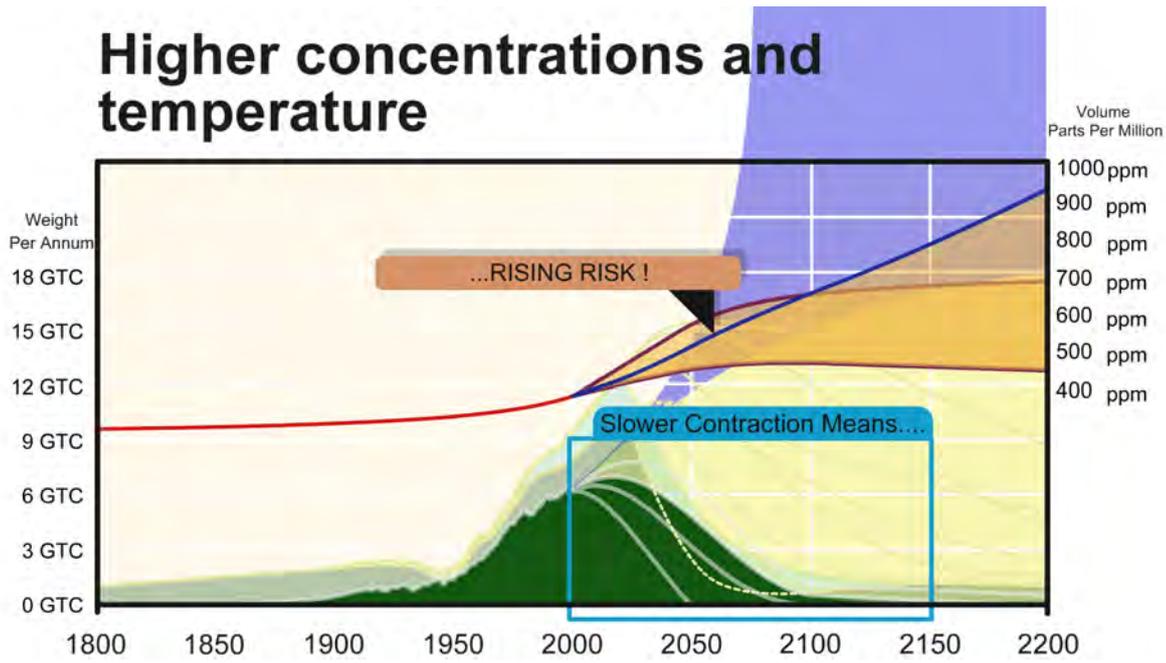
2040

2030

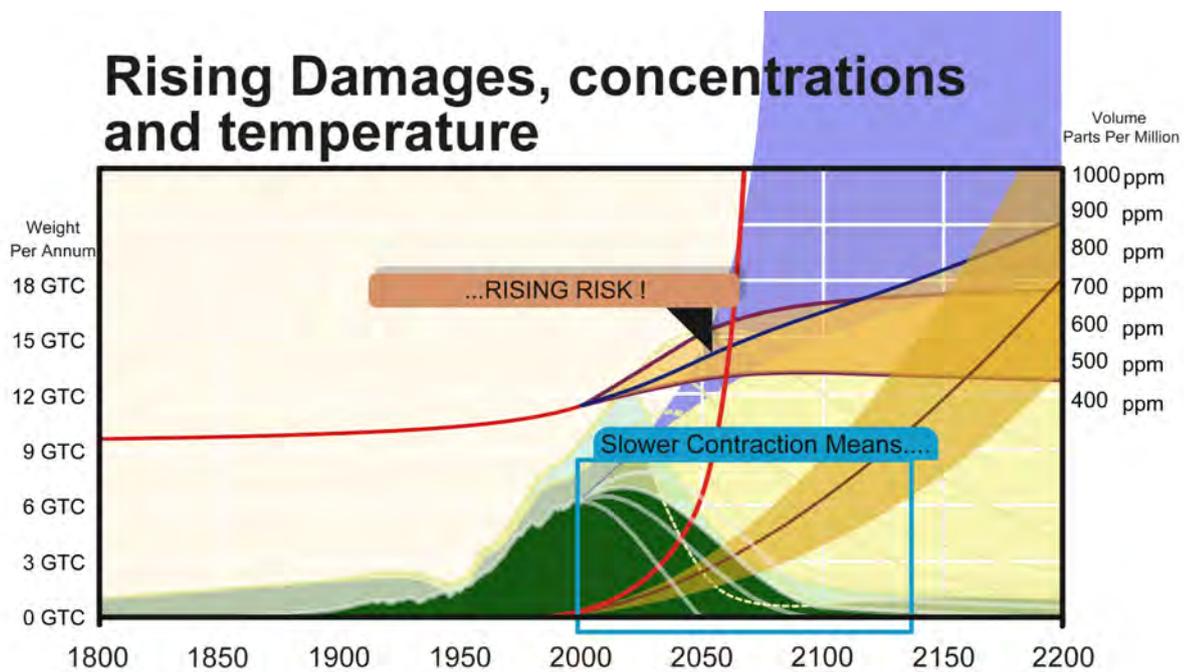
2020

2010

3rd Rate Contraction [SLOWER] Sinks Failing



& Faster Rising Damages



... with 5 Rates of Convergence by **2050**

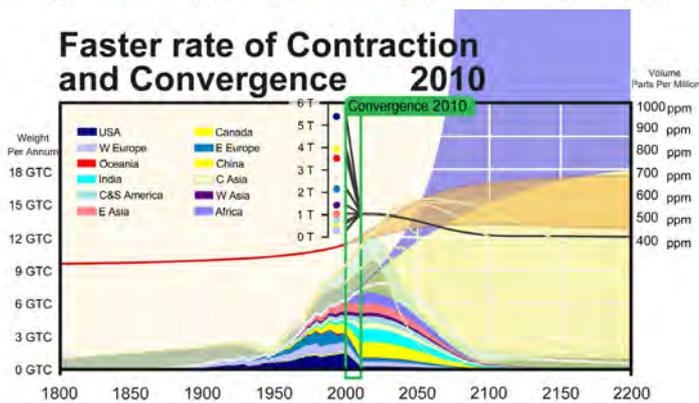
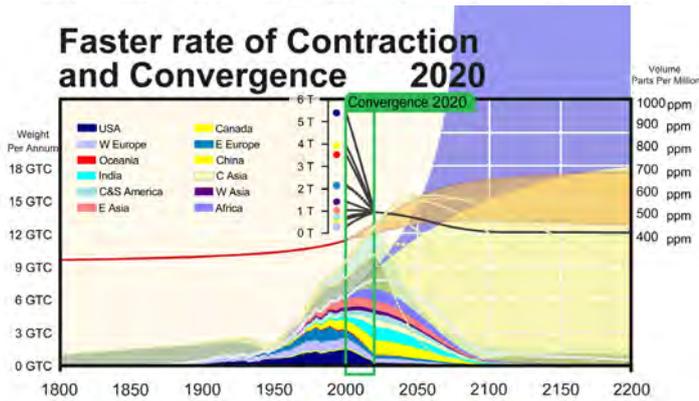
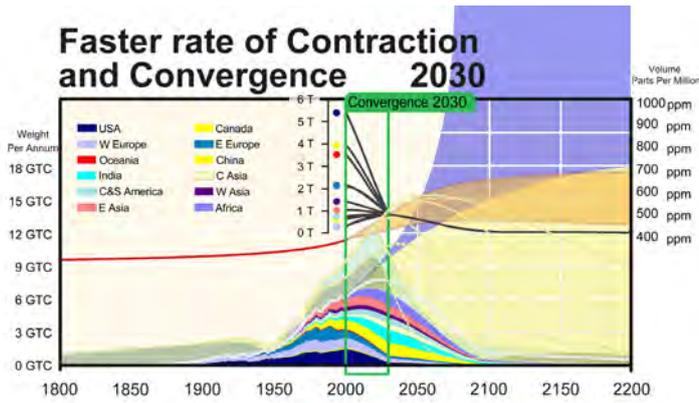
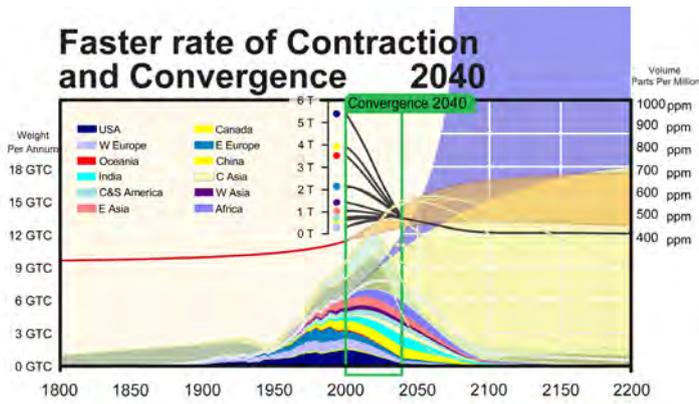
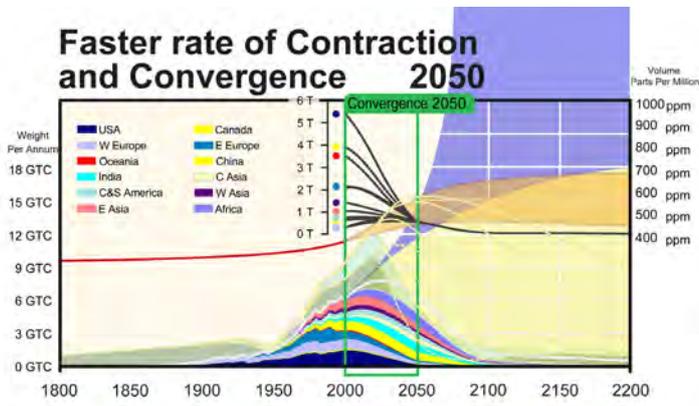
2050

2040

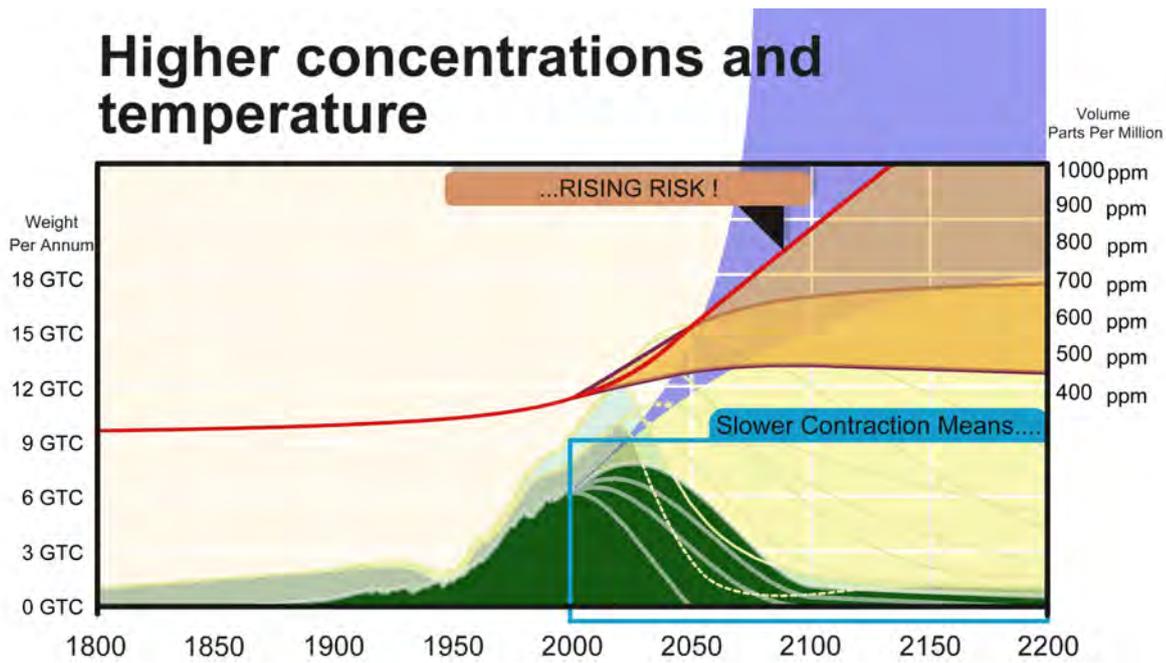
2030

2020

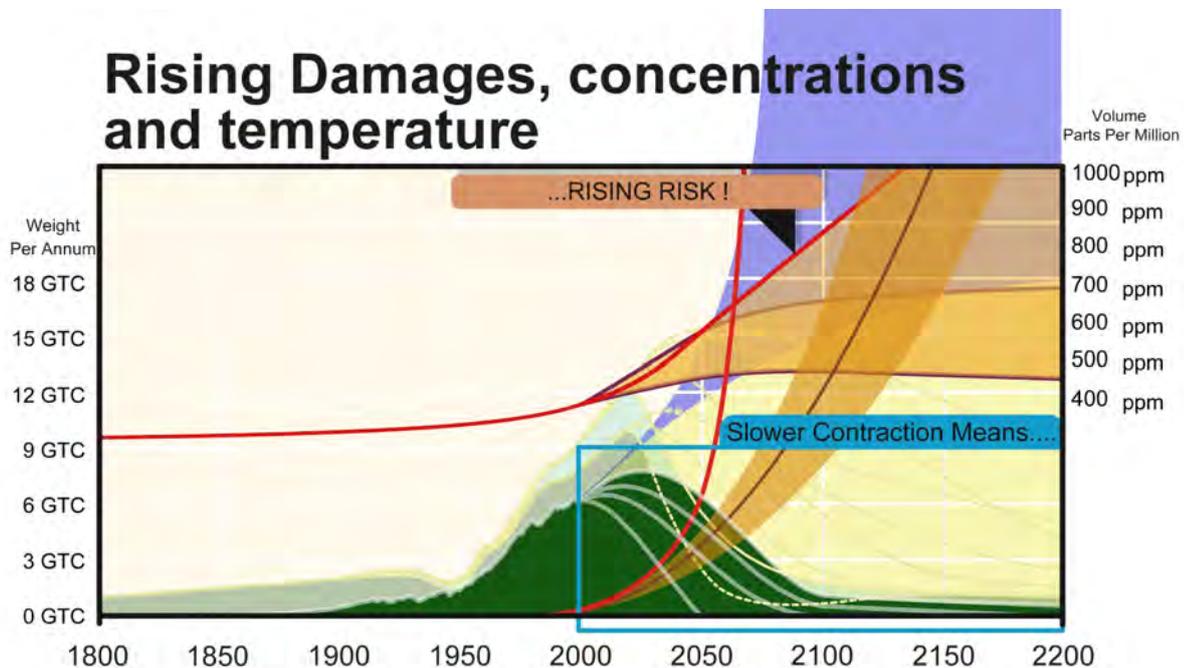
2010



4th Rate Contraction [SLOWER] Sinks Failing

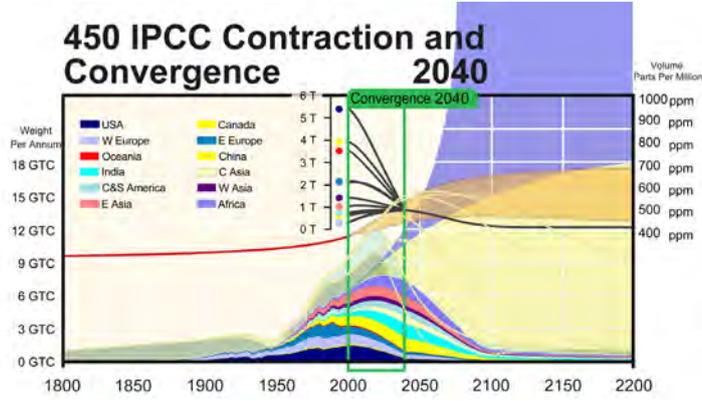
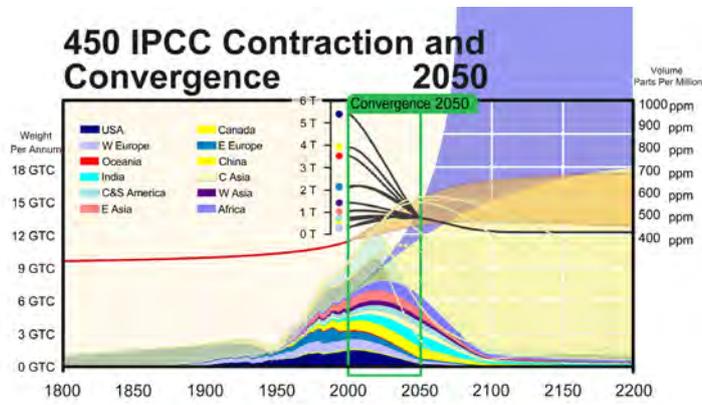


& yet Faster Rising Damages

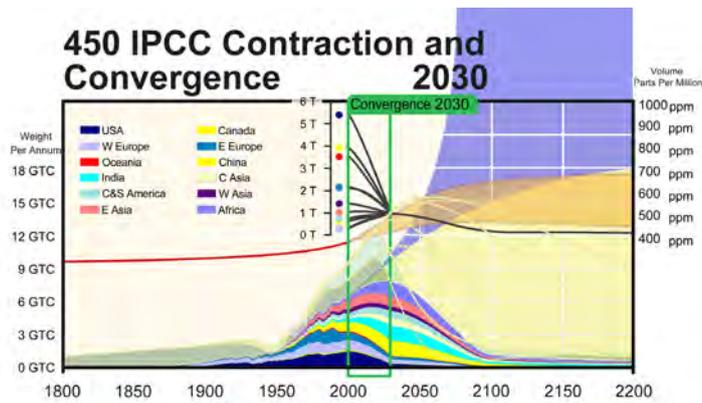


... with 5 Rates of Convergence by 2050

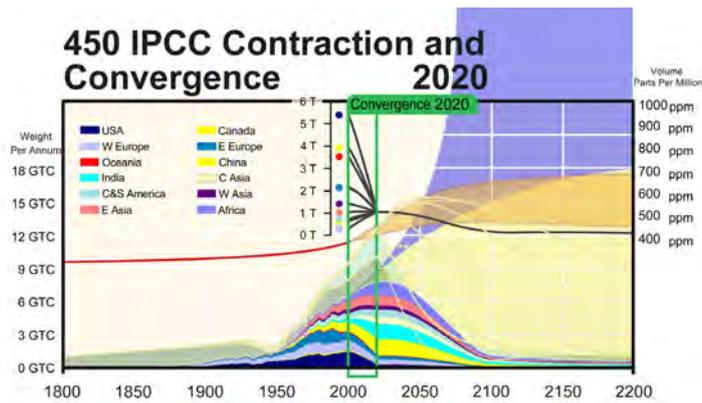
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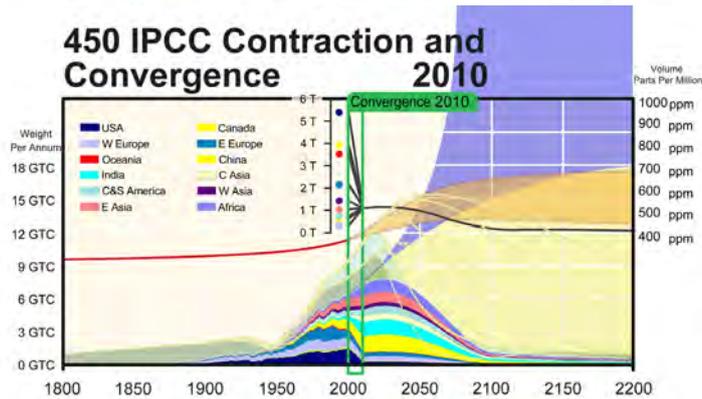
2040



2030

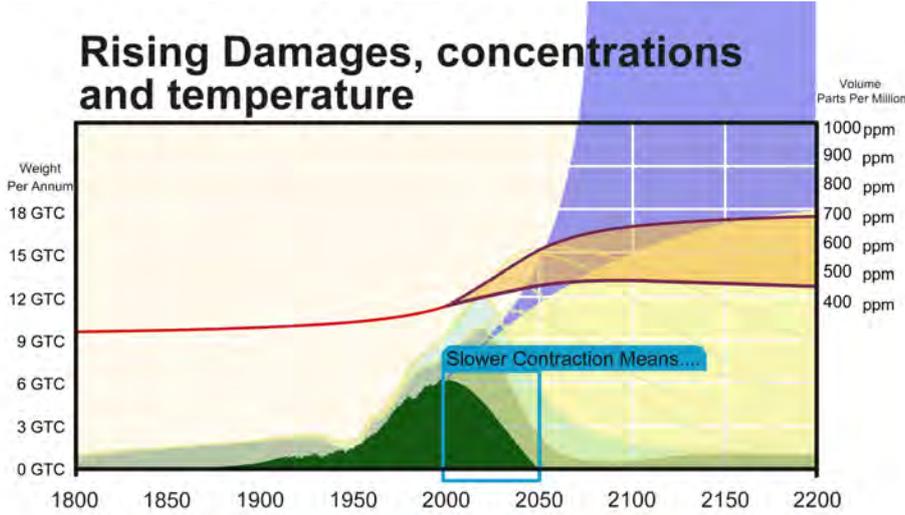


2020

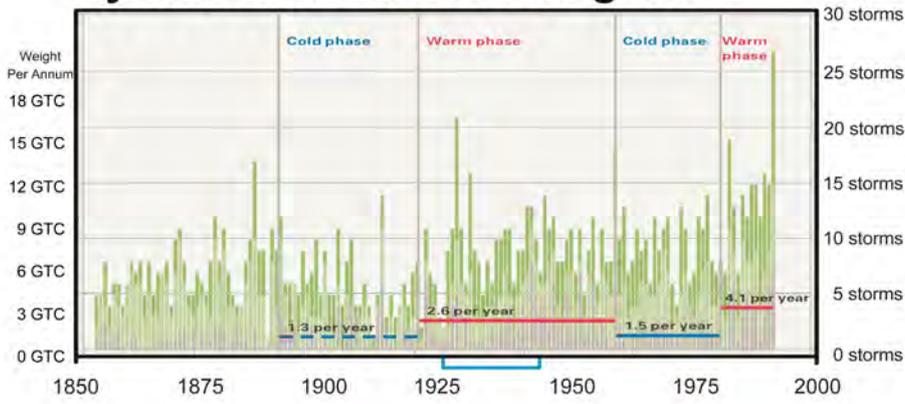


2010

Rising Damage Curves @ 6%/year Twice the Rate of Economic Growth

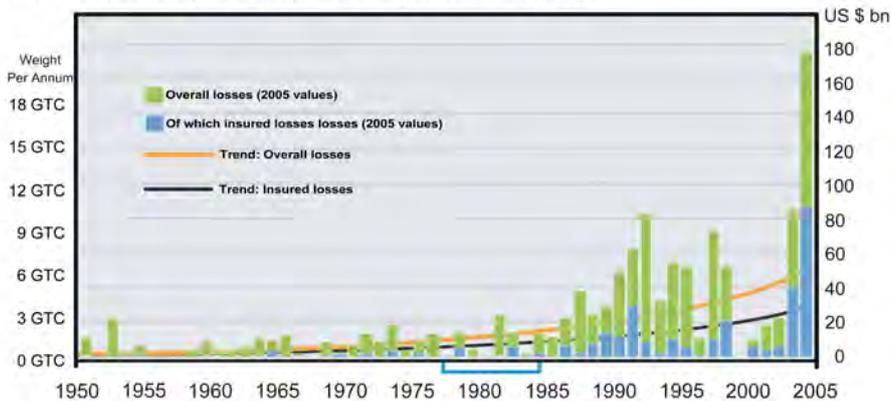


Annual frequencies of tropical cyclones of various categories



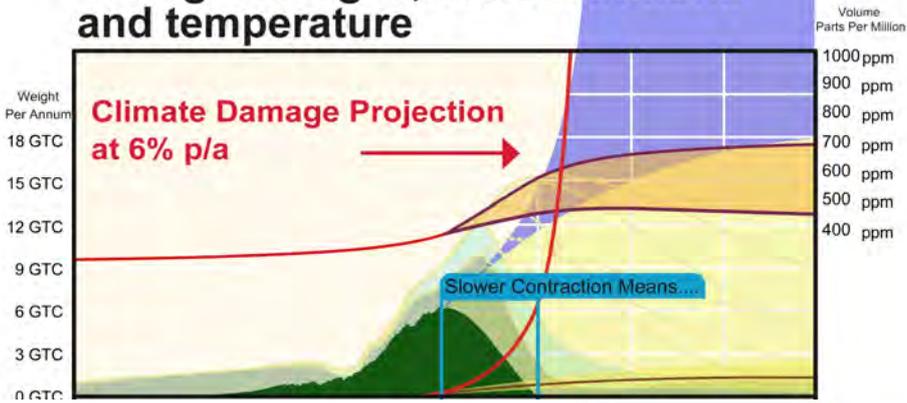
Overall losses and insured losses - Absolute values and long-term trends

The chart presents the overall losses and insured losses - adjusted to present values. The trend curves verify the increase in catastrophe losses since 1950.

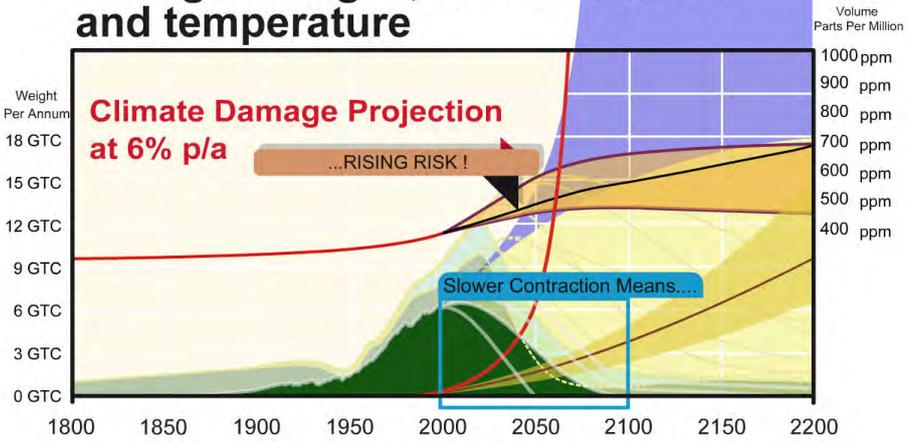


These data and trend analysis from Munich Re

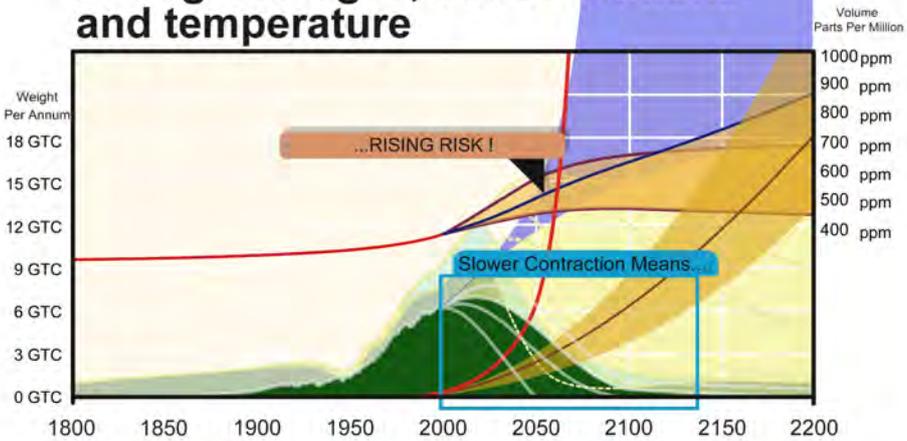
Rising Damages, concentrations and temperature



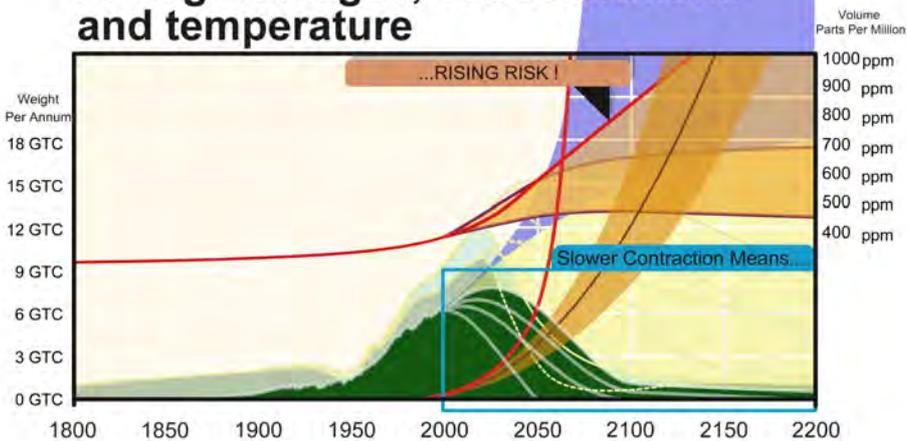
Rising Damages, concentrations and temperature



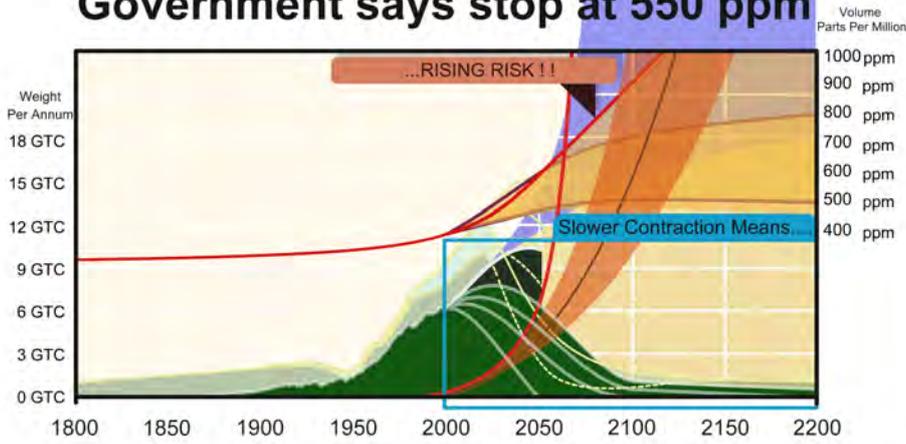
Rising Damages, concentrations and temperature



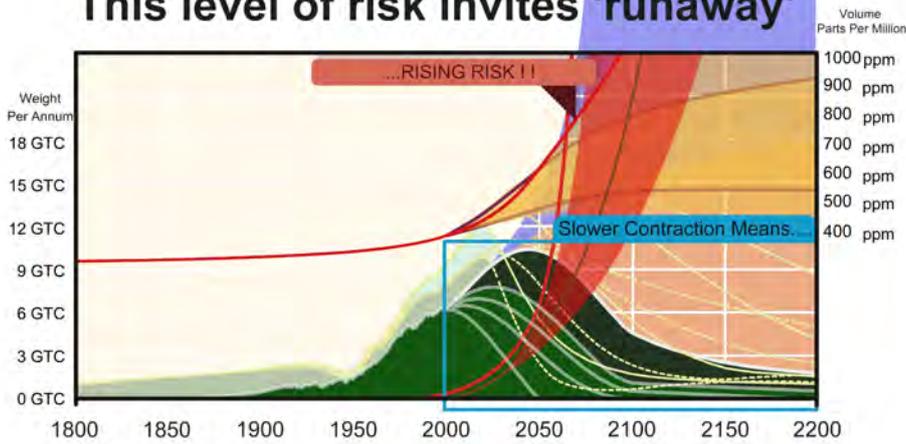
Rising Damages, concentrations and temperature



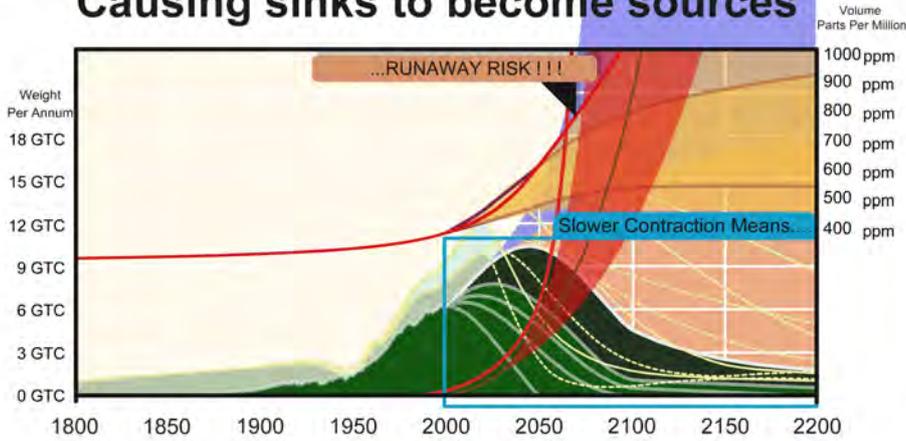
Government says stop at 550 ppm



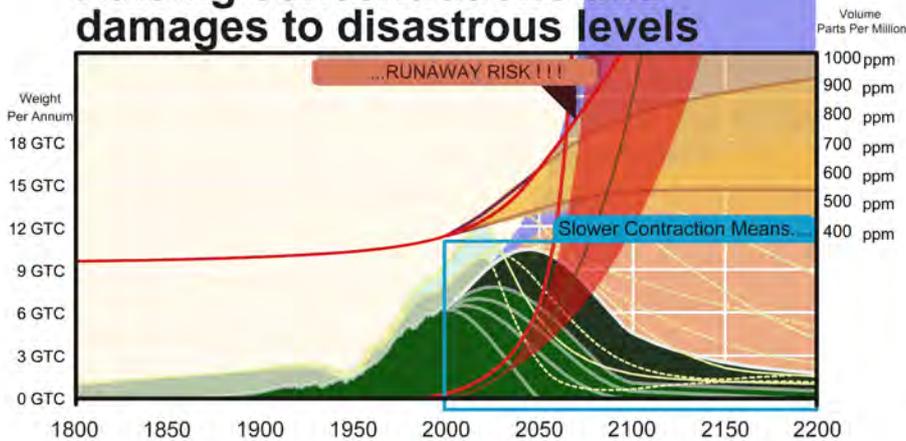
This level of risk invites 'runaway'



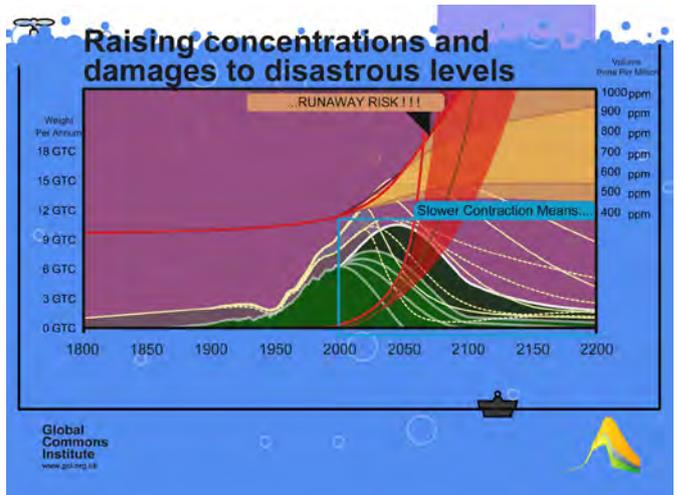
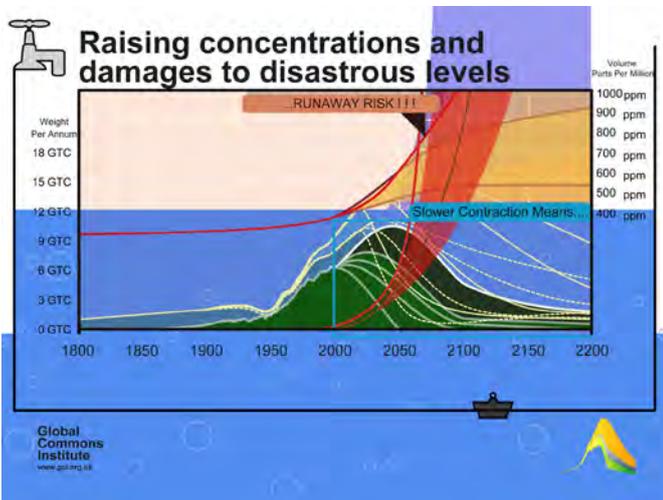
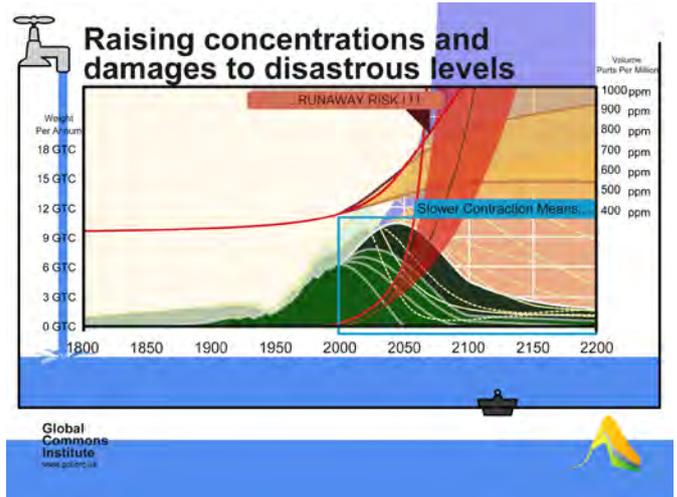
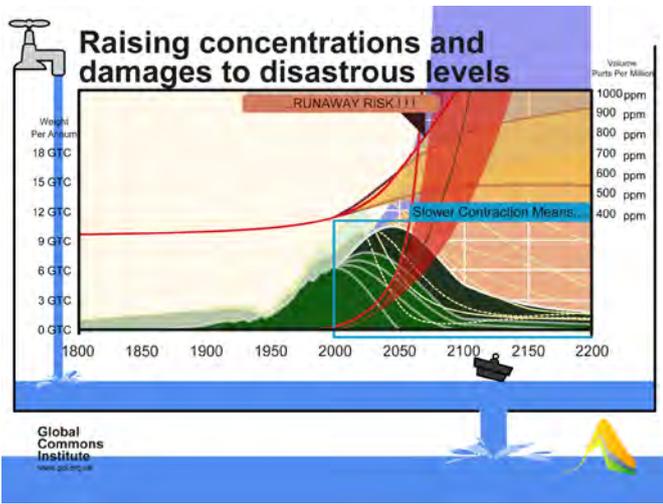
Causing sinks to become sources



Raising concentrations and damages to disastrous levels



Sinks Become Sources Damages become Catastrophic



COMMENTS

2002 Michael Meacher, the UK Environment Minister

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

2003 The UN Climate Convention Secretariat

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

2003 The Archbishop of Canterbury

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

2003 Sir John Houghton Royal Commission on Environmental Pollution

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

In 2003 the Independent on Sunday a UK broadsheet

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

In 2005 a UK Journal the New Statesman

[Meyer is] "one of the ten people in the world most likely to change it."

2007 UNITAR Seminar

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

2007 the UK All Party Parliamentary Group on Climate Change

commissioned a DVD from Meyer to demonstrate the C&C argument and support for it. Called *'The Incontestable Truth'* this has been circulated very widely in and beyond the UK. Commendations for Meyer and his work establishing C&C were included in this production.

2007 Sir Crispin Tickell, former UN Ambassador

and now the Director of the Policy Foresight Programme James Martin Institute Oxford University: *"Aubrey Meyer has done an amazing job and 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 set global arrangements in place."*

2007 Dr Julian Salt Director of Climate Solutions

"Aubrey Meyer is the most courageous and brilliant climate researcher I have ever met. He is willing to say what other's merely think. He is quite fearless of any audience and the most eloquent of speaker's because he knows that ultimately the concept of Contraction and Convergence [C&C] is indestructible and will in the fullness of time be adopted in some form by the UNFCCC. He has developed his arguments over twenty years with a minimum of funding and has refused to compromise his position in any way for financial gain or glory. He is tireless in his research and quest to understand every nuance of the climate debate. It has been an honour for me to have known and worked with such a brilliant mind and such an honest person as Aubrey. He has much support from very well placed and respectable people and deserves global recognition for his work. He is quite simply a modern-day genius who will one day be respected for his vision and beliefs. He should be considered for the Nobel Peace prize as his efforts ultimately will save the planet from the ravages of man-induced climate change."

AWARDS

Andrew Lees Memorial Award - 1998

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

The Schumacher Award - 2000

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

A Findhorn Fellowship 2004

"Aubrey Meyer is a professional violinist who has largely bracketed his music career to address the global challenge of climate change. Having attended the first UN meetings on the subject in the early 90's, he has since fully engaged with the issue and developed the 'Contraction and Convergence' model as an antidote to it. He created and directs the Global Commons Institute in London as a vehicle to advance his formula to virtually all who will listen. He presented it here at the Restore the Earth conference in 2002. Its genius lies in its capacity prospectively to reduce greenhouse emissions by the 60-80% that the UN IPCC (International Panel on Climate Change) say is required to minimise the likely devastating effects of global warming. His views are increasingly endorsed by prominent members of the British establishment. I hope you join me in welcoming Aubrey to the Fellowship and in supporting his remarkable, indeed heroic, initiative. Aubrey Meyer is arguable the world's foremost carbon strategist and to global warming what Michael Moore is to the US electoral saga - a delightful maverick who just might 'save the day'."

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

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

Honorary Fellow of Royal Institute of British Architects - 2007

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

The UNEP FI Global Roundtable Financial Leadership Award - 2007

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



"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 un-found freedom; 'Justice without Retribution,' as Nelson Mandela once demanded.

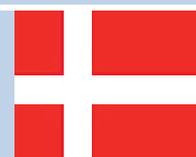
DAVE HAMPTON - CARBON COACH

"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 CHALLENGE - 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



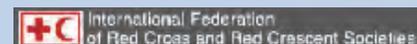
“The approach of contraction and convergence presents a new economic development paradigm for the twenty first century and beyond.”
 MRS. RUNGANO KARIMANZIRA - CHAIR, AFRICA GROUP



“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



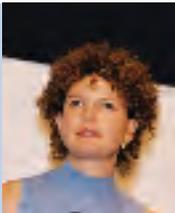
"Many governments around the world have accepted the concept of Contraction & Convergence as the only equitable response mechanism to the threat of climate change."
GRACE AKUMU - DIRECTOR, CLIMATE NETWORK AFRICA



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 GARNAULT - 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



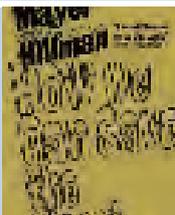
"It is absolutely remarkable that the idea of Contraction & Convergence has taken such a firm hold worldwide in such a short space of time."
TESSA TENNANT - CHAIR ASSOCIATION FOR SUSTAINABLE & RESPONSIBLE INVESTMENT IN ASIA



"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 CHALLENGE 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



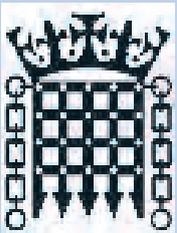
Contraction & Convergence includes the identification of a fixed level for stabilisation of greenhouse gas concentrations, and comprehensive global participation. Any framework that incorporates long term targets can offer countries greater certainty about their national targets and provide a clear signal 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



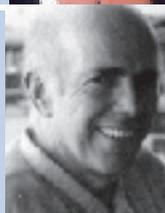
"We need to go to the United Nations and need to say both to our own citizens, our own communities and global communities through the United Nations, C&C is the only real way forward to ensure a healthy future."

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 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

11

INSURANCE INDUSTRY VIEWS OF C&C

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

“This animation of C&C and risk is brilliant. The Kyoto Protocol is having negligible effect. If successful, Kyoto will result in a slowdown in the rise of global temperatures by 0.02C to 0.28C. That isn’t going to help a great deal and we must decide what comes after Kyoto. It has to have the US, India and China on board. The best hope is a system called contraction and convergence, which works on the premise that everyone on the planet has the right to produce the same amount of greenhouse gas. A level is set for the planet and it is divided by the number of people, so that each country knows how much it can emit per head of population. The overall level is then brought down by agreement.”

BILL MCGUIRE, DIRECTOR - BENFIELD HAZARD CENTRE, UCL

“Even if we do not know the speed or severity of feedback effects, we must consider the probabilities of disastrous acceleration in climate change within very short timescales. Risk assessment is the core activity of the insurance industry, the biggest industry in the world. Assessment of risk must fully include feedback effects. Insurers are the leading experts in risk and risk modeling. C&C demonstrates how this can be done. C&C already has a high profile with insurers. Governments need to listen to the insurance industry and make C&C central to government policy around the world. From a risk management point of view, C&C produces an important assessment of the risks we face from human-induced runaway climate change and how to frame a response at the policy level.”

PROF DAVID CRICHTON - BENFIELD HAZARD CENTRE UCL

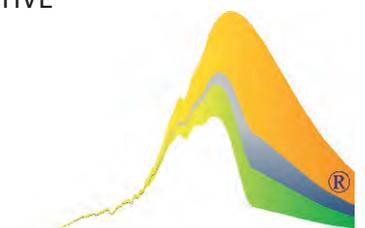
“C&C is so open and transparent. Within the insurance sector it is recognised by CEOs who know they need a long-term global framework within which they can assess their risk. Without C&C they’re stuck with a guesswork approach. A stable insurance industry is essential for a stable economy and a stable financial sector. Insurance needs a long term global framework so it can plan for the future. C&C will help bring this about. It needs to be adopted at the highest level, from the UN down through every business sector.”

DR JULIAN SALT - DIRECTOR OF CLIMATE SOLUTIONS

“Aubrey Meyer’s insight into the problem of mitigation of climate change bears the true hallmark of genius: it is simple and robust. His “Contraction & Convergence” model provides a transparent framework that incorporates the clear objective of a safe global level of greenhouse gases, and allocates the responsibility for achieving this internationally with the irresistible logic of equal shares. At the same time, the model recognises the practical need for an adjustment period to permit nations to conform to the new logic and prepare for a climate-friendly economy. It is no doctrinaire solution, but a brilliantly pragmatic and elegant solution.”

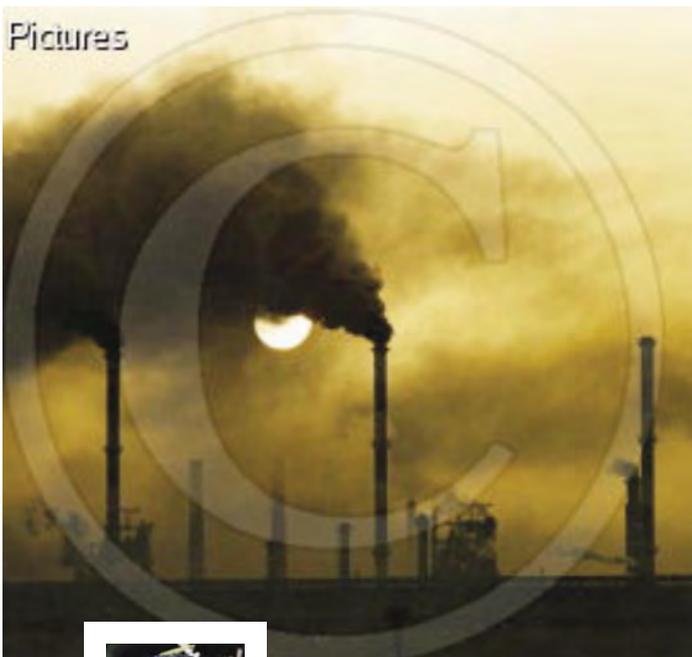
DR ANDREW DLUGOLECKI - ADVISORY BOARD DIRECTOR, CARBON DISCLOSURE PROJECT

ADVISER ON CLIMATE CHANGE TO UNEP FINANCE SECTOR INITIATIVE



Contraction and Convergence:

THE PROPORTIONATE RESPONSE TO CLIMATE CHANGE



AUBREY MEYER
DIRECTOR,
GLOBAL COMMONS INSTITUTE

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

THE BASIS OF C&C

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

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

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

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

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

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

THE LONG TERM PAST

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

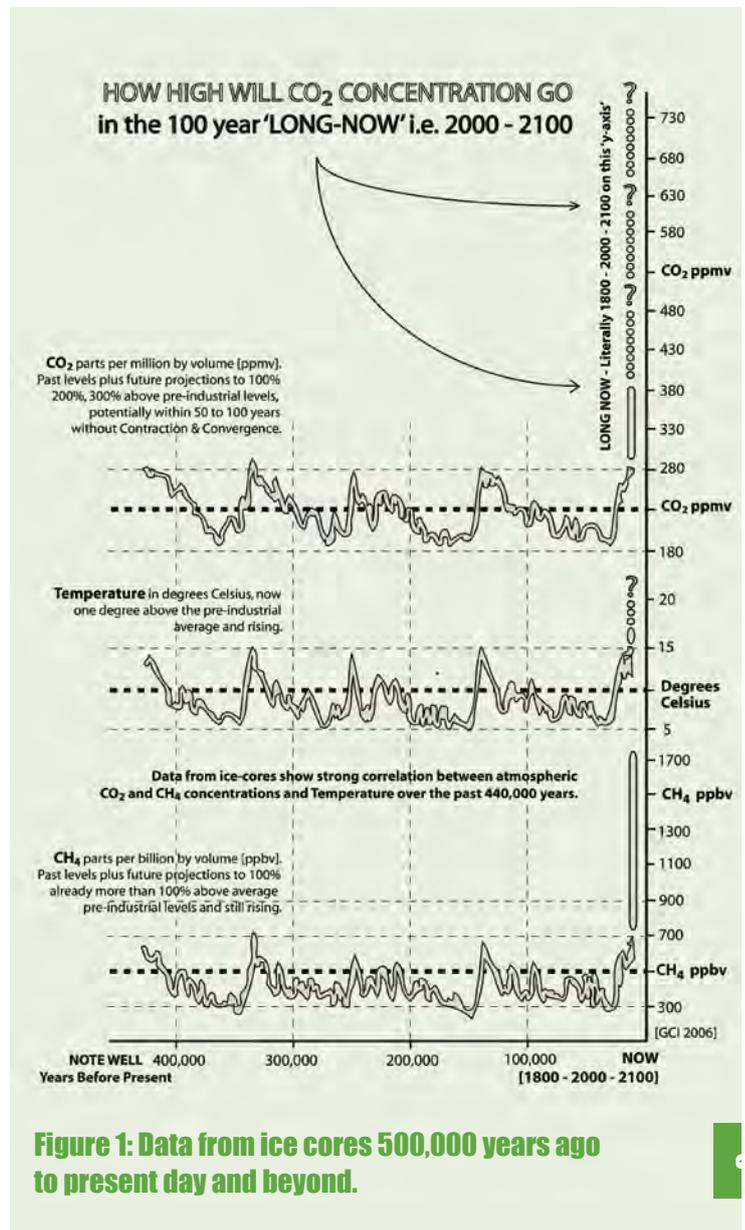
Since 1800 with the onset of industrialisation and fossil fuel burning, human emissions have caused the concentration of CO₂ to increase by over 40 per cent to 380 ppmv. The rise in ppmv CO₂ is higher and faster than anywhere in the historical record. This rise is because CO₂ emissions from human sources,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

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

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

THE SHORT TERM PAST AND FULL TERM FUTURE LIMITS

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



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

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

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

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

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

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

The key questions for integration are in four columns:

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

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

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

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

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

▶ **C1 (bottom row) Acceptable risk:** global GHG emissions contraction complete by 2050 so concentrations end up around 400/450 ppmv with damages potentially still under control.

▶ **C2 (middle row) Dangerous risk:** global GHG emissions contraction complete by 2100 so concentrations keep going up through 550/750 ppmv with the illusion of progress maintained, while damages are going out of control.

▶ **C3 (top row) Impossible risk:** global GHG emissions contraction complete by 2200 so concentrations keep going up through 550/950 ppmv while the illusion of progress is being destroyed, damages costs are destroying the benefits of growth very quickly and all efforts at mitigating emissions become futile.

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

See next pages for chart summary and link to animation

DAMAGES

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

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

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

A FRAMEWORK-BASED MARKET

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

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

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

VISIT: WWW.CLIMATEACTIONPROGRAMME.ORG



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

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

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

The fact is that this is a lottery where everybody loses. This approach has obscured the global objective of safe and stable concentrations and the obviously urgent need for a trajectory to this objective by design. C&C starts with an integral response to the Convention's objective and allowing a full term framework-based market to result, where:

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

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

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

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

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

Aubrey Meyer grew up studying music in the *separate development of apartheid* South Africa. The proportionate response to global environmental limits now imposed by climate change emerged easily as the constitutional logic of Contraction and Convergence or 'C&C'. As in South Africa, the reality was that separate development was not sustainable development. The C&C model proportions this possibility as justice without vengeance and climate chaos.

In 1990, aged 43, he put brackets around a successful career in music and co-founded the Global Commons Institute (GCI) in London.

Since then he has campaigned at the United Nations negotiations on climate change to win acceptance of the management of global greenhouse gas emissions through a framework of scientific truth and political reconciliation, or 'Contraction and Convergence' (C&C).

The structure, imagery and animations of C&C created by Meyer over the years have been variously described as, "*morally and intellectually coherent*", "*beautiful*" and C&C itself as "*the single most elegant and important idea currently awaiting adoption by humanity*".

UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

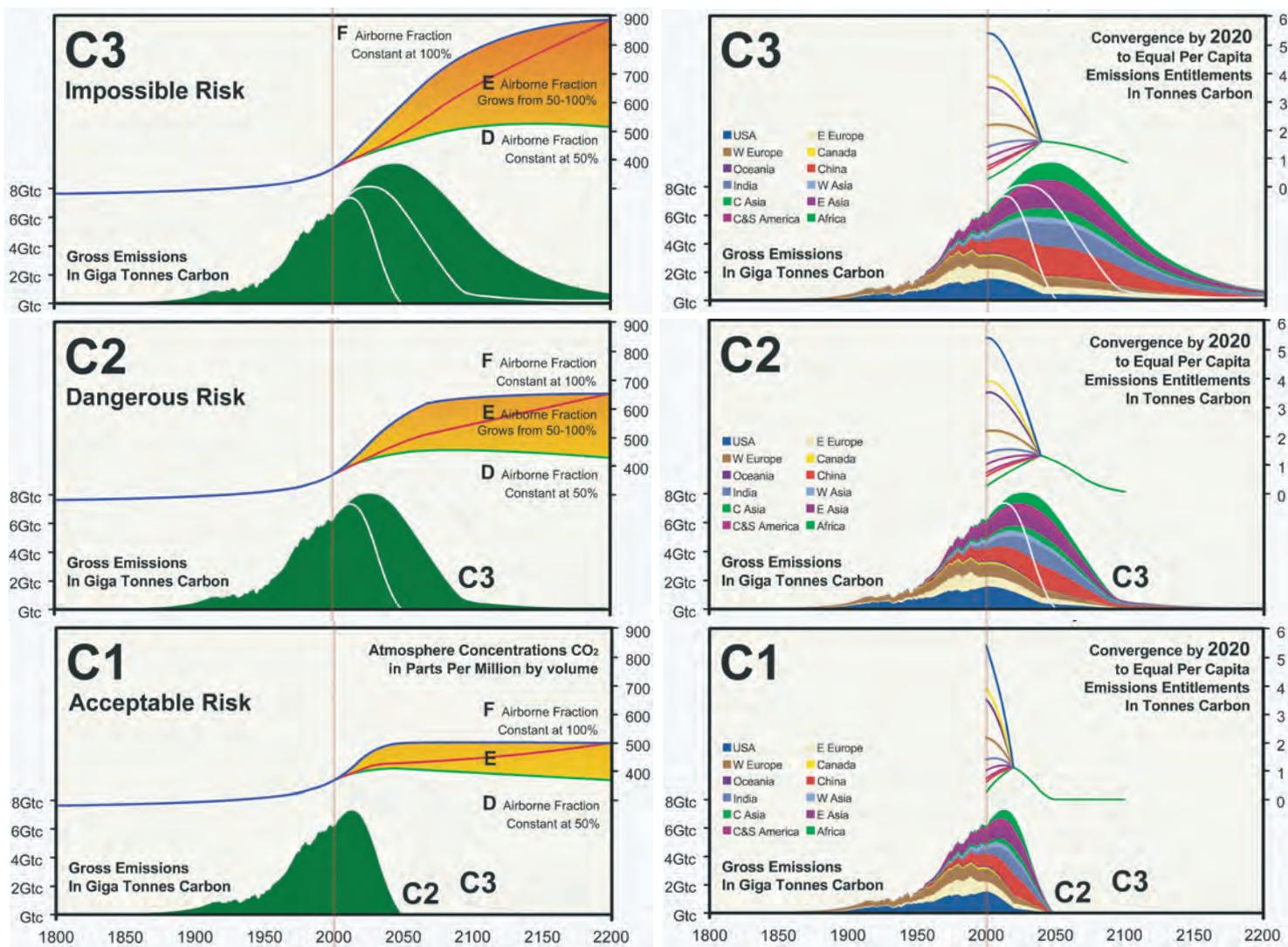
OBJECTIVE

**Contraction &
Concentrations**

PRINCIPLES

Precaution Equity

**Contraction &
Convergence**



This entire animation is on-line at: - www.gcic.org
Touch buttons to advance within scenes and

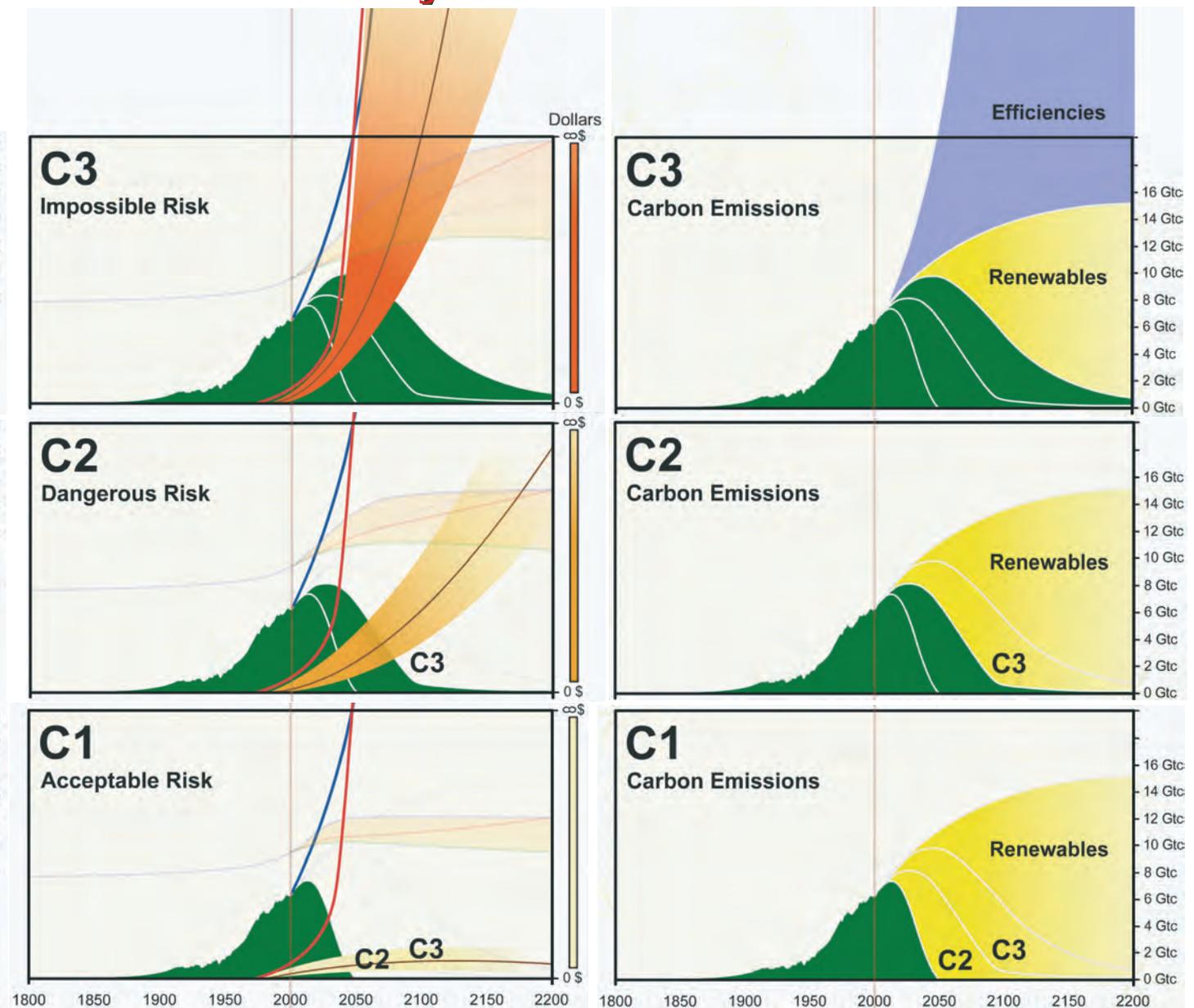
GLOBAL DAMAGE COSTS/ DEVELOPMENT BENEFITS of CLIMATE CHANGE

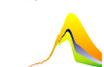
DANGEROUS CLIMATE CHANGE

Damage Costs & Insecurity

UN/SUSTAINABLE DEVELOPMENT

Contraction & Conversion



i.org.uk/images/Final_presentation.exe
logos  to advance between scenes



“Contraction and 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 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 countries - 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. This appeals a lot to those campaigning for global economic justice: a global trading system in carbon would begin to shift substantial resources from rich countries to poor countries as nations with wasteful, carbon-intensive lifestyles had to purchase additional carbon credits from nations with low-carbon economies.”

Jonathon Porritt
Programme Director, Forum for the Future



“The most realistic way to bring about the required reduction in ghg emissions (which will have the combined effect of reducing the damage imposed on the insurance industry and encouraging the transition to renewable energy) is that proposed in the concept of Contraction and Convergence.”

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 and Convergence” combines ecology and equity most elegantly.”

Heinrich Boell Foundation



“Further and more ambitious emissions reductions targets should be agreed for the second and subsequent commitment periods, based on the principle of ‘contraction and convergence’ with the long-term goal of equalising per capita emissions across the world.”

UK Liberal Democrats
Proposals on Energy Policy



“I support the concept of ‘Contraction and Convergence’, as does the Environment Agency.”

Sir John Harman; Chairman, UK EA



LAMBETH PALACE

“Contraction and Convergence appears Utopian only if we refuse to contemplate the alternatives honestly.”

Dr. Rowan Williams; The Archbishop of Canterbury

“The Green party of England and Wales strongly endorses the GCI/GLOBE campaign for Contraction and Convergence as the key ingredient in a global political solution to the problem of Climate Change.”

UK Green Party



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

Intergovernmental Panel on Climate Change, TAR WG3



“A fair distribution, establishing the concept of per capita emission rights for all countries, as proposed in the ‘Contraction and Convergence’ scheme.”

David Hallman, World Council of Churches



world council of churches

“For the long-term, policy makers should reach consensus on a global framework for climate stability based on the principles of precaution and equity such as Contraction and Convergence which would aim to achieve equal per capita emissions for all nations by an agreed date.”

UNEP Finance Initiatives



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

Sir John Houghton, Former Chair IPCC Working Group One

THE JOHN RAY INITIATIVE
promoting environmental sustainability.

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

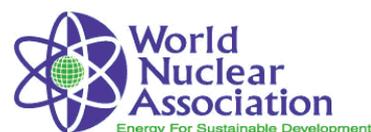
Grace Akumu

Director, Climate Network Africa



“I not only support the C&C concept, I find it inconceivable that we will avert climate catastrophe without a regime built on some variation of this approach. In the debate about climate change, an impression has been created that the problem is too daunting and complex to prevent. Contraction and Convergence provides a way forward that is both fair and feasible.”

John Rich; World Nuclear Association



“It is absolutely remarkable that the idea of Contraction and 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



“We regard Contraction and Convergence as no less than the logical starting point for any sustainable future.”

Ed Mayo, New Economics Foundation



The solution to climate change is not to restrict the growth of newly industrialising nations so that we can carry on polluting. A globally equitable model of emissions reductions is required. The contraction and convergence model calls for already large polluting countries to cut their missions, 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

MAYOR OF LONDON



THE WORLD BANK

“... an approach receiving significant attention is Contraction and 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 and Convergence



“A brilliant, imaginative and simple means of reaching a just global agreement on emission reductions is called Contraction and 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 on C&C

“In the light of the long-term perspective two basic requirements must be met:

1. *Stabilisation of greenhouse gases in the atmosphere at a level in accordance with the overall objective of the Climate Change Convention.*
2. *A fair distribution of rights and obligations, by establishing the concept of percapita emission rights for all countries, as proposed in the ‘Contraction and Convergence’ scheme.”*

David Hallman WCC on C&C



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

DEFRA on C&C



CEOs of the 23 largest corporations in the Davos World Economic Forum made a joint statement to the G8 leaders - governments must define an atmospheric greenhouse gas concentration that is stable and safe, and create a common global framework to enable investment in markets that operate effectively to this purpose from now on.

WEF CEOs on need for Common Climate Framework



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 and 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



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.

GFN - WWF on C&C

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.

Byers Report on Global Framework

*"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 United Nations 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 and 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

"If the world is to stabilise concentrations of greenhouse gases at a safe level, a 'global emissions budget' consistent with the target concentration will need to be implemented. This raises questions about how to allocate this global emissions budget in a manner that is fair and reflects developing country concerns that they have adequate room for their economies to grow. Agreeing emission limits on a 'per capita basis' would, as a guiding principle, ensure that every person is entitled to release into the atmosphere the same quantity of greenhouse gas emissions. Without a long term guarantee of equitable emission entitlements, developing countries are likely to continue to refuse to participate in international action on climate change thus providing an excuse for further procrastination by the US. An immediate per capita allocation of emissions would not stand much chance as it would mean that industrialised countries would have to cut their emissions by far more, while many developing countries could increase theirs. There will have to be an adjustment period in which nations' quotas converge on the same per capita level. This transitional framework is known as 'Contraction and Convergence' and was first proposed by the London based Global Commons Institute."

Tony Juniper Director of Friends of the Earth on C&C



Global Footprint Network
Advancing the Science of Sustainability



“Stabilization [of GHG concentrations] inevitably requires “contraction and convergence”.”

**COP 9, Milan - 4th December 2003
Secretariat to UNITED NATIONS FRAMEWORK
CLIMATE CHANGE CONVENTION**



“The idea of ‘Contraction and Convergence’ is destined to be one of the most important principles governing international relations in the 21st century.

It is a powerful ethic that incorporates global justice and sustainability and thereby bridges the dominant concerns of the last century and this one.

It is the only way to accommodate the interests, ethical and economic, of developing countries and rich countries in the struggle to find a solution to the most important environmental problem facing the world.”

**Dr Clive Hamilton;
One of Australia’s leading economists**



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

**Richard Douthwaite;
One of Ireland’s leading economists**



“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 government should press for a future global climate agreement based on the “Contraction and Convergence’ approach, combined with international trading in emission permits. These offer the best long-term prospect of securing equity, economy and international consensus.”

Sir Tom Blundell; Chairman, RCEP



**Royal Commission On
Environmental Pollution**

“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



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

**Dr. John Schelnhuber;
Chairman, German Advisory Council on Global Change**



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

European Parliament Resolution; 1998



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

1.1 1990: IPCC FIRST Assessment Report [FAR]

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

1.2 1992: UN FRAMEWORK CONVENTION on CLIMATE CHANGE [UNFCCC]

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

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

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

The Precautionary Principle. The Parties, 'should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious

or irreversible damage, lack of full scientific certainty ¹⁴ should not be used as a reason for postponing such measures (Article 3.3) . .

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

1.3 1995: IPCC SECOND Assessment Report [SAR]

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

<http://www.gci.org.uk/papers/zew.pdf> Annex B pages 16-18

1.4 1995: UNFCCC First Conference of the Parties COP-1

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

<http://www.gci.org.uk/papers/Nairobi3b.pdf> Page 5

1.5 1997: UNFCCC Third Conference of the Parties COP-3

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

"[The USA] It does seem to us that the proposals by for example India and perhaps by others who speak to Contraction and Convergence are elements for the future, elements perhaps for a next agreement that we may ultimately all seek to engage in" http://www.gci.org.uk/temp/COP3_Transcript.pdf

1.6 2000: IPCC THIRD Assessment Report [TAR]

"A formulation that carries the rights-based approach to its logical conclusion is that of contraction and convergence." http://www.grida.no/climate/ipcc_tar/wg3/index.htm 1.3.2

The IPCC Fourth Assessment Report

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

CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT – VIEW FROM THE DEVELOPING WORLD

Kirit Parikh Chairman,

Integrated Research & Action for Development New Delhi

"The Rich are delaying action, but delay is free riding. The difference between the likely emissions of OECD countries, even if Kyoto Protocol is fully implemented, and what would have been under the FCCC understanding will exceed India's emissions of CO₂ over the next 40 years."

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

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

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

Here, an Indian expert to IPCC at an event to which the Indian Prime Minister contributed, sets a key-note message for an IPCC plenary in preparation for the 4th Assessment. It clearly emulates GCI's 'convergence accelerated relative to the contraction rate' in order to take C&C - as he puts it - from being 'unfair' to being 'equitable'. This is perhaps why UK officials at DEFRA say that India [and other countries] supports C&C 'for the wrong reasons'.

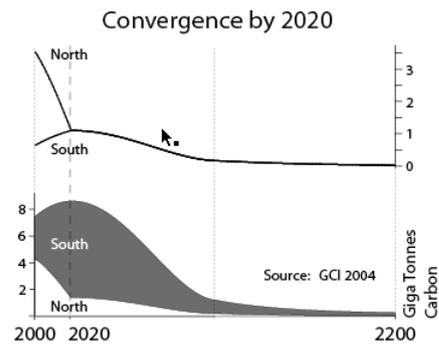
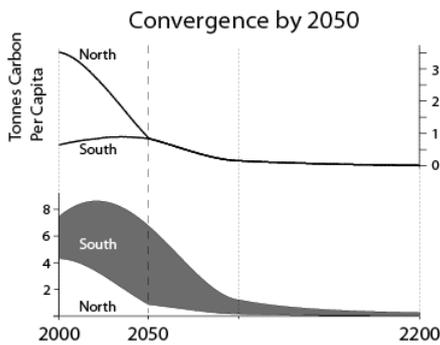
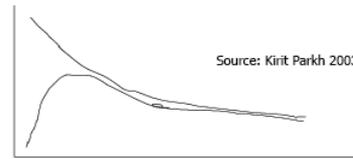
Convergence and Contraction

- Unfair



Convergence and Contraction

- Equitable



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

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

Sustainable Development

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

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

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

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

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

References

1 Governments

- 1.7 **Indian Environment Minister**, Kamal Nath, COP 1, April 1995

<http://www.gci.org.uk/papers/zew.pdf> page 17

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

- 1.8 **Chinese State Councillor Climate Change & Population**, Dr Song Jian, Oct 1997

<http://www.gci.org.uk/cop3/songjian.html>

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

- 1.9 **The Africa Group**, August 1997

<http://www.gci.org.uk/refs/C&CUNEPIIIb.pdf>

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

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

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

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

4. When we look at time frames, we believe that insufficient commitment by Annex One countries will only result in delaying our influence on the climate system. If this course is maintained, then we will all suffer and the burden will be even greater for humanity in general. The burden for any future mitigation efforts on those of who have not been historically and currently responsible for creating the problem will be greater.

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

- 1.10 **The Africa Group**, COP-3 Kyoto, 3a.m. 10th December 1997
http://www.gci.org.uk/temp/COP3_Transcript.pdf page 16
-

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

- 1.11 **Non-Aligned Movement**, Heads of Government Conference, (NAM), September 1998
http://www.gci.org.uk/consolidation/Letters_Articles_1989_2002.pdf Page 202
-

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

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

- 1.12 **Indian Prime Minister**, Shri Atal Bihari Vajpayee, October, COP-8, 2002
http://unfccc.int/cop8/latest/ind_pm3010.pdf Page 3
-

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

- 1.13 **Kenyan Minister for Planning and National Development**, Anyang Nyong’o, April 2004
<http://www.gci.org.uk/speeches/Nyongo.pdf>
-

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

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

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

- 1.14 **Kenya, Director General of the ruling NARC**, Alex K Muriithi, April 2004
<http://lists.topica.com/lists/GCN@igc.topica.com/read/message.html?sort=d&mid=1716633749&start=365>
-

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

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

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

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

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

<http://lists.topica.com/lists/GCN@igc.topica.com/read/message.html?mid=1717677814&sort=d&start=390>

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

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

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

1.16 USA, COP-3 Kyoto, 3a.m. 10th December 1997

http://www.gci.org.uk/temp/COP3_Transcript.pdf

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

1.17 European Parliament, 1998

http://www.environment.fgov.be/Root/tasks/atmosphere/klim/pub/eu/parl/pre%20ba_en.htm

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

1. agreement to have a worldwide binding limit on global emissions consistent with a maximum atmospheric concentration of 550 ppmv CO₂ equivalent,
2. initial distribution of emissions rights according to the Kyoto targets,
3. progressive convergence towards an equitable distribution of emissions rights on a per capita basis by an agreed date in the next century,
4. across-the-board reductions in emissions rights thereafter in order to achieve the reduction recommended by the Intergovernmental Panel on Climate Change (IPCC),
5. an agreement to have a quantitative ceiling on the use of flexibility mechanisms that will ensure that the majority of emission reductions are met domestically in accordance with the spirit of articles 6, 12 and 17 of the Kyoto protocol; in this context trading must be subject to proper monitoring, reporting and enforcement;
6. an adequately financed mechanism for promoting technology transfer from Annex 1 to non-Annex 1 countries;"

1.18 Danish Environment Minister, Svend Auken, April 1999

“The approach of "Contraction and Convergence" is precisely such an idea. It secures a regime that would allow all nations to join efforts to protect our global commons from being over-exploited, without the risk that any country would be deprived of its fair long-term share of the common environmental emission space. And it allows for consistent and efficient management of the global emissions that would enable us to strive for constraining global interference with the climate below fixed ceilings”

1.19 Swedish Minister of the Environment, Kjell Larsson, September 2000

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

1.20 Belgian Minister of the Environment, Olivier Delouze, COP6 November 2000

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

1.21 French President, Jaques Chirac, COP6, November 2000

<http://www.sovereignty.net/center/chirac.html>

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

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

1.22 Netherlands Environment Minister, Jan Pronk, Chairman of COP-6, July 2000

http://www.earthtimes.org/jul/environmentthekyotoprotocoljul25_00.htm

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

There are alternatives for this scenario. Some developing countries have argued for an allowance of equal emissions per capita. This would be the most equitable way to determine the contribution of countries to the global effort. If we agree to equal per capita emissions allowances for all countries by 2030 in such a way that global emissions allow us to stay below the 2 degrees global temperature increase (equivalent to about 450 ppmv CO₂), then the assigned amounts for Annex B countries would be drastically reduced. However, due to the fact that all countries would have assigned amounts, maximum use of global emissions trading would strongly reduce the cost of compliance. So, in such a scenario, industrialized countries would have to do more, but it would be cheaper and easier. . . . "

1.23 Sweden's third national communication on Climate Change, 2001

<http://www.regeringen.se/content/1/c4/12/88/96b4e59c.pdf>

“Emissions should ultimately converge towards a common international target, expressed as emissions per inhabitant.”

2 Publications

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

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

- 2.2 **Financial Times**, 30th November 2001
<http://specials.ft.com/worlddeconomy2001/FT30CRLVJUC.html>
-

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

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

- 2.3 **ENDS Report**, Blair leadership claim on climate change March 2003
<http://www.endsreport.com>
-

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

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

- 2.4 **New Scientist**, December 2003
<http://www.newscientist.com/hottopics/climate/climate.jsp?id=ns99994467>
-

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

- 2.5 **ICE**, Proceedings of the Institution of Civil Engineers, Paper 13982, December 2004
<http://www.thomastelford.com/jol/>
-

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

- 2.6 **Reason Online**, Ronald Bailey, November 3, 2004
<http://reason.com/rb/rb110304.shtml>
-

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

3 Individuals

- 3.1 **Raul Estrada**, Chair Kyoto Negotiations, February 2000
http://www.gci.org.uk/articles/Estrada_on_C&C.pdf
-

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

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

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

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

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

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

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

<http://www.publications.parliament.uk/pa/ld199697/ldhansrd/pdvn/lds03/text/31127-05.htm>

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

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

<http://www.commondreams.org/scriptfiles/views03/1207-04.htm>

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

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

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

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

<http://www.globalwarming.org/cop9/cop9e.htm>

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

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

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

4 Organisations

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

http://www.gci.org.uk/Archive/MegaDoc_19.pdf

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

4.2 **Royal Society on Environmental Pollution**, Sir Tom Blundell; Chairman, June 2000

<http://www.rcep.org.uk/newenergy.htm>

“The government should press for a future global climate agreement based on the “Contraction and Convergence’ approach, combined with international trading in emission permits. These offer the best long-term prospect of securing equity, economy and international consensus.”

- 4.3 **UK Chartered Insurance Institute**, Report on Global Climate Change, March 2001
http://www.gci.org.uk/Archive/MegaDoc_19.pdf
-

“The most realistic way to bring about the required reduction in ghg emissions (which will have the combined effect of reducing the damage imposed on the insurance industry and encouraging the transition to renewable energy) is that proposed in the concept of Contraction and Convergence.”

- 4.4 **IPCC WG3**, Third Policy Assessment, Chapter 1, Section 3.2, 2001
http://www.grida.no/climate/ipcc_tar/wg3/pdf/1.pdf
-

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

- 4.5 **Green Party**, Climate Change Policy,
<http://policy.greenparty.org.uk/mfss/climchg.html>
-

“The Green Party advocates the adoption by the UNFCCC of a framework of Contraction and 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 ”

- 4.6 **New Economics Foundation, Ed Mayo, Director, October 2002**
<http://www.gci.org.uk/correspondence/NefEdC&C.pdf>
-

“We regard Contraction and Convergence as no less than the logical starting point for any sustainable future.”

- 4.7 **Performance and Innovation Unit**, The Energy Review, February 2002
<http://www.number-10.gov.uk/su/energy/TheEnergyReview.PDF>
-

“The RCEP suggested that a 60% reduction for the UK by 2050 would be needed within a contraction and convergence agreement”

- 4.8 **UNEP Finance Initiatives**, 7th October 2002
http://www.unepfi.net/cc/ceobriefing_ccwg_unepfi.pdf
-

“For the long-term, policy makers should reach consensus on a global framework for climate stability based on the principles of precaution and equity such as Contraction and Convergence which would aim to achieve equal per capita emissions for all nations by an agreed date.”

- 4.9 **UNFCCC**, Secretariat, COP-9, 4th December 2003
http://www.gci.org.uk/slideshow/C&C_UNFCCC.pdf
-

“Stabilization inevitably requires ‘contraction and convergence’”

- 4.10 **World Council of Churches**, David Hallman, Programme Coordinator, October 2003
<http://www.wcc-coe.org/wcc/what/jpc/moscow2003.html>
-

“A fair distribution, establishing the concept of per capita emission rights for all countries, as proposed in the ‘Contraction and Convergence’ scheme.”

- 4.11 **Climate Network Africa**, Grace Akumu, Director, 28th April 2003
http://www.gci.org.uk/Archive/MegaDoc_19.pdf
-

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

- 4.12 **UK Environment Agency**, Sir John Harman; Chairman, 9th December 2003
<http://www.gci.org.uk/correspondence/EnvAgency.pdf>
-

“I support the concept of ‘Contraction and Convergence’, as does the Environment Agency.”

- 4.13 **World Nuclear Association**, John Ritch, President, December 2003
<http://world-nuclear.org/dgspeeches/wiltonpark2003.htm>
-

“I not only support the C&C concept, I find it inconceivable that we will avert climate catastrophe without a regime built on some variation of this approach. In the debate about climate change, an impression has been created that the problem is too daunting and complex to prevent. Contraction and Convergence provides a way forward that is both fair and feasible.”

- 4.14 **FEASTA**, Richard Douthwaite;
<http://www.feasta.org/events/debtconf/sleepwalking.htm>
-

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

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

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

- 4.16 **IPPR**, Tony Grayling, Associate Director and Head of Sustainability, September 2003
<http://www.blackwell-synergy.com/links/doi/10.1111%2F1468-0041.00303>
-

“The Prime Minister has already expressed his desire to create a global deal or ‘climate covenant’ between North and South on the issue of climate change. IPPR’s belief is that the Contraction and Convergence framework for global climate policy is the practical application of this aspiration.”

- 4.17 **Zululand Environmental Alliance (ZEAL), Prof. James M. Phelps, Chairman, April 2003**
http://www.gci.org.uk/Archive/MegaDoc_19.pdf
-

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

- 4.18 **The Australia Institute, Dr Clive Hamilton, 29 April 2003**
http://www.gci.org.uk/Archive/MegaDoc_19.pdf
-

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

- 4.19 **DEFRA**, The Scientific Case for Setting a Long-Term Emission Reduction Target, 2003
http://www.defra.gov.uk/environment/climatechange/ewpscience/ewp_targetscience.pdf
-

“Methodology:

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

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

4.20 **WWF**, Living Planet Report, November 2004
<http://www.panda.org/downloads/general/lpr2004.pdf>

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

4.21 **GLA**, Green light to clean power - The Mayor’s Energy Strategy, February 2004
http://www.london.gov.uk/mayor/strategies/energy/docs/energy_strategy04.pdf

“The recommendations of the Royal Commission on Environmental Pollution are based on a contraction and convergence scenario in which global emissions converge in 2050, and atmospheric CO₂ concentration is stabilised at 550ppm by 2100. The Mayor believes that all national and regional emissions reduction targets, including those proposed in this strategy, must be seen as part of this long-term process. The Government’s support for the commission’s recommendations for a 60 per cent reduction in emissions by 2050 implies an acceptance of the contraction and convergence scenario that produced the recommendation. The Mayor encourages the Government to acknowledge this.

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

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

4.22 **Church of England**, Archbishop of Canterbury Dr. Rowan Williams, 5th July 2004
<http://www.gci.org.uk/speeches/Williams.pdf>

“This kind of thinking [C&C] appears utopian only if we refuse to contemplate the alternatives honestly”

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

4.23 **Scottish Environment Protection Agency**, Report No. SEPA 69/04, 12 October 2004
<http://www.sepa.org.uk/pdf/board/agency/2004/papers/1210/6904.pdf>

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

4.24 **Liberal Democrats, Charles Kennedy**, 16th November 2004
http://www.gci.org.uk/speeches/Kennedy_C&C_Speech.pdf

“If Tony Blair is really serious in making his mark in these areas, the greatest single achievement for the UK’s G8 presidency in combating climate change would be securing agreement among G8 nations, including the United States, that the way forward will be based on this principle of contraction and convergence.”

THE·JOHN·RAY·INITIATIVE

promoting·environmental·sustainability

From the Chairman: Sir John Houghton CBE FRS
Brynhyfryd, Aberdyfi, Gwynedd, Wales LL35 0SN
Email: john.houghton@jri.org.uk

RE: NOMINATION OF AUBREY MEYER FOR THE SASAKAWA PRIZE 2003.

I have been closely connected with the national and international concern and debate regarding Climate Change for some 15 years, particularly through my involvement with the Intergovernmental Panel on Climate Change (as chair or co-chair of the Science Assessment Working Group 1988-2002), the UK Royal Commission on Environmental Pollution (as chairman 1992-1998) and the UK Government Panel on Sustainable Development (member from 1994-2000). The urgent need for international action to mitigate climate change has become increasingly apparent over this period. How the necessary reductions in global emissions of carbon dioxide over the next few decades can be achieved is a vexing question that is concerning all nations in the context of the Framework Convention on Climate Change (FCCC) which they all have signed.

The Principles that should govern international action are generally agreed namely the Precautionary Principle, the Principle of Sustainable Development, the Polluter-Pays Principle and the Principle of Equity (both intergenerational and international). The problem is to turn these into detailed practical long-term arrangements to which all nations can agree. Aubrey Meyer and the Global Commons Institute that he directs, 15 years ago, proposed an arrangement called 'Contraction and Convergence' that was formulated using the simplest possible logic and that well satisfies the four principles. The proposal is visionary in that it clearly addresses the long-term problem; it is also admirably practical. Further, because at its heart is equal per capita sharing of emissions allocations, it provides a unique solution to the equity principle that is the hardest one for the international community to address.

Since the formulation of 'Contraction and Convergence', Aubrey Meyer has tirelessly and selflessly argued for and promoted it with great energy and tenacity in scientific, economic and political fora. Admiration is frequently expressed regarding its elegance and simple logic and it has been widely accepted by policy makers and by NGOs as a basis that should underlie the next stage of policy formulation. For instance, the UK's Royal Commission on Environmental Pollution, in an influential study on Energy published in 2000 used it at the basis of its recommendations. In fact there is no other proposal in play that meets so many of the required principles and criteria or that has any real chance of succeeding. It is bound to be strongly influential in the crucial round of international negotiations in the FCCC that is about to begin.

The personal dedication of Aubrey Meyer, born of a deep concern for global humanity and its future, is what has brought the Contraction and Convergence proposal to the influential position it holds today. I am most pleased to strongly support his nomination for the Sasakawa Prize. I cannot think of a more appropriate recipient.

JOHN HOUGHTON
26 April 2003

Sir John Houghton CBE, FRS (Chairman)
Mrs Claire Ashton (Executive Secretary)
Mr Paul Houghton (Treasurer)
Mr John Salter (Company Secretary)
Dr Peter Carruthers (Executive Director)
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Elisabeth Guilbaud-Cox
Sasawaka Prize
UN Environment Programme
Division of Communications and Public Information
PO Box 30552
Nairobi
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29 April 2003

Nomination for Sasakawa Prize 2003: Aubrey Meyer, Global Commons Institute

It is my great pleasure to write to nominate Mr Aubrey Meyer, director of the London-based Global Commons Institute, for the Sasakawa Prize 2003. This written nomination follows my nomination of Mr Meyer both on the UNEP website and via e-mail.

Since 1990, Aubrey Meyer has been the director of the Global Commons Institute, a small, underfunded and yet astonishingly effective think tank and advocacy organisation focussed on international climate change. From a background in classical music, Aubrey has emerged to be at the forefront of the global climate agenda.

He has run an extraordinary campaign on global climate policy – usually single-handed, and frequently in the face of extreme financial difficulties – which has seen him invited to present his ideas in countries all over the world, attracted the support of governments, heads of state and parliamentarians around the globe, and won the admiration of a bewildering array of leaders in environmental advocacy and campaigning.

At the heart of his efforts has been the ‘Contraction and Convergence’ (C&C) framework for international climate policy, which he devised. C&C is a simple and yet remorselessly logical framework that mandates:

- ❖ a contraction in global emissions, consistent with limiting emissions to a safe level of concentrations in the atmosphere (reflecting the objective of Article 2 of the UNFCCC), and
- ❖ a concurrent convergence of national entitlements under this ‘global emissions budget’ so that all countries arrive at equal per capita entitlements to the atmosphere by an agreed date.
- ❖ full international emissions trading in order to maximise flexibility as well as to give developing countries an incentive to take part in quantified entitlements.

Despite starting out on his campaign with no prior experience of political advocacy work, no funding, no staff and no idea that we would still be running the same campaign more than a decade later, Mr Meyer has clocked up a sequence of extraordinary achievements in his campaign for the logic of C&C to be recognised and adopted. Indeed, there is every possibility that his idea may come to be the basis of how international climate policy is structured in future commitment periods.

As well as promoting C&C within the UNFCCC and beyond, Mr Meyer has also been a tireless and passionate campaigner for the ability of developing countries to participate fully and meaningfully in international climate negotiations, despite their lower capacity compared to developed countries. He played a critical role in helping developing countries to ensure that their concerns over IPCC WG3’s Second

Assessment Report contribution were listened to and acted on – indeed, it is probably no exaggeration to suggest that without Mr Meyer's help, the Second Assessment Report would have gone to press still containing calculations that valued an individual life unequally in developed and developing countries.

I believe that Mr Meyer exemplifies the qualities that the Sasakawa Environment Prize exists to honour. He has shown wisdom, compassion, an understanding of global interdependence that has been an example to me and to many others whom have worked with him, and above all extraordinary and continuing perseverance and tenacity in his campaign. I hope very much that you will consider this nomination positively.

Enclosed is a selection of GCI materials published over the last twelve years (as well as a CD containing the same material), which I hope will be useful to you as background. Please do not hesitate to contact me if I can be of any further assistance to the Selection Committee in its considerations.

Yours sincerely

Alex Evans
Energy and Environment Research Fellow

FROM THE RT HON MICHAEL MEACHER MP
MINISTER FOR THE ENVIRONMENT AND AGRI-ENVIRONMENT

DEFRA
Department for
Environment,
Food & Rural Affairs

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Aubrey Meyer's contribution to the policy debate on how to avoid dangerous climate change has been sustained and outstanding.

Since 1989 he and his tiny organisation - the Global Commons Institute (GCI) - have been successfully challenging officials around the world including politicians like myself to adopt "Contraction and Convergence", GCI's global framework for climate change policies based on precaution, logic and equity

With scant material support and an extraordinary dedication and persistence, he created and communicated this visionary concept for a long-term global framework for negotiating the international allocation of greenhouse gas emissions permits.

He has already convinced numerous leading figures in the international negotiating community, the insurance industry, the scientific community, the environmental media and politics of the absence of effective alternatives to "Contraction and Convergence". So much so that in June 2000, the UK's Royal Commission on Environmental Pollution made it a key recommendation to this government. The concept has been endorsed by the European Parliament and many members of the UK parliament as well, including the former Secretary of State for the Environment, John Gummer and Ministers from practically all European countries. Under GCI's advice the concept was led at the UN negotiations by the Indian Government in 1995 and again by the Africa Group of Nations in 1997. Again as a result of GCI publications, C&C has also been endorsed by numerous eminent individuals and institutions and is more and more widely quoted in prestigious academic publications.

Lest we make the planet uninhabitable, the international community must come soon to an agreement on how to organise the global effort to avoid this. Contraction and Convergence is a very powerful idea and I have no doubt that the concept will continue to be an influential force in discussions, as one model of how greenhouse gas emissions can be allocated in a fair and equitable manner.

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

Citation of Aubrey Meyer, Global Commons Institute, for the Sasakawa Prize,2003

by

Dr Andrew Dlugolecki

Advisory Board Director, Carbon Disclosure Project

Adviser on Climate Change to UNEP Finance Sector Initiative

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 and 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.

Aubrey and his tiny organisation GCI, have laboured tirelessly to bring the concept to every conceivable stakeholder's attention, from governments to NGO's, to the business world, in which I operate. Too often, mitigation is portrayed as being detrimental to economic development. Aubrey has demonstrated through his brilliantly simple graphics, that in fact mitigation is the guarantor of wealth creation, not its nemesis, and that market forces can accelerate the transition to a safer climate. This is a key message in mustering the support of the business world, and already the UNEP Finance Sector Initiative has commended "C&C" to policymakers as a basis for negotiation.

In the forthcoming discussions on how to follow up "Kyoto" with more meaningful action, surely Contraction and Convergence will be the pivotal proposal that reconciles developing and developed nations' ambitions. It is only fitting that Aubrey Meyer should be recognised for creating such a seminal concept, and promoting it so effectively.



ROYAL COMMISSION ON ENVIRONMENTAL POLLUTION
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From The Chairman
Sir Tom Blundell FRS FMedSci

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**Citation of Aubrey Meyer, Global Commons Institute
for the Sasakawa Prize.**

I write to support the nomination of Aubrey Meyer for the Sasakawa Prize. Over the past fifteen years Aubrey Meyer has developed the idea of Contraction and Convergence as an international solution to the challenge of global warming and climate change. He has done this through the Global Commons Institute with very little funding and infrastructure. These ideas influenced the Royal Commission on Environmental Pollution in the development of its report "Energy: the Changing Climate" and Contraction and Convergence was the basis of the recommended 60% reduction in carbon emissions. This recommendation has been taken up by the government in its recent Energy White Paper and is now the generally accepted basis for policy by a range of government, industry and non-governmental organisations.

Aubrey Meyer is a visionary, but it has been hard to get the message through to governments. The award of the Sasakawa Prize would give much support to this very important work, and be a splendid recognition his important contributions.

Sir Tom Blundell,
Chairman,
Royal Commission on Environmental Pollution.

The idea of contraction and convergence is destined to be one of the most important principles governing international relations in the twenty-first 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.

The widespread international recognition and endorsement of contraction and convergence is due largely to the efforts of Aubrey Meyer and the Global Commons Institute. Aubrey has been an indefatigable advocate of the principle as the only long-term solution to the enormous threat posed by climate change.

His commitment has come at considerable personal cost. If the world did not have a few score individuals such as Aubrey it would be a much poorer place, for all great ideas of history must have their passionate advocates. I believe that we are reaching the end of the first phase of the idea of contraction and convergence and it would be fitting to acknowledge Aubrey's extraordinary contribution thus far.

Yours sincerely

Dr Clive Hamilton
Executive Director
The Australia Institute

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Association For Sustainable & Responsible Investment In Asia

To Whom It May Concern,

Aubrey Meyer is testimony to the fact that individual effort can make a difference. It is absolutely remarkable that the idea of Contraction and Convergence has taken such a firm hold worldwide in such a short space of time, especially when you see the tiny operation which has championed this essential idea. I remember at Kyoto in 1997 when policy-makers derided the proposition without a second thought. That type of response has all but disappeared, certainly within the more thoughtful arenas of climate policy.

Through sheer determination, focus and good manners Aubrey has broken through global ignorance and prejudice to make just, common sense prevail... and he has done so on climate change, the most chronic threat which the world currently faces.

We all have a great deal to thank Aubrey for, and I firmly believe that there is no-one better to receive the Sasakawa Award. Please give Aubrey Meyer your greatest consideration.

Yours faithfully,

A handwritten signature in black ink, which appears to read 'Tessa Tennant'.

Tessa Tennant
Executive Chair

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**PROFESSOR DAVID CRICHTON, MA, FCII,
Chartered Insurance Practitioner**

28th April 2003

United Nations
Nairobi

Dear sir/madam,

The UNEP Sasakawa Award

I am a consultant specialising in advising insurance companies on climate change issues. I have advised insurers and governments in four continents on these issues in recent years, and I wish to support the nomination Aubrey Meyer of the Global Commons Institute for this award.

The campaign for "Contraction and Convergence" is fifteen years old this year. The fact that it is now seen by many individuals, governments, and organisations around the world as the only long term equitable and practical solution to global climate change is a tribute to Aubrey's commitment and personal hard work.

The global insurance industry is three times bigger than the fossil fuel industry and controls more than 30% of the world's stocks and shares. The more enlightened sections of the insurance industry, such as those which have signed up to the Statement of Environmental Commitment of the UNEP Insurance Industry Initiative, recognise that it is essential that efforts are made at every level to mitigate future climate change, and Contraction and Convergence is the only effective and fair way to achieve this.

The Global Commons Institute is a very small organisation and if Aubrey were to be awarded a prize, it would make an enormous impact in assisting him in spreading this important message.

Yours faithfully,

David Crichton

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◆ PHONE: 01828 686493 • FAX: 01828 686961
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I first met Aubrey Meyer early in 1992 just prior to INC/V being held in New York. He was trying to arrange a conference on climate and equity issues. Throughout our long telephone conversation I was struck by the beauty of the argument now called the "Contraction and Convergence" theory as well as its simplicity.

In addition, Aubrey himself seemed driven by an utter belief in the principle enshrined in the "C+C" approach. When he later sent me copies of the graphics that back up the "C+C" argument I was blown away by their incisiveness and attention to detail. I have been a believer in "C+C" ever since and maintain that it is the only credible answer to a very complex climate problem.

Aubrey has operated without any major funding ever since I have known him. He relies on other people's goodwill and donations. He has never compromised himself or his idea in order to obtain inappropriate funding. This has to be commended in an ever more commercial world. He tirelessly campaigns for the cause and will never give in despite the forces ranged against him.

Climate politics are entering a decisive phase as we approach the adoption of the Kyoto Protocol and it's strengthening by what ever means are deemed politically acceptable. Never before has GCI needed backing, recognition and funding as now.

To miss this opportunity would be a great shame for a beautifully simple idea that could literally change the future of the human race.

Dr Julian E Salt
Director
Climate Solutions Consultancy



climate network
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28 April 2003

SASAKAWA PRIZE 2003 NOMINATION

RE: AUBREY MEYER

It is with great pleasure that I support the nomination of Aubrey Meyer of Global Commons Institute for the 2003 Sasakawa prize. It is rare to find people with both drive and determination, pushing for a global cause single handedly, the way Aubrey Meyer has done with the concept of Contraction and Convergence for approximately fifteen years.

Aubrey has demonstrated talent, courage and patience with the concept of Contraction and Convergence throughout the history of the United Nations Framework Convention on Climate Change (UN-FCCC) negotiations. They say patience pays. Yes, it does as today, many governments around the world have accepted the concept of Contraction and Convergence as the only equitable response mechanism to the threat of climate change. Without equity considerations, implementation of the Climate Change Convention and the Kyoto Protocol will continue to elude all countries with the tragic consequences of the devastating impacts of climate change.

Many African countries as well as NGOs are aware that the African continent will suffer the most from the impacts of climate change. It is with this in mind that in 1997, the African Group at the UN-FCCC publicly supported in the plenary, the concept of Contraction and Convergence.

I therefore fully support Aubrey Meyer's nomination for the 2003 Sasakawa Prize.

Grace Akumu,
Executive Director,
Climate Network Africa.

ZEAL

Zululand Environmental Alliance

An alliance of associations and persons pro the environment

P. O. Box 12194 Empangeni South Africa 3880

Phone: 035-772-5967 (Chairman's home)

Email address: jmphelps@iafrica.com

30 April 2003

Per email to cna@lion.meteo.go.ke
This letter went to: -

The Director
Climate Network Africa (CNA)
Wood Avenue, Kilimani
P.O Box 76479
Nairobi 00508 - Kenya

Dear Grace

Re: Nomination of Aubrey Meyer for the 2003 SASAKAWA PRIZE

It is with great pleasure that I support the nomination of Aubrey Meyer of Global Commons Institute for the 2003 Sasakawa prize.

Aubrey has brought to bear exceptional determination in advancing the brilliant concept of Contraction and Convergence, over long hard years with the Global Commons Institute—fifteen in all so far. It has been a frequently solitary struggle, and pursued with very limited resources. But Aubrey has not been daunted. Instead he has persevered, driven by his clear-sighted vision of the workability of Contraction and Convergence. His work offers not only a hope that global warming and environmental catastrophe can be averted, but that human reason can be our guiding star. He is one of the rare and vital people in the world today. He has given his life for others, not for personal gain. In a world deluged by self-centred motivations, Aubrey's efforts stand out as a beckoning call in the right direction.

Aubrey has evidenced outstanding intelligence and patience in advancing the concept of Contraction and Convergence during the history of the United Nations Framework Convention on Climate Change (UN-FCCC) negotiations. His patient efforts have been rewarded because many governments in the world today have accepted the concept of Contraction and Convergence as the only equitable response mechanism to the threat of climate change. Without equity considerations as devised in Contraction and Convergence, the Climate Change Convention and the Kyoto Protocol will remain un-implementable and leave all people on earth facing the devastating effects of climate change.

We in South Africa are aware that although the major industrial nations are causing the greatest air pollution, our own country needs comprehensively and urgently to reform its power generation and energy use systems. Aubrey is a South African by origin, and we would hope that if he should be successful in achieving the 2003 Sasakawa Prize, this would help bring a new awareness to our country about contraction and Convergence, and to the world of the threat of global warming to Africa's lands and peoples.

We wholeheartedly support Aubrey Meyer's nomination for the 2003 Sasakawa Prize.

Yours faithfully

Prof. James M. Phelps
Chairman
Zululand Environmental Alliance (ZEAL)



Christopher Layton
 Hon Director General,
 Commission of the European Union
 44 Copperfields
 Horrabridge
 Near Yelberton
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SUPPORTING THE NOMINATION OF AUBREY MEYER FOR THE SASKAWA PRIZE 2003

Aged 42 and halfway through a notable career as a violinist and composer, Aubrey Meyer turned abruptly from music to environmental concerns in 1988 after hearing of the murder of Chico Mendez and the plight of Amazonia and its peoples.

In 1989 to address climate change, he founded the Global Commons Institute (GCI) on the principle Equity and Survival serving since then as Director. GCI's mission has been to arrest global warming addressing its unequal human causes and effects, using the ghg emissions management model developed at GCI called *Contraction-and-Convergence(C&C)*.

Meyer contributed extensive analytical work to the Second and Third Assessments of the IPCC (1995 and 2000), memorably challenging the short-sighted economic discourse in the Second and establishing a beachhead for C&C in the Third.

C&C has gradually had significant impact and success. In 1997 Meyer was awarded the British Environment Media's Andrew Lees Memorial Award, with this citation: -

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

He received the Schumacher Prize in 2000 for continuing these efforts and writing them up in their briefing number 5,

"Contraction and Convergence - the Global Solution to Climate Change.

His unifying inter-disciplinary analysis, original visual imagery, tenacious and focused messaging, amplified now through the rapidly growing e-list the Global Commons Network (GCN), have now made C&C the most widely known and probably the most widely supported proposal for global solution to the global problem of climate change. C&C has generated tens of thousands of references and citations in the media and academia in at least eight languages and C&C is now a byword in the international debate supported by a growing number of eminent individuals and institutions in the sectors of commerce, politics, academia, civil service, civil society and the faith community.

The campaign is still run on a near voluntary basis with one full and one part time staff member on an annual average budget of £15,000. Against the enormity of the issue, this effort to address it has seen GCI recently described as, *the most efficient NGO in history.*

GCI's director is one of the under-sung heroes of our time.

Richard Sandbrook

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Phone +44 208 947 2885
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rsandbrook@aol.com

26 May 2003

To whom it may concern re:

Aubrey Meyer and the Global Commons Institute

I am a private consultant in the arena of Sustainable Development. I am one of UNEP's global 500 award winners and have been associated with the agency since its inception. I was a co-founder of Friends of the Earth and the Director of the International Institute for Environment and Development for 11 years (1988- 1999) I want to support the nomination of the above for the Sassakawa prize.

Contraction and Convergence is the idea of Aubrey Meyer. It is not a complex idea – not at all. But then that is its beauty. It has even been criticised on this basis as if complexity was needed in matters of fairness and global security. It simply has it that all mankind should move progressively toward a common and defined right to emit greenhouse gases. This is the only long-term way to look at the issue and the only long-term way to solve it without discord. To get there we need contraction by some in their emissions and we have to allow for increases by others if they are to develop. We should converge to one level for all.

We cannot achieve the millennium goals and the challenges of Kyoto without contraction and convergence – even if we call it by another name. Aubrey has over the last 15 years persisted in promoting the idea – sometimes to the point of exasperation toward him – sometimes to see the idea renamed and represented under another guise. He is one of those hidden heroes of the environmental movement – unsung and unrecognised - but right.

If this award is about people and institutions that make a real difference then he should be recognised by it. In 50 years time we will talk of Meyer's principle much as we talk about the Kyoto agreements now. I commend him and the Global Commons Institute to you.

The Sassakawa Prize, 2003

Citation of: -

**Aubrey Meyer,
Global Commons Institute,**

By: -

Roger Doudna
Findhorn Community
Scotland
26/05/2003

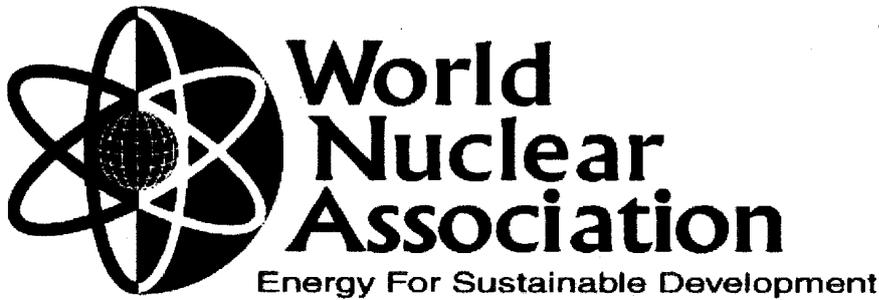
We at Findhorn have been keenly aware of Aubrey Meyer's "Contraction and Convergence" (C&C) proposals. Noting the growing support for them for some years, last Easter we asked him to come here and speak at our 'Restore the Earth' conference.

Compelling integration is what his presentation revealed - how to unify and conceptualise an international programme for the avoidance of the greenhouse gas emissions that are causing global climate to change. With C&C he has done this. He has created a well focused, inclusive - and indeed beautiful - language of principles and practice, and demonstrates this language with images and messages that are clarifying, eclectic, universal and extraordinarily powerful. Perhaps because he is a violinist and composer, he also communicates this as an artist - with insight, integrity and compassion.

His proposal unites the diverse aspects of the climate change problem into the flexible but constitutional simplicity of the C&C solution. This is the great strength of C&C; - shaping adversarial detail into a precautionary, cooperative and enabling rights-based whole. It is wholly numerate and counted into an arrangement founded on precaution and equity. Consequently, hopefulness and empowerment replace the despair that is increasingly felt about the faltering present arrangements for avoiding climate change. As Aubrey says, *"this equity in diversity is not just for its own sake; it is also for survival."*

Aubrey has inspired us with this work. He is now the veteran author of, as well as pilgrim for, this approach. Over fifteen years - with conventionally scant resources and against the odds - he has persuaded more and more people of the merits of the C&C approach. As we are increasingly anxious about the enormity and global complexity of the climate change dilemma, we are grateful that he is being increasingly successful at getting the attention, acceptance and support for C&C from all over the world from ordinary and powerful people in a great diversity of institutions, disciplines and cultures.

We commend him and his work to you to be honoured with your award.



From the Director General

28 April 2003

To the Awarders of the Sassakawa Prize:

I am pleased to have the opportunity to express approval of the nomination made by Christopher Layton, Hon Director General of the Commission of the European Union.

I agree that Aubrey Meyer is the outstanding candidate for the Sassakawa Prize, for two reasons:

First is his simple but brilliant constitutional concept of Contraction and Convergence for avoiding catastrophic climate change.

Second is his relentless and increasingly successful international promotion of this concept over the last fifteen years.

At any rates specified, the C&C model plots two simple things:

- Future greenhouse gas emissions on a global path, via a contraction rate – or or contraction budget – that would stabilise the atmospheric concentration at a safe level; and
- The tradable international permits or shares in this budget that become equal per capita globally at a rate of convergence that is deliberately faster than the contraction rate, and so fair against the historic emissions of the industrial countries.

In the debate about climate change, an impression has been created that the problem is too daunting and complex to prevent. Contraction and Convergence provides a way forward that it is both fair and feasible.

It fulfils the stated goals of the UNFCCC. It satisfies the U.S. Senate's Byrd-Hagel Resolution. And it answers the developing countries' demand for equity.

As such, C&C would resolve the North-South stalemate and enable us to achieve our urgent global emissions-reduction imperative.

Aubrey has matched the craft of his C&C model with the skill and guts to fight for – and win – friends for it all over the world. For more than a decade, he has done this independently and with no institutional support.

His achievement is not just impressive but inspirational. C&C is now at the centre of the IPCC and UNFCCC policy debate as the most widely referenced and cited approach. It has been profoundly influential in commercial, religious and academic circles, as well in the civil service, civil society and the media.

C&C is rapidly becoming the most widely recognised successor to the Kyoto Protocol.

Whatever technologies come into play in humanity's quest to make and share a sustainable future, C&C will inevitably be the framework we use.

By recognising Aubrey's achievement, the Sassakawa jury will help speed our quest for a solution to a global crisis without precedent.

I can think of no person and no idea more deserving of your reward.

Yours sincerely,



John Ritch

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Statements by Individuals

Compilation of References to the
Contraction and Convergence Policy Proposal
1995 - 2002

1995	April - Indian Environment Minister
1997	Richard Richels (EPRI), Alan Manne (Battelle)
	October - Dr Song Jian, China State Councilor Climate Change
	December - Prof Saifuddin Soz, Indian Environment Minister
	December - Tom Spencer, Chair Euro-Parliament. Foreign Affairs Com.
1998	October - Tony Blair, Prime Minister United Kingdom
	October - Sir Robert May, UK Government Chief Scientist
	November - US Congressman John Porter, Chair GLOBE USA
1999	April - Michael Meacher UK Minister of the Environment
	June 9 - David Chaytor MP
	June - Klaus Topfer, Director UNEP
2000	February - Ambassador Raul Estrada, Chair Kyoto Negotiations
	April - Svend Auken, Danish Environment Minister
	July - Jan Pronk, Chair COP- 6, Environment Minister Netherlands
	November - Jaques Chirac, President of France - COP6
	May - Sir John Houghton, Chair IPCC WG1
2001	June 26 - John Oliver, Lord Bishop of Hereford
	August - Nyier Abdou, Al Ahram Newspaper
	August - Julian E Salt, UK Loss Prevention Council
	September - Kjell Larsson, Swedish Environment Minister
	October - John Porter, US Parliamentarian Chair GLOBE USA
	October - Robert Stavins, Director, Environment Economics Program, JFK School of Government, Harvard University
	November 22 - Michael Meacher, UK Environment Minister
	November - Olivier Delouze, Belgian Environment Minister
	October - Michael Meacher, UK Minister of the Environment

2002 **1**

January - Adair Turner, former Director of the CBI

February - Marcel M. Berk, Michel G.J. den Elzen.

February - Hans H.Kolshus, Cicerone

July - John Ritch - Director General World Nuclear Association

June 1 - Rodney R. White - Department of Geography & Institute for Environmental Studies, University of Toronto

August 18 - Right Reverend John Oliver - Bishop of Hereford.....

1995

April - Indian Environment Minister

"We face the actuality of scarce resources and the increasing potential for conflict with each other over these scarce resources. The social, financial and ecological inter-relationships of equity should guide the route to global ecological recovery.

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

1997

Richard Richels (EPRI), Alan Manne (Battelle)

At the Symposium on the Economics of Climate Change:

"We begin with one widely discussed proposal: a transition to equal per capita emissions rights (globally) by 2030," again allowing the expedient of a "prescription" to "solve" what is otherwise insoluble.

October - Dr Song Jian, China State Councilor Climate Change

"When we ask the opinions of people from all circles, many people, in particular the scientists think that the emissions control standard should be formulated on a per capita basis. According to the UN Charter, everybody is born equal, and has inalienable rights to enjoy modern technological civilization. Today the per capita consumption is just one tenth of that of the developed countries, one eighth of that of medium developed countries. It is estimated 30-40 years would be needed for China to catch up with the level of medium developed countries."

December - Prof Saifuddin Soz, Indian Environment Minister

"In any discussion, "Contraction and Convergence"; the central point is entitlements - equitable per capita entitlements. At Kyoto we had stressed that any discussion on emissions trading ought to be framed in terms of per capita entitlements. Any trading can take place only after the emissions entitlements of the trading partners is defined and legally created - equitably of course. Historical emissions are iniquitous and cannot be the basis of entitlements. Entitlements will define the sharing of the atmosphere on an equitable basis which also brings together all the cooperative mechanisms in the Kyoto Protocol in a common framework."

December - Tom Spencer, Chair Euro-Parliament. Foreign Affairs Com.

"Many of you know the Contraction and Convergence analysis. It offers a framework for an answer. It offers an envelope of equity within which we can trade and barter our way to collective sanity in the coming decades."

1998

October - Tony Blair, Prime Minister United Kingdom

"In the fight against climate change the Contraction and Convergence proposal makes an important contribution to the debate on how we achieve long-term climate stability, taking account of the principles of equity and sustainability."

October - Sir Robert May, UK Government Chief Scientist

"Thank you for the information on "Contraction and Convergence" policy and the efforts by GCI and GLOBE to build up global support for it. These matters are clearly of great importance and I would agree that this approach merits full consideration, including at the senior international political level, along with other ideas contributing to the development of a workable global climate strategy."

November - US Congressman John Porter, Chair GLOBE USA

GLOBE stands for Global Legislators Organisation for a Balanced Environment. It is an international network of Parliamentarians committed to working in a global non-partisan manner for legislation to protect the environment.

"Meaningful progress on confronting the challenge of climate change will only occur when countries from the North and the South are able to collaborate in issues of significant and sustainable development. The GLOBE Equity Protocol - Contraction and Convergence - and its mechanism for financing sustainable development is the only proposal so far which is global, equitable and growth-oriented. It is these issues that were endorsed at the GLOBE International General Assembly in Cape Cod, and form the thrust of our paper (Nov 1998), "Solving Climate Change with Equity and Prosperity."

1999

April - Michael Meacher UK Minister of the Environment

"I do believe that contraction and convergence provides an effective, equitable market-based framework within which Governments can co-operate to avert climate change, and again congratulate you on your campaigning to bring this about."

June 9 - David Chaytor MP

"In many analysts' opinion, a policy of contraction and convergence provides the way out of the logjam. Under such a policy, each nation would be allocated a quota of emissions based on population, and set in the context of agreed environmental limits. Over time, industrial nations would be required gradually to reduce emissions, while developing countries would be permitted gradually to increase theirs, until a point was reached at which the emissions quotas of all countries were relatively equal.

That seems to provide the only practical and principled resolution of the conflicting interests of the developed world and the developing world, based on equal rights for all human beings. I urge the Government to present the case for contraction and convergence as a realistic means of facilitating the ratification of the Kyoto protocol. I commend the research conducted by the Global Commons Institute in developing that model. "

June - Klaus Topfer, Director UNEP

"Convergence - The review system of Kyoto mechanisms can ensure equity. Currently CO2 emissions rights are allocated according to existing emissions patterns with a specified reduction percentage for various countries within a certain period of five years (2008-2012). The redistribution through the Kyoto Protocol could be continued until emissions rights are uniformly distributed on a per capita basis. This will be a critical element to ensure the poor also get rights to utilise the world's environment, or in this limited case, the assimilative capacity of the atmosphere, a global commons resource."

2000

February - Ambassador Raul Estrada, Chair Kyoto Negotiations

"Long before the end of the Framework Convention negotiation, the Global Commons Institute has presented a proposal on "Contraction and Convergence", aimed to reach equality in emissions per capita. We all in this room know the GCI model where contraction is achieved after all governments, for precautionary reasons, collectively agree to be bound by a target of global GHG emissions, making it possible to calculate the diminishing amount of greenhouse gases that the world can release each year in the coming century, subject to annual scientific and political review. The convergence part of the proposal means that each year's global emissions budget gets shared out among the nations of the world so that every country converges on the same allocation per inhabitant by an agreed date. Countries unable to manage within their shares would, be able to buy the unused parts of the allocations of other countries. The entitlement of rights transferred in this trading is legitimised by the per inhabitant criteria. 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."

April - Svend Auken, Danish Environment Minister

"The approach of "Contraction and Convergence" is precisely such an idea. It secures a regime that would allow all nations to join efforts to protect our global commons from being over-exploited, without the risk that any country would be deprived of its fair long-term share of the common environmental emission space. And it allows for consistent and efficient management of the global emissions that would enable us to strive for constraining global interference with the climate below fixed ceilings, such as the max 2 degrees temperature rise, and the max. 550 ppmv CO2-concentration, recommended by the European council of ministers."

July - Jan Pronk, Chair COP- 6, Environment Minister Netherlands

"Contraction and Convergence" - most equitable . . . easier & cheaper than alternatives. "
. . .The debate about broadening participation of developing countries in the global effort to stabilize greenhouse concentrations in the atmosphere at sustainable levels has the tendency to focus first on the most advanced developing countries. Suggestions have been made for commitments for those developing countries in the period after 2012 in terms of increased energy or greenhouse gas efficiency. In other words: not an absolute cap, but a relative efficiency improvement in the production structure of developing countries. This strategy would imply that developing countries gradually start participating, as they achieve a certain level of economic development. That is a reasonable and realistic option. However, it can be argued that such gradual participation would only lead to a slow decline of global emissions, even if current industrialized countries would drastically decrease their emissions. As a result

global average temperature increase would significantly exceed the 2 degrees centigrade limit that could be seen as the maximum tolerable for our planet. There are alternatives for this scenario. Some developing countries have argued for an allowance of equal emissions per capita. This would be the most equitable way to determine the contribution of countries to the global effort. If we agree to equal per capita emissions allowances for all countries by 2030 in such a way that global emissions allow us to stay below the 2 degrees global temperature increase (equivalent to about 450 ppmv CO₂), then the assigned amounts for Annex B countries would be drastically reduced. However, due to the fact that all countries would have assigned amounts, maximum use of global emissions trading would strongly reduce the cost of compliance. So, in such a scenario, industrialized countries would have to do more, but it would be cheaper and easier . . . "

November - Jaques Chirac, President of France - COP6

"Since 1992, we have fallen too far behind in the fight against global warming. We cannot afford any further delay. That is why, I can confirm to you here, Europe is resolved to act and has mobilized to fight the greenhouse effect. Europe calls upon the other industrialized countries to join with it in this fight. And Europe proposes to the developing countries to join it in a partnership for sustainable development. Let us start thinking about the post-Kyoto period without further ado. Tomorrow, it will be up to us to set forth the rights and duties of each, and for a long time to come. To move forward while respecting individual differences and special circumstances, France proposes that we set as our ultimate objective the convergence of per capita emissions. This principle would durably ensure the effectiveness, equity and solidarity of our efforts."

May - Sir John Houghton, Chair IPCC WG1

"Three widely accepted principles will govern the international agreements needed to meet the threat of climate change. (1) The Precautionary Principle, already clearly embedded in the UNFCCC agreed at the Earth Summit in Rio in 1992. This states that the existence of uncertainty should not preclude the taking of an appropriate action. The reason for such action is simply stated as the stabilisation of the concentrations of greenhouse gases (such as CO₂) in the atmosphere in ways that allow for necessary economic development. (2) The Polluter Pays Principle, which implies measures such as carbon taxes or carbon trading arrangements. (3) The principle of Equity, both intergenerational and international - the most difficult to apply. However a proposal of the Global Commons Institute - "Contraction-and-Convergence" (C&C)" - that is being widely discussed applies these principles by allowing eventually for the allocation of carbon emissions to nations on an equal per capita basis while also allowing for emissions trading."

2001

June 26 - John Oliver, Lord Bishop of Hereford

My Lords

. . . We need to take to heart the advice of the Royal Commission published last year to put in place a programme which takes account of the legitimate needs and aspirations of the developing countries and works on the principle of contraction and convergence of greenhouse gas emissions.

August - Nyier Abdou, Al Ahram Newspaper

"This point is stressed by Aubrey Meyer, director of the UK group the Global Commons Institute (GCI) and author of -Contraction and Convergence: the Global Solution to Climate Change- (Green Books). Without a feasible and binding plan for dealing with global warming, Meyer predicts climate change will wreak havoc on the developing world. Talking to the Weekly, Meyer noted that population increases will inevitably increase the number of people affected by natural — and, indeed, "unnatural" disasters. "If these occur [in places] where there are already local conflicts over the use of land and other resources — as with storms in Orissa or droughts in the Middle East, for example — these impacts can only aggravate such conflicts."

.....

"The level of greenhouse concentration in the atmosphere at this time is higher than anywhere in data sets going back half a million years," says GCI's Meyer. "Historically these levels have varied but at significantly lower average value than the levels we have achieved since the industrial revolution began around 200 years ago. It is possible — perhaps probable — that continuing this unrelenting pulse of human emissions will trigger global climatic upheaval." Referring to the claim that it is not clear that anything has indeed gone "wrong," Meyer insists, "The point [Lindzen] makes is simply: if there isn't a problem, don't fix it. However, it is obvious that there is a problem, and that we are all going to be broke if we don't fix it."

August - Julian E Salt, UK Loss Prevention Council

Commenting for the UN Observer, on the risk management of climate change, Julian Salt of the UK Loss Prevention Council and BRE writes,

" Contraction & Convergence" would be the driving principle behind the new approach.

Contraction & Convergence targets (upper global cap on emissions and convergence point) would be adjusted according to the latest scientific findings emanating from the IPCC. The upper carbon cap could be adjusted downwards if the latest findings showed that climate change was increasing at a dangerous rate.

Two new protocols would be created to deal with the issue of sinks (forestry) and new technology (renewables). Carbon credits for enhanced sink capacity and use of renewable energy would be overseen by a Carbon Credit body.

Emissions trading would still exist but initial allocations of credits would be based on the equity principle (population based).

Ideally, the ultimate end time-frame for completion of the "C&C" process would be 2050 or sooner if possible. Emissions contraction should start immediately to be effective. Time is of the essence."

September - Kjell Larsson, Swedish Environment Minister

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

October - John Porter, US Parliamentarian Chair GLOBE USA

"Meaningful progress on confronting the challenge of climate change will only occur when countries from the North and the South are able to collaborate in issues of significant and sustainable development. The GLOBE Equity Protocol - Contraction and Convergence - and its mechanism for financing sustainable development is the only proposal so far which is global, equitable and growth-oriented.

It is precisely these issues that were endorsed at the GLOBE International General Assembly in Cape Cod, and form the thrust of our recently released (Nov 1998) paper, "Solving Climate Change with Equity and Prosperity."

October - Robert Stavins, Director, Environment Economics Program, JFK School of Government, Harvard University

"This (Contraction and Convergence) is a long-term standard that is difficult to find fault with, and has much to recommend it on ethical grounds and in terms of parsimony.

I think it's quite reasonable that the ultimate greenhouse-gas emission standard (i.e. allocation mechanism of targets among countries) toward which the entire community of nations might work over the long term would be one linked with equal per capita emissions assuming that cost-effectiveness could still be achieved through simultaneous provision for international trading or some other mechanism that would facilitate the equating of marginal abatement costs."

November 22 - Michael Meacher, UK Environment Minister

At the UK Environment Council's climate conference for business in London, Michael Meacher was the keynote speaker.

In answering questions from the Loss Prevention Council regarding the relationship between Kyoto Protocol and C&C, Mr Meacher gave a detailed explanation of C&C saying,

'C&C is not 'Plan B', it is 'Plan A-Plus'.

(see announcement at: - <http://www.the-environment-council.org.uk/>)

November - Olivier Delouze, Belgian Environment Minister

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

October - Michael Meacher, UK Minister of the Environment

"I find it an appealing concept. It is obviously absolutely profound in its implications. It is normally known under the title of Contraction and Convergence, in other words the developed countries contract their emissions, which is what Kyoto is all about, and we get convergence with the developing countries as they industrialise and increase their emissions....I do not think it is pie in the sky. It is certainly not just a conceptual philosophy. We are moving remorselessly in that direction"

2002

January - Adair Turner, former Director of the CBI

(His) ". . . analysis really starts to pack a punch when he turns to the environment. Here, after all, is a case of massive market failure.

Take climate change, which "is likely to impose massive economic costs... The case for being prepared to spend huge resources to limit it is clear," he says, arguing that the cost will be repaid many times over by the avoidance of disaster.

In any case, "the developed world does not have the moral right to increase the risk of flooding in Bangladesh", and, he adds acidly, "European executives worried about the cost of action should perhaps consider it the necessary price for preserving at least some skiing in the Alps."

Long term, says Turner, 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."

Article at: <http://www.greenfutures.org.uk/features/default.asp?id=905>

February - Marcel M. Berk, Michel G.J. den Elzen.

"Options for differentiation of future commitments in climate policy: how to realise timely participation to meet stringent climate goals?"

"Where climate change limits are stringent, a C&C regime seems to provide more incentives for a timely participation of developing countries, and better opportunities for an effective and efficient regime for controlling global GHG emission control than increasing participation."

Netherlands National Institute for Public Health and the Environment (RIVM), P.O. Box 1, 3720 BA Bilthoven, The Netherlands

Paper retrievable at: [-http://www.gci.org.uk/papers/berkelz.pdf](http://www.gci.org.uk/papers/berkelz.pdf)

February - Hans H.Kolshus, Cicerone

"While the Kyoto Protocol may represent an important political achievement, its expected impact on the climate is marginal at best. The agreement is nowhere near sufficient for stabilizing or reducing the concentration of greenhouse gases in the atmosphere, partly because developing countries have not committed to reducing their emissions in this round. Future climate negotiations must therefore contain more ambitious targets as well as the participation of developing countries. In an attempt to realize this aim, the Global Commons Institute has proposed that emissions entitlements be allocated on a per capita basis....

The method, called "contraction and convergence" (C&C), was first developed by Tony Cooper and Aubrey Meyer in the spring of 1996....

A team from GCI then presented the idea to the second Conference of the Parties (COP 2) in Geneva, in July 1996. Since then, the idea has garnered support from more and more governments and NGOs."

Article at: <http://www.cicero.uio.no/media/549.pdf>

July - John Ritch - Director General World Nuclear Association

". . . . A serious climate regime – if one is to evolve – must go far beyond Kyoto, by encompassing all nations and by employing some variation of the concept known as "contraction and convergence":

Contraction means that over the century ahead we must plot a path that will reduce overall global emissions by at least 50% – even as populations and economies expand. Convergence means that, in this process, we must accept the principle that every person on Earth is entitled to an equal per-capita level of emissions.

Stated in this stark manner, the goal of 50% contraction seems draconian, while the principle of equal entitlement to emissions seems utopian. In fact, both concepts are eminently practical.

As to contraction, nothing short of a 50% emissions reduction offers any hope of averting catastrophic climate change. This cutback – entailing a 75% reduction in today's advanced economies – accomplishes no more than stabilizing global greenhouse gases at a level over twice that which existed just two centuries ago.

As to convergence, nothing other than the principle of equal entitlement offers a basis for the global consensus on which an effective climate regime must depend. Equal entitlement does not mean equal emissions; it is, rather, the basis for an allocation of rights on which a fair and rational emissions trading system can be built.

A system based on this principle – and, I venture to say, only a system based on this principle – can be designed to produce the sense of equity, the predictability, and the sound economic incentives needed for smooth transition into a clean-energy future. These incentives can work constructively in developed and developing countries alike.

In this schema, the sense of equity and predictability are created at the very outset of the regime. A nation's population size at an agreed point would be the basis for establishing its long-term emissions ceiling, toward which it would be committed to move on a steady path. To facilitate a smooth and economically rational transition toward that goal, emissions trading would enable countries and companies to chart their own best path – selling permits where possible, buying them when necessary. The rate of convergence to a common level would be designed to ensure that, during the long transition, already-industrialized nations as a whole would find it advantageous to purchase emissions permits from countries less developed. This capital flow could serve the common interest in sustainable development by financing clean-energy infrastructure in the developing world.

Building this regime is not beyond human wit. Indeed, its simplicity and feasibility stand in favourable contrast to the chaos, social dislocation, vast expense and human misery that unrestrained climate change could bring – and from which no nation would be immune."

June 1 - Rodney R. White - Department of Geography & Institute for Environmental Studies, University of Toronto

Today I am going to take the position that an essential part of a successful implementation phase for the (Kyoto) Protocol is a progressive reduction in emissions, moving towards equal per capita emissions rights throughout the world.

This position is sometimes called 'contraction and convergence'. It may seem like the other end of the traditional ideological spectrum compared with a position that espouses emissions trading.

Contraction and convergence is based on equity – in the justice sense. It may seem absurdly optimistic. However, I think it has to be part of the plan, so that we can all share a common sense of direction."

<http://www.gci.org.uk/papers/SilvLining.pdf>

Statements by Organisations

Compilation of References to the
Contraction and Convergence Policy Proposal
1997 - 2002

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Contraction and Convergence Policy Proposal
1997 - 2002

1997	4
August - The Africa Group of Nations	
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August - The GLOBE Southern Africa Network	
September - Non-Aligned Movement (NAM)	
October - European Parliament	
November - UNCTAD, Elements of a "Buenos Aires Mandate"	
1999	5
1999 - Christian Aid	
2000	
April - Charter 99 Declaration	
June - Int. Federation of Red Cross & Red Crescent Societies	
June - Royal Commission on Environmental Pollution (RCEP)	
2001	8
March 6 - Royal Institute of International Affairs	
March 20 - UK Liberal Democrats	
March - UK Chartered Insurance Institute (CII)	
April - UNA UK	
May - FoE Finland on Climate Equity	
June - IPCC Third Policy Assessment	
July - USS Research Report No 1	
August - British Telecom	
August - IPCC Third Policy Assessment	
September - The Corner House	
September - The Australia Institute	
October - Tellus Institute	
October - UK Green Party	
November - UNEP FI - Statement COP7	
November - NEF/Jubilee Plus	
November - British Petroleum	
November - "Global Public Goods", Swedish Foreign Affairs	
December - UK Tyndall Centre	
December - Quakers	

2002 1

January - SERA - "Socialist Environment and Resources Association"	
February - Swedish Ministry of Foreign Affairs 2001	
February - Delhi Sustainable Development Summit 2002	
February - Dutch Parliament	
February - Department for Trade and Industry - Inter Agency Group	
February - Energy Review, UK Cabinet Office Performance & Innovation Unit	
February - IIED/RING	
February ... World Bank - Summary of the E-Discussion on the Environment a Poverty	
March - World Bank Report - "Globalization, Growth & Poverty"	
April 18 - Christian Ecology Link	
April 20 - The Foundation for the Economics of Sustainability	
April 24 - DTQs	
April 24 - EC Letter	
April - Sky Trust	
May - C&C in Heinrich Boell Foundation Report for WSSD	
June 8 - Tyndall Centre UK -	
June 8 - Tyndall Centre UK - "The Use of Integrated Assessment: An Institu- tional Analysis Perspective"	
June 8 - Uranium Institute	
June - Wilton Park Conference "Climate Change: What Can Be Done?"	
July 2 - World Nuclear Association	
July - Dept For International Development - Select Committee Report	
July - Unrepresented Nations and Peoples Organisation (UNPO)	
August - The World Council of Churches (WCC)	
September - Department of Physical Resource Theory, Chalmers University o Technology, Göteborg University, Sweden	
September - "New Economy" from the Institute for Public Policy Research (IPPR)	
September - World Bank	
October - "UNEP Financial Initiative - on C&C	

1997

August - The Africa Group of Nations

"As we negotiate the reduction of GHG, the countries of Africa believe that there should be certain principles that need to be clearly defined. A globally agreed ceiling of GHG emissions can only be achieved by adopting the principle of per capita emissions rights that fully take into account the reality of population growth and the principle of differentiation."

1998

August - The GLOBE Southern Africa Network

1 Members of Parliament and Members of the GLOBE Southern Africa Network . . . Support the adoption of a mandate at Buenos Aires to redefine the way in which greenhouse emission cuts are shared between countries under the Kyoto Protocol, following instead the principle of global equity enshrined in the Contraction and Convergence analysis,

2 Specifically work to ensure that all future development of the UNFCCC and its related instruments will be consistent with these interdependent principles of global equity and sustainability;

3 And rebut any recourse to "flexibility mechanisms" that are not derived from the interdependent application of these principles of sustainability and global equity;

September - Non-Aligned Movement (NAM)

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

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

October - European Parliament

This is a formulation of C&C by the Parliament that was carried by 90% of the vote. It reflects inter alia that nearly all European Environment Ministers have also publicly endorsed C&C.

"Calls on the Commission & Member States to take the lead in brokering an agreement on a set of common principles & negotiating framework beyond COP4 based on:

1- agreement to have a worldwide binding limit on global emissions consistent with a maximum atmospheric concentration of 550 ppmv CO2 equivalent,

2- initial distribution of emissions rights according to the Kyoto targets,

3- progressive convergence towards an equitable distribution of emissions rights on a per capita basis by an agreed date in the next century,

4- across-the-board reductions in emissions rights thereafter in order to achieve the reduction recommended by the Intergovernmental Panel on Climate Change (IPCC),

5- an agreement to have a quantitative ceiling on the use of flexibility mechanisms that will

ensure that the majority of emission reductions are met domestically in accordance with the spirit of articles 6, 12 and 17 of the Kyoto protocol; in this context trading must be subject to proper monitoring, reporting and enforcement;

6- an adequately financed mechanism for promoting technology transfer from Annex 1 to non-Annex 1 countries;”

November - UNCTAD, Elements of a “Buenos Aires Mandate”

“. . . meaningful participation by key developing countries will loom large in the post-Kyoto period. Much attention will focus on efforts to (a) further define and operationalise the Clean Development Mechanism (CDM) and to (b) agree possible criteria for the participation of developing countries in international emissions trading. Drawing on the Kyoto experience, some possible elements for a mandate regarding participation of developing countries in emissions trading could include the following: -

1 Participation in emissions trading should be on a voluntary basis. (While the trading system can be designed to benefit all developing countries, it seems that the larger industrially advanced, fast-growing developing countries might be the primary beneficiaries of the system).

2 Legally binding limits (for countries that wish to join the emissions trading system) should be based on emissions growth, not on emissions reductions. The principle was recognised during the Kyoto negotiations. Growth limits would enable the developing countries to continue to pursue their industrialisation but on a more environmentally sustainable basis. (In principle, emissions growth in Non-Annex One countries should be compensated for by deeper reductions by Annex One Parties leading to ‘Contraction and Convergence’ of per capita emissions between both sides).

3 Negotiations could be based on national offers from developing country Parties. Offers by regional groupings such as ASEAN and MERCOSUR should also be considered.

In addition to existing flexibility mechanisms, developing countries should be allowed to introduce ‘partial caps’ which, for example, could be based on industrial sector limits and coupled with joint implementation in the uncapped sectors, as a form of progressive restriction towards the imposition of a national cap.

1999

1999 - Christian Aid

Who owes who? - Climate change, debt, equity and survival

“The history of the climate talks is one of division between developing countries wanting entitlements to be proportional to population, whilst the industrialised countries want entitlements proportional to the size of their economies’ GDP. The path to get from one to the other, from grand fathering’ - unequal rights drawn down by historical precedent - to equal per capita shares, is contraction and convergence. Entitlements in this analysis are based on people rather than on economic wealth. ”

Full document at: www.christian-aid.org.uk

2000

April - Charter 99 Declaration

Inter alia

" Declare climate change to be an essential global security interest and establish a high-level international urgent action team to assist the UN Conference of the Parties on Climate Change to set a scientifically based global ceiling on greenhouse gas emissions, to allocate national shares of permissible emissions based on convergence to equal per capita rights, and to work with governments, companies, international agencies and NGOs to cut emissions of greenhouse gases to a sustainable level."

Full list of signatories at: www.charter99.org/charter/signatories.html

June - Int. Federation of Red Cross & Red Crescent Societies

World Disasters Report 2000 Box 7.2 A Climate of Debt" <http://www.ifrc.org/>

"No one owns the atmosphere, yet we all need it. So we can assume that we all have an equal right to its services – an equal right to pollute. On the basis of the minimum cuts in total carbon dioxide pollution needed to stabilize the climate, estimated by the Intergovernmental Panel on Climate Change to be between 60 to 80 per cent of the pollution levels reached in 1990, and assuming that we all have an equal right to pollute, rich countries are running up a massive climate or 'carbon' debt. By using fossil fuels at a level far above a threshold for sustainable consumption, year after year the carbon debts of rich countries get bigger. 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."

June - Royal Commission on Environmental Pollution (RCEP)

"The Need for an International Agreement", "Contraction & Convergence"

"3. The government should press for a future global climate agreement based on the 'Contraction and Convergence' approach, combined with international trading in emission permits. Together, these offer the best long-term prospect of securing equity, economy and international consensus (4.69)."

4.47 Continued, vigorous debate is needed, within and between nations, on the best basis for an agreement to follow the Kyoto Protocol. Our view is that an effective, enduring and equitable climate protocol will eventually require emission quotas to be allocated to nations on a simple and equal per capita basis. There will have to be a comprehensive system of monitoring emissions to ensure the quotas are complied with. Adjustment factors could be used to compensate for differences in nations' basic energy needs. Those countries which regularly experience very low or high temperatures might, for instance, be entitled to an extra allocation per capita for space heating or cooling.

4.48 A system of per capita quotas could not be expected to enter into force immediately. At the same time as entitling developing nations to use substantially more fossil fuels than at present (which they might not be able to afford), it would require developed nations to make drastic and immediate cuts in their use of fossil fuels, causing serious damage to their economies.

4.49 A combination of two approaches could avoid this politically and diplomatically unacceptable situation, while enabling a per capita basis to be adhered to. The first approach is to

require nations' emission quotas to follow a contraction and convergence trajectory. Over the coming decades each nation's allocation would gradually shift from its current level of emissions towards a level set on a uniform per capita basis. By this means 'grandfather rights' would gradually be removed: the quotas of developed nations would fall, year by year, while those of the poorest developing nations would rise, until all nations had an entitlement to emit an equal quantity of greenhouse gases per head (convergence). From then on, the quotas of all nations would decline together at the same rate (contraction). The combined global total of emissions would follow a profile through the 21st and 22nd centuries that kept the atmospheric concentration of greenhouse gases below a specified limit.

4.50 The upper limit on the concentration of greenhouse gases would be determined by international negotiations, as would the date by which all nations would converge on a uniform per capita basis for their emission quotas, and the intermediate steps towards that. It would probably also be necessary to set a cut-off date for national populations: beyond that date, further changes in the size of a country's population would not lead to any increase or decrease in its emission quota.

4.51 In table 4.1 17 we have applied 'Contraction and Convergence' approach to carbon dioxide emissions, and calculated what the UK's emissions quotas would be in 2050 and 2100 for four alternative upper limits on atmospheric concentration. We have assumed for this purpose that 2050 would be both the date by which nations would converge on a uniform per capita emissions figure and the cut-off date for national populations. If 550 ppmv is selected as the upper limit, UK carbon dioxide emissions would have to be reduced by almost 60% from their current level by mid-century, and by almost 80% by 2100. Even stabilisation at a very high level of 1,000 ppmv would require the UK to cut emissions by some 40% by 2050.

4.52 The UK-based Global Commons Institute has taken the lead in promoting 'Contraction and Convergence', and has developed a computer model that specifies emission allocations under a range of scenarios. The concept has been supported by several national governments and legislators. Some developed nations are very wary of it because it implies drastic reductions in their emissions, but at least one minister in a European government has supported it. Commentators on climate diplomacy have identified contraction and convergence as a leading contender among the various proposals for allocating emission quotas to nations in the long term.

4.53 The other ingredient that would make an agreement based on per capita allocations of quotas more feasible is flexibility of the kind already provided in outline in the Kyoto Protocol. Nations most anxious to emit greenhouse gases in excess of their allocation over a given period will be able and willing to purchase unused quota at prices that incline other countries to emit less than their quota, to the benefit of both parties. The clean development mechanism, which allows developed nations to claim emission reductions by sponsoring projects that reduce emissions in developing nations to levels lower than they would otherwise have been, can also be seen as a form of trading.

4.54 In the longer term trading by companies in emission permits, drawn from national emission quotas determined on the basis of a contraction and convergence agreement, could make a valuable contribution to reducing the global costs of stabilising greenhouse gas concentrations while transferring resources from wealthy nations to poorer ones. Trading needs to be transparent, monitored and regulated, and backed by penalties on nations that emit more than they are entitled to. If it became merely a means of enabling wealthy nations to buy up the emission entitlements of poor countries on the cheap, thereby evading taking any action at home, trading would not serve the cause of climate protection. Nor would it if developing countries that had sold quota heavily went on to emit in excess of their revised entitlements.

2001

March 6 - Royal Institute of International Affairs

After PM Tony Blair's Green Speech, Mr Malhoutra Secretary General of the Rajiv Gandhi Foundation made a speech including the following remarks.

" . . . the basis of global governance architecture for sustainable development must begin to be addressed.

What principles should determine issues such as entitlements, resource allocations, consumption practices and so on? The climate negotiations have given the issue immediacy. On what basis will drawing rights to global common goods such as atmospheric space be established?

Will developing countries be brought to the table on the principle of equity i.e. convergence of per capita emissions over an agreed period of time?

The impact of global warming will fall much more heavily on developing countries, introducing yet another factor of inequity in the North-South relationship. Climate change is not just about economics and keeping the world safe for corporate and personal capitalism, but about very complex ethical and social justice issues that civil society must address in a proactive manner. Where does the northern NGO community stand on this issue? And why is there not more public anger at the wanton and utterly irresponsible behaviour of industrialized countries? They have ignored the precautionary principle for a very long time and continue to pass the buck.

Nero fiddled while Rome burned: what shall one say of the West when Earth caught fever?"

[Full speech at <http://www.gci.org.uk/articles/Malhoutra.pdf>].

March 20 - UK Liberal Democrats

From Speech by the Rt Hon Charles Kennedy MP

Leader of the UK Liberal Democrats.

At Green Alliance 20th March 2001

" . . . So I think we have to think differently on climate change. And I want to flag up two areas, that I think we must consider ways of taking more effective action on climate change.

The first area embraces the principle of equity. On a planet where the most precious of commodities, a stable climate, is under threat, emissions could be rationed, through contraction of emissions, and convergence of national use of energy.

That means that every citizen could in the long run have an equal emission quota. There could hardly be a more obvious application of the notion of Universal Human Rights enshrined in the United Nations Charter. There are many different options for implementing a scheme. Quotas could be introduced gradually, and they could be tradeable. But whatever options are adopted, it is a proposal that may well offer the way forward.

The second area I want to flag up, is the role of Europe in climate change. Europe has shown the way before. In 1945, European nations realised that to revive yet also contain Germany there must be a community of equals.

Half a century later the key problem for the planet is climate change and Europe must again lead in the co-operative game. Europe should take the initiative to invite all the major nations and regions to form a Global Climate Community on the basis of commitments to reducing emissions and then ensuring that the emissions of different countries reach a happy medium. Contraction and convergence.

To be useful such an initiative must include from the start, not only Europe but major developing nations such as India. America and some others may not join at first. But they will have a major incentive to join or they will be excluded from the massive emissions market which will develop. Britain is in a unique position to ensure that the project gets off the ground. Britain's own experience and Atlantic and worldwide links could make it a valuable initiator of such a scheme."

full speech at <http://www.gci.org.uk/speeches/Kennedy.pdf>

March - UK Chartered Insurance Institute (CII)

A report by the Society of Fellows for CII on global climate change sees C&C as: -

"The most realistic way to bring about the required reduction in ghg emissions (which will have the combined effect of reducing the damage imposed on the insurance industry and encouraging the transition to renewable energy) is that proposed in the concept of 'Contraction and Convergence' (C&C). This concept is incredibly simple in its detail. Essentially, everyone has the right to emit an equal amount of pollution (in this case CO2) to the Global Commons (atmosphere). This would operate in much the same way as the envisaged emissions trading scheme to be set up within the Kyoto Protocol. Since economic progress is dependent on energy, the shortfall from 'Business as usual' energy consumption will need to be met from two directions: efficiency gains, and a rapid growth in renewable energy sources. It is clear from this that emissions trading can only be an intermediate stage, since the total volume of emissions must fall. The only blockage to this simple system is the absence of political will to 'step outside the box' instead of conducting a tortuous round of negotiations of the Kyoto Protocol. One way to unblock this impasse is to amass a large enough consensus of stakeholders behind the concept of contraction and convergence, persuading governments to supersede the Kyoto Protocol. The insurance industry is an obvious place to start such a campaign as it has so much to lose and so much to gain. If society continues down the fossil/Kyoto route, future economic losses are likely to become unsustainable: the current rate of increase in damage from natural hazards is 12% pa and the rate is accelerating. Given that the global sum of such losses was \$100bn in 1999 (Munich Re, 2000), it would outstrip global GDP (growing at 3% pa) by 2065, if the trends persist. If the insurance industry rallies behind C&C, it not only reduces that risk, but it is well placed to invest in the future renewables market. In fact one could argue that as the insurance companies own the oil companies (through equity ownership), insurers form the only industry that has the collateral and the need to adopt the 'Contraction and Convergence' logic."

April - UNA UK

Resolutions backing Contraction and Convergence were passed at the 56th AGM of the United Nations Association in the UK, 20-22 April 2001.

8.10

"We applaud the government's leadership role in the international climate change negotiations and shared the disappointment at the failure to secure an adequate agreement at the last conference.

We urge Her Majesty's Government to pursue a long-term framework for reducing global CO2 concentrations based on the principle of Contraction and Convergence to equal percapita emissions levels worldwide by a specific date to be negotiated."

*** with the European Union Commission and the Commonwealth to create an alliance of countries committed to cutting CO2 emissions based on Contraction and Convergence;*

May - FoE Finland on Climate Equity

"The Whole Climate" Report, from Friends of the Earth Finland. The "Whole Climate Project" originated in 1999 with the three Finnish NGOs Dodo, FoE and Service Centre for Development Cooperation.

They take up the global equity/survival challenge of climate change and seek to resolve it in terms of environmental space and formulations of contraction and convergence.

Report available only in hard copy from: - <http://www.maanystavat.fi>

June - IPCC Third Policy Assessment

"A formulation that carries the rights-based approach to its logical conclusion is that of 'Contraction and Convergence'. (Chapter 1, 3.2). "The concept of 'Contraction and Convergence' is the entitlement of ghg emissions budget in terms of future emissions rights. Such a global future emissions budget is based on a global upper limit to atmospheric concentration of CO₂, for instance 450 ppmv (contraction). This budget is then distributed as entitlements to emit CO₂ in the future, and all countries will agree to converge on a per capita emissions entitlement (convergence). Level of contraction and timing of convergence are subject to negotiations." (Chapter 10, 4.5)

July - USS Research Report No 1

Universities Superannuation Scheme

Climate Change, A Risk Management Challenge for Institutional Investors

"Beyond Kyoto - 'Contraction and Convergence'

"It is important to recognise that any agreement can be only the first step in what will be a major journey. It is clear that even if the Kyoto targets are met, global emissions will continue to rise because of rapidly rising emissions in the developing world. Substantial further steps will have to be taken to curb emissions globally. Such cuts will inevitably begin to involve poor countries and at the same time rich countries are likely to have to commit to much more serious emission reductions themselves. As a result further emission reduction agreements are likely covering the period 2012-20 and beyond. Indeed, the IPCC in its first assessment reports in 1990 recommended emissions cuts of at least 60% to stabilise CO₂ concentrations at 1990 levels and thereby be likely to avoid serious climate disruption. Its subsequent reports have not altered this position. In the longer term, 'Contraction and Convergence' (C&C) is likely to become increasingly supported as a policy option. C&C was initially advocated by a small UK think tank, the Global Commons Institute (www.gci.org.uk), but has since gained widespread and authoritative support, including that of some poor country governments and also the recent Royal Commission on Environmental Pollution report which recommended that, 'the government should press for a future global climate agreement based on the contraction and convergence approach'.

Ironically, while C&C offers a more robust framework than that outlined by Kyoto, and addresses the issue of equity, it also meets the fundamental objection of the US in that it also requires commitments from the developing world. As a global operational framework it also avoids many of the technical problems of Kyoto (such as defining baselines for emissions trading in countries not subject to an overall target, or the extent of international emissions trading that is permissible). However, much will depend on the detail. Done well, C&C could provide a framework for a genuine, equitable, long-term solution to climate change, which reduces political risks and provides businesses and investors with the sort of predictable framework they prefer. But if agreement is hard to reach, C&C might serve to highlight injustices and end up exacerbating tensions. For example, some campaigners have argued for a third 'C': 'compensation' from the rich world for using up the climate's absorptive capacity. Whilst this claim is understandable, such a development could well become an emotive issue that could make agreement far harder to reach."

August - British Telecom

Mathis Wackernagel of the California-based Redefining Progress received a message from Chris Tuppen of BT (British Telecom) that said:

"I think there is lot of benefit that could arise from offering a per capita CO2 budget (eg the contraction and convergence theory of GCI).

But that's not to say that people shouldn't then have a choice in how they spend their CO2 budget. Such an approach would automatically lead to people selecting more energy efficient products and cause companies to change via natural market forces."

August - IPCC Third Policy Assessment

Chapter One section 3.2

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

Chapter Ten section 4.5

"The concept of 'contraction and convergence' is the entitlement of ghg emissions budget in terms of future emissions rights. Such a global future emissions budget is based on a global upper limit to atmospheric concentration of CO2, for instance 450 ppmv (contraction). This budget is then distributed as entitlements to emit CO2 in the future, and all countries will agree to converge on a per capita emissions entitlement (convergence). Level of contraction and timing of convergence are subject to negotiations with respect to the precautionary principle."

September - The Corner House

Corner House UK publication "Democracy or Carbocracy".

"In addition to slighting or ignoring many existing climate-friendly local practices, negotiators' technical advisers have also been slow to acknowledge an important and growing international climate movement. This movement demands both that the discussion of rights in the atmosphere be brought out of the shadows and that a scientifically meaningful programme of aggregate emissions cuts be undertaken. It calls for all countries to agree, in line with evolving wisdom on climate, how rapidly world greenhouse gas emissions should contract each year. It proposes then allocating permits to emit to all countries in proportion to the number of their citizens. Countries unable to keep their emissions in line with their per capita allocations could buy extra ones from those whose emissions were under the limit.

This equitable, flexible "contraction and convergence" framework has been endorsed by many Southern countries including China, India and the nations of the Africa Group; European government ministers including Michael Meacher of the UK, Jacques Chirac of France and Svend Auken of Denmark; insurance industry associations; and organizations ranging from the Royal Commission on Environmental Pollution to India's Centre on Science and Environment and Climate Net-work Africa. Unlike any other proposal on offer, the framework would enable the US's bluff to be called on all three of its objections to the Bonn climate agreement: that it doesn't commit the South to emissions limitations; that it's "unfair"; and that it doesn't address sources of future emissions.⁶³ It would thus advance the discussion in a way which could result in a better future agreement."

It can be found at: - <http://www.gci.org.uk/papers/24CARBO1.PDF>

September - The Australia Institute

"Running From The Storm"

The Development of Climate Change Policy in Australia

" the longer time frame and the more broadly accepted ethical underpinnings of C&C ought to make negotiations less fraught than those leading up to and subsequent to Kyoto.

Is contraction and convergence pie in the sky? There is no doubt that it is a radical approach with far-reaching implications for the management of the Earth's common resources. It would redraw the legal and ethical relationships between nations and initiate an era of supranational management of those environmental issues that cross national borders. Difficult, yes; but what is the alternative?"

by Clive Hamilton, Director of the The Australia Institute (TAI), is published by University of New South Wales Press, September 2001.

October - Tellus Institute

Book: "Halfway to the Future" from Tellus Institute

"A good two pronged approach is a constraint on global emissions and a path toward allocation of emission allowances among the nations of the world on an equal per capita basis."

available at: - <http://www.tellus.org/HalfwayToTheFuture.pdf>

October - UK Green Party

The Green party of England and Wales strongly endorses the GCI/GLOBE campaign for Contraction and Convergence (C&C) as the key ingredient in a global political solution to the problem of Climate Change, and urges the UK and other governments use it as the basis for negotiations at the Conference of the Parties organised by the Intergovernmental Panel on Climate Change.

November - UNEP FI - Statement COP7

The UNEP Financial Institutions position paper

"4.1.3. Construct a long-term framework to reduce emissions globally in order to achieve the necessary transition to sustainability.

The approach of Contraction and Convergence, which the IPCC TAR described as "the logical conclusion" of a rights-based approach, provides a possible example of such a basis."

It is viewable at: - <http://www.gci.org.uk/papers/FINALDRFTUNEPFI.pdf>

The financial organisations associated with this are listed at the end.

November - NEF/Jubilee Plus

"... the US, committed by its own declaration of independence to human equality, can embrace the contraction and convergence model pioneered by the London-based Global Commons Institute.

Contraction and convergence

According to Sir John Houghton, chair of the Intergovernmental Panel on Climate Change, global greenhouse emissions need to be reduced by at least 60 per cent in less than 100 years. If governments agree to be bound by such a target, it is possible to calculate for each year over the next century the (diminishing) amount of carbon dioxide and other greenhouse gases the world can release, to stay on target for a 60 per cent reduction. This is the contraction part of the equation.

Convergence describes how each year's tranche of the global emissions budget is shared out among the nations of the world. The process is managed to ensure that every country converges on the same per capita allocation of carbon dioxide – the same personal emissions "allowance" – on the same date. The date is negotiable – Houghton suggested 2030.

Countries unable to manage within their allocations would, subject to agreed limits, be able to buy the unused parts of the allocations of other, more frugal, countries. Sales of unused allocations would give the countries of the South the income to purchase or develop zero-emission ways of meeting their needs.

"Contraction and convergence" provides an effective, equitable and efficient framework within which governments can work to avert climate change. The countries of the North would benefit from the export markets created by restructuring. The whole world would benefit by slowing the rate of damage. Its potential as an antidote to global warming has been widely endorsed, not least by industries such as insurance which are in the front line of climate change. Even some of the more progressive fossil fuel producers have acknowledged that it may offer a promising way forward. But "contraction" has a disturbing sound to it – it implies less rather than more. The next chapter explains why less may, in practice, turn out to be more."

http://www.jubileeplus.org/ecological_debt/Reports/War%20Economy.pdf

November - British Petroleum

In the BP Glossary

"Some have promoted the idea of 'contraction and convergence' as a long-term strategy for managing global GHG emissions. Contraction refers to a global cap which would be set on worldwide emissions, together with an overall reduction trajectory for the century ahead. Emissions entitlements would be allocated on a per capita basis under the global cap and trading would be permitted. Emissions entitlements would converge over time towards equal per capita emission rights for all countries, so that total emissions allowances to countries are proportional to population. Proponents of the system of contraction and convergence argue that it is equitable (being based on population) and that it would be truly global, involving the participation of all countries."

http://www.bp.com/key_issues/environmental/climate_change/information_centre/glossary_of_terms.asp

November - "Global Public Goods", Swedish Foreign Affairs

"Inter-generational justice also enters the climate change equation. Many of the rationales for taking costly action now in order to tackle a problem whose worst effects may not be felt for many decades, is that we have a responsibility to future generations. Both the 'precautionary principle' and the principle of 'contraction and convergence', which has entered the climate negotiations in recent years, are aimed at addressing these problems. They provide a road map for policy responses, by, in the latter case, establishing ceilings for GHG emissions above which dangerous climate change is likely, and then devising a global carbon budget within which nations have a per capita entitlement to use carbon. Moving towards an optimal and safe level of carbon usage requires that some nations, in the first instance developed countries, would have to contract their use of carbon-intensive activities and others, primarily developing countries, would be entitled to expand their use of fossil fuels to meet basic development needs and so converge towards a per capita entitlement, which applies equally to all countries."

December - UK Tyndall Centre

3.3 Strategic Assessments

"The climate change literature is studded with fragments of scientific evidence as the typical products of disciplinary, methodology-oriented and funding-driven research activities of rather small teams of investigators. Comprehensive surveys exploring, for instance, the climate vulnerability of an entire region or sector are extremely rare. Even the three IPCC Assessment Reports produced so far are not really integrated studies, but carefully edited compositions of thousands of disconnected results emerging from the research machinery in a more or less stochastic manner. What the crucial decision-makers request (and genuinely need), however, are strategic investigations that provide panoramic, but state-of-the-art, views of complex issues, preferably condensed in a 10-page summary. The Tyndall Centre is, at present, the only institution in the UK which can generate such assessments that combine vertical integration (through problem and solution orientation) with horizontal integration (through trans-disciplinary capacity). There are many big topics that need to be approached this way, for example the differential vulnerability of the British coastline to sea-level rise and changing extreme-events regimes, the overall potential for slowing global warming offered by large-scale carbon sequestration, or the future design of the national built environment in view of climate change adaptation as well as climate change mitigation policies.

Some of the strategic assessments urgently needed could be initiated, or even drawn up, by special "Tyndall Symposia" convening the essential and representative communities on issues like: 1) nuclear power, 2) geo-engineering, 3) contraction-and-convergence. "

Full text available at: http://www.tyndall.ac.uk/research/research_strategy.pdf

December - Quakers

The Causes of War II

The Friend 14th December 2001

In our 7 December issue of The Friend, Robin Robinson reported on problems that contribute to bitterness and polarisation in the world. This article identifies an opportunity that could change the structure of the world economy and reduce the tendency to greater and greater disparities of wealth.

In less than a year, in September 2002, world leaders will be meeting in Johannesburg for the second Earth Summit. At Rio in 1992 attention focussed on potentially catastrophic environmental changes particularly relating to human effects on the global climate. After years of haggling the Kyoto protocol has eventually been signed this year by 178 nations with only the United States opposing it. A proposal is being considered for Johannesburg that could link climate concerns with our economic system. The Religious Society of Friends should do what it can to support that proposal.

The idea arises out of climate considerations so, before focusing on the truly radical economic implications, it is necessary to understand the climatic background. By definition, humans pollute and in recent years this pollution has been increasing exponentially. In the past, the earth's bio-systems could cope but this is no longer the case. Of particular concern is our effect on the atmosphere through the emission of greenhouse gases (GHGs). All scientists, except a few linked to the oil and coal industries, now agree that the emission of GHGs must be reduced, so a mechanism for rationing has to be found.

The basis for rationing in the Kyoto protocol is called 'grandfathering' – industrial countries are asked to reduce their present emissions by a certain percentage and their allocations can be traded. Grandfathering has two main faults. First, those that have caused most damage in the past have the highest allocation for future emissions, which is obviously unfair. Secondly, nations that are set to emit significantly in future, like India and China, are not part of the protocol.

A new approach being widely discussed is that the ration, the allocation for emission of GHGs, should be on the basis of the population of countries in 1990. To be fair, developing countries should have a much larger per-capita share than industrial countries, because the industrial countries have already caused so much damage; this is the argument being put forward by Brazil. Most others are willing to accept a compromise that the ration from now on should be on an equal-per-capita basis. This has been accepted by negotiators representing a large majority of the world's population including India and China, it has been specifically endorsed by President Chirac and our own Royal Commission on Environmental Pollution.

To repeat: everyone in the world should have an equal allocation for using the world's atmosphere; this would determine a country's allocation for emission of GHGs. And that allocation can then be traded.

In terms of economics, this is a startlingly radical proposal. India is responsible for just 1.6% of global emissions per-capita but its allocation would rise to 16%. The US ration would be 4.3%, not the 26% it emits at present. Incentives would work both ways: India would want to keep its emissions low so that it has more to trade. The US would try to reduce its emissions so that it needed to purchase less. Those would be the incentives for reducing emissions of GHGs globally. But the radical economic mechanism is that money would flow from rich to the poor nations as of right, not as arbitrary agreements on aid. A political formulation is called Contraction and Convergence – contraction of the amount of GHGs emitted, and convergence to an equal-per-capita allocation over a period of years.

There are plenty of mechanisms that work the other way: Interest charges mean that money flows from the poor who need to borrow to the rich who have funds to lend. All poor countries maintain dollar reserves which represent a massive interest-free loan from the poor to

the wealthy. Trade arrangements, imposed by the west, ensure that the price of commodities, many poor countries' only asset, are driven down relentlessly (in India this year the process is causing an epidemic of suicides). This is the only mechanism of a similar sort that would work in the interests of the poor. (incidentally Islam still accepts the biblical injunction that interest is not allowed and this is at the core of its quarrel with western capitalism).

In some countries, like Britain, the mechanism could work on an individual basis using smart-cards – every time you fill your car with petrol some units would be deducted. The proposal is called Domestic Tradable Quotas and would again flow money from the wealthy to the poor.

The destruction of the World Trade Centre and other suicide action, has forced us to recognise the intense loathing of the dispossessed for the hegemony of the dominant powers. This arrogant exercise of dominance on one side and loathing on the other must lie behind the 'asymmetric warfare' that is destroying any hope of peace. Much of the world is suffering from conditions closely analogous to slavery. These horrors should surely be at the top of Quaker concerns.

The Religious Society of Friends should adopt the concept of equal-per-capita allocation for use of the atmosphere and its formulation as Contraction & Convergence, and urge our government to make this its platform at the Earth Summit next year.

James Wells-Bruges, a member of Redland Meeting, Bristol

2002

January - SERA - "Socialist Environment and Resources Association"

International Climate Change Position (21 01 02)

"SERA recommends to the UK Government:

.....

5. Champion an accelerated round of UN negotiations leading to emissions reductions based on safe, global per capita limits to greenhouse gases (so-called Contraction and Convergence)....."

Available at: <http://www.gci.org.uk/papers/globalclimate.pdf>

February - Swedish Ministry of Foreign Affairs 2001

"Financing and Providing Global Public Goods; Expectations and Prospects"

"Inter-generational justice also enters the climate change equation. Many of the rationales for taking costly action now in order to tackle a problem whose worst effects may not be felt for many decades, is that we have a responsibility to future generations.

Both the 'precautionary principle' and the principle of 'contraction and convergence', which has entered the climate negotiations in recent years are aimed at addressing these problems. They provide a road map for policy responses, by, in the latter case, establishing ceilings for GHG emissions above which dangerous climate change is likely, and then devising a global carbon budget within which nations have a per capita entitlement to use carbon. Moving

towards an optimal and safe level of carbon usage requires that some nations, in the first instance developed countries, would have to contract their use of carbon-intensive activities and others, primarily developing countries, would be entitled to expand their use of fossil fuels to meet basic development needs and so converge towards a per capita entitlement, which applies equally to all countries."

Full text at: <http://www.ud.se/prefak/files/gpg.pdf>

February - Delhi Sustainable Development Summit 2002

Challenges for governments, corporates, and civil society at Rio+10, 8 - 11 February 2002, New Delhi

"The UNFCCC addresses the equity issue through 'common but differentiated responsibility'.

Per capita energy consumption and GHG emissions of developing countries are far lower than that of the industrialized world.

In a convergence of emissions at a sustainable level, developing countries can increase emissions to a safe limit while developed ones reduce to the same level."

Full text at: <http://www.teriin.org/dsds/dsds2002/day4/plenary8.htm>

February - Dutch Parliament

"It is left to the next cabinet (there will be national elections in the Netherlands in spring 2002) to develop a formal position on a preferred option for the future differentiation of commitments, but it closes off in stating that a distribution of global emission space on a per capita basis in the course of the century (2030/2050) seems an obvious choice."

[In Dutch, source: House of Parliament, second chamber, meeting year 2000-2001, doc. no. 27801].

February - Department for Trade and Industry - Inter Agency Group

"The Royal Commission on Environmental Pollution (RCEP) recommends that the Government should press for a future global climate agreement on a contraction and convergence (C&C) approach, allowing also for emissions trading.

It selects one path for achieving stabilisation of CO2 concentrations in the atmosphere at 550ppm that implies a convergence date of 2050. Many other paths to stabilisation at this level could be taken. The Government is keen to establish a dialogue on possible approaches to future target setting.

However, contraction and convergence is only one of a number of potential models, some of which may be more attractive to developing countries and still promote the objectives that we are striving to fulfil."

Full Text available at: <http://www.gci.org.uk/UKGovernment/DTIAG.pdf>

February - Energy Review, UK Cabinet Office Performance & Innovation Unit

"The project's outputs will be a key input to the UK Government's future policy on security and diversity of energy supply and on climate change including its response to the Royal Commission on Environmental Pollution (RCEP) report on 'Energy, the Changing Climate.

The UK practices a 'leading' approach to climate change. This approach to climate change implies 3 separate policy timelines: measures to: -

- 1 comply with agreed targets;*
- 2 prepare for future targets not yet agreed but probably involving not all countries and operating for limited time periods, and*

3 *prepare for a world of long-term emission limits agreed between all countries, possibly based on the principles of contraction and convergence.*"

.....

"The centrality of carbon and the climate change issue"

3.69 A *"leading" approach to climate change implies three separate policy timelines:*

** measures to comply with agreed targets;*

** measures to prepare for future targets not yet agreed but probably involving not all countries and operating for limited time-periods;*

** measures to prepare for a world of long-term emission limits agreed between all countries, possibly based on the principles of contraction and convergence. (16)*

3.70 *There is no clear dividing line between these phases.*

Post-Kyoto targets affecting the UK could be finalised by 2005 but agreement might take longer, perhaps a lot longer, and the scale of the next targets is uncertain. Likewise, it is possible that we could be in a world of long-term universal targets by 2010.

There is even a remote possibility of moving directly to the final phase from the current position.

3.71 *In the same way, it is far from clear what the scale of future targets will be. The RCEP suggested that a 60% reduction for the UK by 2050 would be needed within a contraction and convergence agreement, but the exact figure is very uncertain.*

All that is certain, whether we move to a contraction and convergence world, as suggested by the RCEP, or follow the guidance produced by the IPCC about global levels of emission reductions that will be needed to avoid dangerous climate change, is that developed countries will need to make very substantial cuts from current emission levels over the century ahead.

February - IIED/RING

International Institute for Environment and Development (IIED)
with the Regional and International Networking Group (RING)

"Even if the Kyoto Protocol is implemented in full, the impacts of global climate change will start being felt within the next few decades and the most vulnerable communities and countries are those which are already the poorest and least able to adapt to these changes...."

It is time now to refocus on the longer-term objectives of the UNFCCC, particularly its stated goals regarding sustainable development...."

WSSD provides an opportunity to re-initiate the discussion on the larger architecture of the future climate regime. The goal of the post-Kyoto phase should be clearly tied to atmospheric stabilization with a defined focus on emissions limitation and a clear sense of the rules for the future entry of developing countries into the regime.

....

In all likelihood this will require moving to per capita emission targets and a 'contraction and convergence' policy scenario."

Available at:

<http://www.gci.org.uk/papers/C&CIIEDShort.pdf>

<http://www.gci.org.uk/papers/C&CIIEDLong.pdf>

February World Bank - Summary of the E-Discussion on the Environment and Poverty

Summary of the E-Discussion on the Environment and Poverty Linkages: Week 1 - February 1 – 7, 2002

4. Climate change, greenhouse gas emissions and environment

A binding environmental agreement that effectively and equitably reduces emissions calls for "Contraction and Convergence" (C&C) to be the framework in which this development should take place. The potential of C&C to use a deliberate poverty reduction strategy to arrest dangerous rates of climate change needs to be explored.

The big reinsurance companies (Swiss Re and Much Re) have kept records of estimates of the 'uninsured losses' from 'great weather disasters' over the last 50 years (such as Honduras, Mozambique, Orissa). These show rates of damages exceeding the economic growth rate by a factor of four. This is one reason why the Institutions of the UNEP Financial Initiative have come out in favor of arrangements such as C&C. It would be appropriate for the present discussion to take a look at the potential of this proposition.

Authors' Responses to the Summary of the e-Discussion on Environment and Poverty Links – Week 1

4. Climate change, GHG emission:

Thanks for drawing our attention to the approach for "Contradiction and Convergence" and providing several useful references to sites where this is further discussed. This is the kind of constructive feedback that we hope to get more of! We will pursue those as a team, and discuss how we might discuss this approach in the final version of the paper. In our final summary of the e-Dialog in July, we will come back to the details of this.

Jan Bojö

The World Bank

On behalf of the authors of the Consultation Draft.

March - World Bank Report - "Globalization, Growth & Poverty"

"Global warming requires international collective action. There are many ways of achieving effective restraint. The Kyoto protocol approach is for rich countries to set themselves targets for emissions reductions, and the recent agreement between European nations and Japan to move ahead with the protocol is a positive step forward. Looking further down the road, it is critically important to get at least all of the G-7 involved.

The Global Commons Institute, an NGO, has come up with an innovative proposal for how to do this. The proposal entails agreeing on a target level of emissions by the year 2015 and then allocating these emissions to everyone in the world proportionally. Rich countries would get allocations well below their current level of emissions, while poor countries would get allocations well above. There would then be a market for emission permits.

Poor countries could earn income selling some of their permits; rich and poor countries alike would have strong incentives to put energy-saving policies into place; and private industry would have strong incentives to invent new, cleaner technologies. One of the hopeful things about globalization is how an innovative idea like this can quickly gain currency and support."

April 18 - Christian Ecology Link

Contraction and Convergence:

1. Contraction and Convergence provides a framework within which the world's emissions can be reduced safely and fairly. It proposes that countries agree a safe global greenhouse gas emissions budget and agree a date by which all countries will have the same emissions

rights per capita. Countries unable to reduce their emissions by this date would be able to buy the unused rights of other countries, giving less developed countries the income to fund development in zero-emission ways.

The idea is well accepted as the best way forward by the experts. According to the Royal Commission on Environmental Pollution "The government should press for a future global climate agreement based on the Contraction and Convergence approach, combined with international trading in emission permits. Together, these offer the best long-term prospect of securing equity, economy and international consensus." The recent Third Assessment Report of the IPCC (Intergovernmental Panel on Climate Change) observes "...the formulation that carries the rights-based approach to its logical conclusion is that of Contraction and Convergence."

April 20 - The Foundation for the Economics of Sustainability

Feasta's Proposals for Global Monetary Reform

4. The supply of the new currency should be limited in a way which ensures that the overall volume of world trade is compatible with the most crucial area of global sustainability.

To deliver the maximum level of human welfare, every economic system should try to work out which scarce resource places the tightest constraint on its development and expansion. It should then adjust its systems and technologies so that they work within the limits imposed by that constraint. In line with this, an international currency should be linked to the availability of the scarcest global resource so that, since people always try to minimise their use of money, they automatically minimise their use of that scarce resource.

What global resource do we most need to much use less of at present? Labour and capital can be immediately ruled out. There is unemployment in most countries and, in comparison with a century ago, the physical capital stock is huge and under-utilised. By contrast, the natural environment is grossly overused especially as a sink for human pollutants. For example, the Intergovernmental Panel on Climate Change (IPCC) believes that 60-80% cuts in emissions of one category of pollutants - greenhouse gases, which come largely from the burning of fossil fuels - are urgently needed to lessen the risk of humanity being exposed to the catastrophic consequences of a runaway global warming. Feasta believes that this is the most serious resource threat facing humankind at present, and that, consequently, the basis of the new world currency should be selected accordingly.

Contraction and Convergence (C&C), a plan for reducing greenhouse gas emissions developed by the Global Commons Institute in London, provides a way of linking a global currency with the limited capacity of the planet to absorb or break down greenhouse gas emissions. Under the C&C approach which has gained the support of a majority of the nations of the world, the international community agrees how much the level of the main greenhouse gas, carbon dioxide (CO₂), in the atmosphere can be allowed to rise. There is considerable uncertainty over this. The EU considers a doubling from pre-industrial levels to around 550 parts per million (ppm) might be safe while Bert Bolin, the former chairman of the IPCC, has suggested that 450 ppm should be considered the absolute upper limit. Even the present level of roughly 360ppm may prove too high though, because of the time lag between a rise in concentration and the climate changes it brings about. Indeed, in view of the lag, it is worrying that so many harmful effects of warming such as melting icecaps, dryer summers, rougher seas and more frequent storms have already appeared.

Full Report available at: <http://www.earthsummit-ireland.org/feastaproposals.htm>

April 24 - DTQs

"There are a number of reasons for believing that Domestic Tradable Quotas (DTQs) could play an important role in combating climate change.

DTQs - with their annual reduction in the carbon budget and equal per capita emissions entitlements - are in keeping with the principles of contraction and convergence recently endorsed by the Royal Commission on Environmental Pollution."

See DTQ webpages: - <http://www.dtqs.org/summary.htm>

April 24 - EC Letter

"Thank you for your letter of 5th February and appended information on the contraction and convergence approach, which I studied with interest.

.....

The negotiations on the next commitment period will have to start by 2005 and to finish by the end of 2007, In these negotiations, all options to limit and reduce emissions in a fair and equitable way will be discussed. Contraction and convergence is one of the interesting alternatives in this regard."

Jean-Francois Verstryngne

Acting Director-General

DG Environment

European Commission

<http://www.gci.org.uk/correspondence/Verstryngne1.pdf>

April - Sky Trust

"Who Owns the Sky?" book by Peter Barnes, published by Island Press in 2001. ISBN 1-55963-855-9

On the question of global equity, which I have avoided in this book, the reader may want to explore the Web site of the London-based Global Commons Institute. GCI is promoting the concept of "contract and converge" as a way to resolve the dispute between rich and the countries about how to share the global atmosphere. Under "contract and converge, the per capita emissions of the rich and poor would converge to equality over' say fifty years. During this time, global emissions would contract. But because poor countries per capita emissions are far below the rich countries' (the average American emits six times as much carbon dioxide as the average Chinese person), the poor countries' emissions would actually rise at first. Though considered a radical idea just a few years ago, "contract and converge" is slowly gaining acceptance. www.gci.org.uk

May - C&C in Heinrich Boell Foundation Report for WSSD

The Heinrich Boell Foundation published a detailed report on the issues for the World Summit on Sustainable Development (WSSD) taking a clear position in favour of C&C beyond Kyoto.

"The vision of "contraction and convergence" combines ecology and equity most elegantly; it starts with the insight that the global environmental space is finite and attempts to fairly share its permissible use among all world citizens taking into account the future generations as well."

(Contraction & Convergence – The Global Solution to Climate Change, Meyer 2000)

<http://www.worldsummit2002.org/publications/memo-mF.pdf>

June 8 - Tyndall Centre UK -

"The climate regime from The Hague to Marrakech: Saving or Sinking the Kyoto Protocol?"

Suraje Dessai

4. The Bonn Agreement

"The other 'crunch issue' the Bonn Agreement tackles are the Kyoto mechanisms. Surprisingly, the text's language referring that emissions should be reduced "in a manner conducive to narrowing percapita differences between developed and developing countries" paves the way for a contraction and convergence framework (Meyer, 2001)."

Full report at: - http://www.tyndall.ac.uk/publications/working_papers/wp12.pdf

June 8 - Tyndall Centre UK - "The Use of Integrated Assessment: An Institutional Analysis Perspective"

Simon Shackley and Clair Gough

Box 1 - The Dilemma of Complexity

". . . by contrast, the 'Contraction and Convergence' idea developed by the Global Commons Institute has been rather widely adopted (Meyer 2000).

It connects well with the more explicitly political formulation of the climate change issue in equity terms of the North-South divide, and allows for national differences to be acknowledged in the short to medium term.

Its lack of integration (e.g. through not including analysis of the economic costs of mitigation) may be an advantage in its acceptability to policymakers.

Interestingly, the contraction and convergence concept has engendered significant political support as well as attracting support from assessment organisations (e.g. the influential Royal Commission on Environmental Pollution in the UK (2000)) without recourse to a complex numerical model.

Full report at: - http://www.tyndall.ac.uk/publications/working_papers/wp14.pdf

June 8 - Uranium Institute

"The Influence of Climate Change Policy on the Future of Nuclear Power"

Jonathan Cobb at 25th Annual Symposium 2000

"In order for atmospheric greenhouse gas concentrations to be stabilised at a sustainable level it will be necessary to reduce emissions by around 60% from the 1990 level. Advocates of a policy of "convergence and contraction", where developed and developing countries are to be allowed similar levels of emissions on a per capita basis, state that developed countries may have to reduce emissions by 80%."

Full statement at: - <http://www.world-nuclear.org/sym/2000/cobb.htm>

June - Wilton Park Conference "Climate Change: What Can Be Done?"

Roger Williamson

Report based on Wilton Park Conference WP663 13-17 May 2002:

Contraction and convergence

One candidate for the comprehensive framework and overarching vision for climate change policy is "Contraction and Convergence", advocated by the Global Commons Institute.¹ If this approach were to be adopted, it would require considerably more far reaching commitments than those developed within the Kyoto framework.² The key elements of contraction and convergence are outlined as follows by the initiator of the proposal, Aubrey Meyer:

Essentially, it has three steps: (1) an international agreement is reached on how much further the level of carbon dioxide (CO₂) in the atmosphere can be allowed to rise before the changes in climate it produces become totally unacceptable. Fixing this target level is very difficult, particularly as concentrations are too high already. (2) Once the ultimate overall limits to CO₂ concentrations has been agreed, it is a simple matter to use an estimate of the proportion of the gas released which is retained in the atmosphere to work out how quickly we need to cut back on the current global emissions in order to reach the target. This cutting back is the Contraction part of Contraction and Convergence. (3) Once we know by what percentage the world has to cut back its CO₂ emissions each year to hit the concentration target, we have to decide how to allocate the fossil fuel consumption that those emissions represent.

*The contraction and convergence approach says that the right to emit carbon dioxide is a human right there should be allocated on an equal basis to all of humankind. This might appeal to a majority of the countries of the world, but the over-consuming countries would have to be allowed an adjustment period in which to bring their emissions down before the Convergence on the universal level.*³

In more detail, the essential proposition of contraction and convergence has four elements.

After the initial agreement by countries for a reviewable global greenhouse gas emissions 'contraction budget' targeted at a precautionary, stable value for atmospheric greenhouse gas concentrations, the internationally tradable shares of this Budget are then agreed on the basis of convergence from the current situation; the shares should be broadly proportional to income. The convergence should be towards a target date in the budget timeline after which they remain proportional to an agreed base year of global population. Revenues from this trade can be directed to the deployment of zero emissions technology.

Contraction: on the basis of precaution, all governments collectively agree to be bound by such an atmospheric target. This makes it possible to calculate the diminishing amount of greenhouse gases that the world can release for each year in the coming century. Subject to annual review, this event is the contraction part of the process.

Convergence: On the basis of equity, convergence means that each year's ration of this global emissions budget is shared out so that every country progressively converges on the same allocation per inhabitant by an agreed date, for example by 2030. It recognises the need for access rights to the Global Commons of the atmosphere with the fundamental principle of globally equal rights for per capita, to be achieved by smooth transition.

Emissions permit trading: Countries unable to manage within their shares would, subject to agreed rules, be able to buy the unused parts of the allocations of other countries. Sales of unused allocations would give the less developed countries the income to fund development in zero-emission ways. Industries in the developed countries would benefit from the export markets this restructuring would create.

Sustainable growth: Contraction and Convergence does not place a straitjacket on growth per se by its limitation on fossil fuels. Instead it averts catastrophic losses by promoting the

*development and growth of zero carbon energy technologies necessary for prosperity and sustainable development.*⁴

The strength of this model, to quote the IPCC Third Assessment (2000), is that it represents '... the logical conclusion of a rights based approach'. Most of the objections which can be made questioning the practicality of the model are, simultaneously, objections to any scheme radical enough to achieve a long-term stabilisation of greenhouse gas concentrations in the atmosphere. Taking standardised per capita emissions as the basis for calculation fulfils the equity criterion, but raises concerns that populous countries, in particular China and India, will increase their emissions at the same time as developed (OECD) countries have radically to decrease theirs. Proponents of the contraction and convergence thesis contrast it with the current and approach of 'expansion and divergence' which is increasingly recognised as unsustainable. The fundamental dilemma of long-term climate change negotiations is that developed countries, and the main emitters among the industrialising nations of the South (particularly those with large populations including China, India and Brazil) are likely to resist signing up to targets which are sufficiently far-reaching to stabilise greenhouse gas concentrations at a sustainable level but, if these countries do not accept radical proposals for reductions to their emissions, the cumulative effects of global warming will continue. The impacts on all countries, but most obviously among developing countries (whose societies are more vulnerable) will be increasingly severe.

Much of the US opposition to the Kyoto Protocol approach has been focussed around the argument that it is unfair for industrialised countries to have to cut their emissions while industrialising countries are under no such restriction. The Byrd-Hagel Resolution, passed 95-0 in the US Senate in 1997, expresses this concern, but in the framework of seeking a solution to global warming by determining which countries should limit and which should cut their emissions. The approach is consistent with Contraction and Convergence.

July 2 - World Nuclear Association

" A serious climate regime – if one is to evolve – must go far beyond Kyoto, by encompassing all nations and by employing some variation of the concept known as "contraction and convergence":

Contraction means that over the century ahead we must plot a path that will reduce overall global emissions by at least 50% – even as populations and economies expand.

Convergence means that, in this process, we must accept the principle that every person on Earth is entitled to an equal per-capita level of emissions.

Stated in this stark manner, the goal of 50% contraction seems draconian, while the principle of equal entitlement to emissions seems utopian. In fact, both concepts are eminently practical.

As to contraction, nothing short of a 50% emissions reduction offers any hope of averting catastrophic climate change. This cutback – entailing a 75% reduction in today's advanced economies – accomplishes no more than stabilizing global greenhouse gases at a level over twice that which existed just two centuries ago.

As to convergence, nothing other than the principle of equal entitlement offers a basis for the global consensus on which an effective climate regime must depend. Equal entitlement does not mean equal emissions; it is, rather, the basis for an allocation of rights on which a fair and rational emissions trading system can be built.

A system based on this principle – and, I venture to say, only a system based on this principle – can be designed to produce the sense of equity, the predictability, and the sound economic incentives needed for smooth transition into a clean-energy future. These incentives can work constructively in developed and developing countries alike.

In this schema, the sense of equity and predictability are created at the very outset of the

regime. A nation's population size at an agreed point would be the basis for establishing its long-term emissions ceiling, toward which it would be committed to move on a steady path.

To facilitate a smooth and economically rational transition toward that goal, emissions trading would enable countries and companies to chart their own best path – selling permits where possible, buying them when necessary.

The rate of convergence to a common level would be designed to ensure that, during the long transition, already-industrialized nations as a whole would find it advantageous to purchase emissions permits from countries less developed.

This capital flow could serve the common interest in sustainable development by financing clean-energy infrastructure in the developing world.

Building this regime is not beyond human wit. Indeed, its simplicity and feasibility stand in favourable contrast to the chaos, social dislocation, vast expense and human misery that unrestrained climate change could bring – and from which no nation would be immune.”

Full text at: www.world-nuclear.org/speeches/bnes2002.htm

July - Dept For International Development - Select Committee Report

*Setting (greenhouse gas) emissions targets fairly - “82. Both atmospheric stabilisation of greenhouse gases and the entry of developing countries into the climate regime are likely to require a move to per capita emission targets. [243] David Crichton and the Corner House both suggested DFID should consider the ‘contraction and convergence’ model set out by the Global Commons Institute. [244] Contraction and convergence is based on per capita emissions and offers an opportunity to address issues of equity. With emissions shared on a per capita basis, developed and developing countries could trade surplus emissions rights. [245] Advocates of contraction and convergence point to its inherent equity and its ability to bring together developed and developing countries in a single framework. However, contraction and convergence recognises that emissions from developing countries will grow and does *not* hold back their development in order to rectify damage caused by developed countries.” [246]*

July - Unrepresented Nations and Peoples Organisation (UNPO)

World Summit on Sustainable Development - Indigenous Peoples, Energy and Climate Change

“18. Balance narrow econometric and technical approaches in the climate negotiations by applying the principles of contraction and convergence, full and effective participation of indigenous peoples and civil society and complementary scientific and indigenous knowledge.”

August - The World Council of Churches (WCC)

“Call to Action” to the WSSD,

“ . . . highlights two requirements:

1. Stabilisation of greenhouse gases in the atmosphere at a level that is in accordance with the overall objective of the Climate Convention.

2. A fair distribution of rights and obligations, i.e. establishing per capita emissions rights for all countries as proposed in the ‘Contraction and Convergence’ scheme.

The goal is to prevent increasing dangerous interference with the natural climate system. The IPCC Third Assessment Report indicates that the six Kyoto greenhouse gases, measured as carbon dioxide equivalents, should not exceed the level of 450-550 ppm.

This leads us to the conclusion that the next commitment period must start building a system for targets related to a specific “secure” greenhouse gas concentration in the atmosphere and an equity burden of the emissions that allows for this. We foresee targets related to per

capita emissions.

Proposals of the Global Commons Institute (United Kingdom) on "Contraction and Convergence" have gained support from churches and Christian development agencies. For high emitters this would lead to a step-by-step approach over the commitment period during which the emissions are reduced, while for the least developed countries and low emitters, a step-by-step approach for the possibility to increase emissions, while at the same time building up and investing in sustainable energy use, could be foreseen."

September - Department of Physical Resource Theory, Chalmers University of Technology, Göteborg University, Sweden

"An allocation approach based on contraction and convergence is suggested in the Paper. The allowances are assumed to follow a linear trend from their present per capita level for industrial regions and the per capita emission by 2012 for developing regions towards an equal per capita allocation by 2050. The per capita emission allowances are then assumed to follow the per capita emission profile towards the stabilization target."

September - "New Economy" from the Institute for Public Policy Research (IPPR)

"Towards a global new deal?- The World Summit on Sustainable Development 2002"

". . . . perhaps the single most useful action that negotiators could take at WSSD would be to acknowledge explicitly the need for this logic to be applied to the most pressing environmental challenge of all: climate change. The London-based Global Commons Institute, which originated the concept of Contraction & Convergence, has assembled a wide coalition of support for applying the proposal to the area of climate change, which would involve defining a safe upper limit for greenhouse gas concentrations in the atmosphere (which would by definition require all countries to accept emissions targets), and a date by which national emission entitlements would reach per capita equality."

September - World Bank

The Bank's annual World Development Report (WDR) for 2003 published for WSSD.

The WDR 1992 was published in time for the Rio Summit. In this the bank said "grandfathering" emissions rights was "the most feasible option".

In the current report they say . . .

"How can emissions reductions—beyond those that pay for themselves—be financed? This remains the most contentious issue in climate change mitigation. In carbon markets, for instance, the allocation of emission allowances determines who pays for reductions. In the view of many, equal per capita allocation of allowances across the world—perhaps entailing transfers from rich emitters to poor countries—would constitute an equitable allocation. But such an allocation rule, if imposed abruptly, might disrupt the rich emitters' economies and thus would not secure their participation in the scheme. On the other hand, a strong link between past emissions and current allowances, applied globally, would hurt the development prospects of poor nations and thus be unacceptable. Hybrid allocation schemes that blend per capita and "grandfathered" allocations and shift toward the former over time have been proposed as a compromise."

October - "UNEP Financial Initiative - on C&C

A. Meyer: The Kyoto Protocol and the Emergence of Contraction and Convergence as a Framework for an International Solution to Greenhouse Gas Emissions Abatement (1999) in Homeyer and Rennings Manmade Climate Change-Economic Aspects and Policy Options, Physica Verlag.

A MULTIPLE-STRATEGY APPROACH

Governments, singly and collectively through the United Nations Framework Convention on Climate Change (UNFCCC), should adopt four strategies to tackle climate change, and involve all stakeholders in developing and implementing them. The four strategies are:

- 1. Operationalise the Kyoto process as a small but important first step in dealing with the problem of emissions internationally. This will allow all stakeholders to gain practical experience quickly.*
- 2. Develop a range of policies and measures for implementation in national and regional jurisdictions, using a minimum of regulation to harness market mechanisms.*
- 3. Construct a long-term framework to reduce emissions globally in order to achieve the necessary transition to sustainability. The approach of Contraction and Convergence, (see below) which the IPCC TAR described as "the logical conclusion" of a rights-based approach, provides a possible example of such a basis.*
- 4. Promote a strong code of corporate sustainability, for business and the government sector, underpinned by the availability of key information on environmental, social and economic performance.*

"Contraction and Convergence" (C&C)¹ which on the basis of precaution advocates the adoption of a "safe" steady-state level for GHG concentrations in the atmosphere. The approach demands that global emissions will contract progressively through a budgeting process to deliver the predetermined "safe" level of GHG concentrations. On the basis of equity and logic, these emission budgets will be distributed so that entitlements converge from today's very different national levels to a figure that is equal per capita for all nations by an agreed date. To satisfy the aim of cost-effectiveness, surpluses or deficits in emissions entitlements would be inter-nationally tradable, ideally redeemable for clean technology."

Selected comments

***on GCI's Research
and Advocacy
work***

***over the years
1993 - 2002.***

“Aubrey Meyer is one of those rare individuals whose commitment and practical vision are leaving a decisive positive mark on the future.

Over the last ten years, while global negotiations on climate change have proved a bitter disappointment, the idea of Contraction and Convergence, which Aubrey and the Global Commons Institute have pioneered, has become accepted, throughout the world, as the key practical long-term solution which could mobilise all nations in an equitable response to the climate challenge.

Aubrey and his tiny Global Commons Institute have achieved this by tenacious personal effort. With no prestigious organisation or status behind him he has lobbied, persuaded, and dialogued with international climate negotiators at every level and in every part of the world, honing the C and C concept in the light of criticism, presenting it with intellectual force and clarity and persuading a growing global body of opinion formers, governments and interest groups that it offers the way forward.

As debate and decision-making on this momentous issue enter a decisive phase, Aubrey surely deserves support for his vital work.

He is one of the unsung heroes of our time.”

Christopher Layton

Hon Director-General, Commission of the European Union

“Aubrey has run the whole operation on less than a shoe string, from his front room, occasionally stopping to busk as a violinist on the Underground to raise money!

If I had to name ten people who have made an original contribution to life on the planet, Aubrey would be one of them. He is now consulted by Prime Ministers and the World Bank on a regular basis.

When I finish my book on Global Governance, the central chapter is about Aubrey and the Contraction & Convergence campaign. Financial support will make a huge impact on his fiercely independent organisation.”

Tom Spencer

European Secretary to the Commission on Global Governance, Former Chairman of the Foreign Affairs Committee of the European Parliament and President GLOBE International

Aubrey Meyer's contribution to the policy debate on how to avoid dangerous climate change has been sustained and outstanding.

Since 1989 he and his tiny organisation - the Global Commons Institute (GCI) - have been successfully challenging officials around the world including politicians like myself to adopt "Contraction and Convergence", GCI's global framework for climate change policies based on precaution, logic and equity

With scant material support and an extraordinary dedication and persistence, he created and communicated this visionary concept for a long-term global framework for negotiating the international allocation of greenhouse gas emissions permits.

He has already convinced numerous leading figures in the international negotiating community, the insurance industry, the scientific community, the environmental media and politics of the absence of effective alternatives to "Contraction and Convergence". So much so that in June 2000, the UK's Royal Commission on Environmental Pollution made it a key recommendation to this government. The concept has been endorsed by the European Parliament and many members of the UK parliament as well, including the former Secretary of State for the Environment, John Gummer and Ministers from practically all European countries. Under GCI's advice the concept was led at the UN negotiations by the Indian Government in 1995 and again by the Africa Group of Nations in 1997. Again as a result of GCI publications, C&C has also been endorsed by numerous eminent individuals and institutions and is more and more widely quoted in prestigious academic publications.

Lest we make the planet uninhabitable, the international community must come soon to an agreement on how to organise the global effort to avoid this. Contraction and Convergence is a very powerful idea and I have no doubt that the concept will continue to be an influential force in discussions, as one model of how greenhouse gas emissions can be allocated in a fair and equitable manner.

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

Michael Meacher

Minster of Environment, UK

I am pleased to extend the invitation to you that my colleagues and I would like to have a meeting with you when you visit Beijing in your convenient time during the second week of this July.

You are welcome to visit our institute as well.

The subject of the meeting is to discuss the possible use of model on analysis of entitlement of emission by per capita principle.

Zhou Dadi

Director Energy Research Inst. State Planning Commission, China

"I had occasion to discuss with the Global Commons Institute, various important issues related to Climate Change and the Montreal Protocol during my visits abroad. Their outspoken views and in-depth knowledge in economic analysis of the issues relating to equity, costs, benefits, disbenefits would go a long way in bringing out these important aspects in clear terms. Such analysis projected in the IPCC reports would certainly help the conference of the parties in arriving at an objective decision. I strongly recommend their names as lead authors for working group 3.

I also will support any funding proposal they may care to submit.

Kamal Nath

Chairman, Montreal Protocol negotiations, Environment Minister India.

Dear Environmental Friends

When I was in England at the University of York some years ago, I met former South African, Aubrey Meyer, who is with the Global Commons Institute (GCI) in London.

He is an outstanding and tenacious environmental activist, and is largely responsible for a brilliant and practical solution to deal with the global warming disaster looming ahead.

This is the mother of all environmental threats. The GCI solution has been gaining increasing international recognition.

You need to know about it.

Jim Phelps

Chairman of ZEAL, South Africa

Allow me from the outset to express my most sincere gratitude to Globe International, particularly its President Tom Spencer; the Director of Global Commons Institute (GCI), Aubrey Meyer...for inviting me to this very important meeting. Your support is greatly appreciated. As a non-Parliamentarian it is indeed a great honour to address such an august body. My credentials are simply that I have chaired the Africa Group since my election to the INC bureau at its tenth session and represented the region from COP1 through to COP3.

When we met amongst ourselves to exchange views on the progress of the negotiations, delegations from Africa felt something was not right. We failed to define our role on this process. We battled to find a common position that could influence the course of the negotiations. We were all aware that the ship was sailing without us but we needed a legitimate reason to jump on board too.

A long time had passed between the INC process to COP2, the momentum of the negotiations was slowly picking up as we were preparing for the COP3 and yet we could not find legitimate inroads into the negotiations. Having been faced with the responsibility to convene the Africa Group I took upon myself to try and establish that missing link.

It was at this point that GCI participants were called upon to explain their approach – this time very slowly.

It was then at AGBM 8 in August 1997 and after a series of early morning workshops that most of the African delegates present took a strong interest in what GCI was presenting all along. Their approach provided the link between our national goals and aspirations and realisation of the ultimate objective of the Convention with all parties playing an active role. Contraction and convergence is indeed the only approach available today that addresses questions of equity, fair and sustainable emission reduction targets, ensures that an acceptable level of per capita emission was agreed upon and maintained by all throughout the world. Furthermore this approach allowed growth in developing countries (increasing their emission levels) while developed countries are compelled to assume an environmentally sound economic growth pathways and reduced emissions. This then would level the playing field that has been skewed in favour of developed countries at the expense of developing countries. It was our belief that such an approach not only goes beyond merely linking environmental considerations to economic growth but also includes vital issues such as human development, participations of communities in decision making and social and economic justice.....Therefore the approach of contraction and convergence presents a new economic development paradigm for the twenty first century and beyond.

I believe that this is the time to lobby vigorously for support for the GCI contraction and convergence approach sooner rather than later.

The time to act is now. Mr Chairman. Let us go on the offensive to ensure that every citizen of the world has an equal responsibility for reducing emissions of GHGs.

Protection and preservation of mother earth should thus be our immediate preoccupation. Africa reaffirms its position on contraction and convergence included in her statement at AGBM 8 in Bonn in August 1997.

Mrs. Rungano Karimanzira
Ministry of Transport and Energy, Zimbabwe

“You raise very interesting, challenging and controversial issues in the dilemma of the Framework Convention on Climate Change. The way you address “Global Benefit” is impressive. I agree with you that the concept - as understood by the financial lending institutions - is neither exhaustive nor participatory. The effort you make to generate some statistics is very appealing. With no doubt the points you raise on institutional reform and equity are important and require serious attention. Institutional frameworks of the IMF and OECD among others need to be counter-checked in order to conform to the commitments of the Convention. Will you make a presentation to ACTS in Nairobi?”

Patrick Karani

Climate & Africa Project, African Centre for Tech. Studies, Nairobi

“We thank you for your information about the GCI campaign. We are eagerly following your work and find the information very useful.

A new democratic South Africa will be keenly interested in environmental issues and we are confident that your institute will play an important role in assisting us to deal with environmental issues in South Africa and internationally. Please continue to keep us informed about your activities.”

Aziz Pahad

Deputy Head ANC Department of International Affairs.

Dear Aubrey

May I congratulate you, and GCI for the consistency you have demonstrated since the climate negotiations started. Climate Network Africa is very proud of your work and will continue giving our support

Please do not despair even if sometimes (and most of it) the G-77 reacts, rather than be on the offensive. I think it is mainly because of the complexity of the issue at hand and the diversity of the Group; politically, economically, socially and culturally. But let’s just keep on hoping that one day we shall move mountains.

If you have energy left from your busy activities at GCI, please fundraise for CNA, for any of those project- proposals. We do not mind any good suggestions regarding their contents - if you have any. We have not been successful in project fundraising the whole of this year. Meanwhile, I must sincerely thank you for making it- possible for CNA to attend COP2 through your prompt intervention at Heinrich Boll Foundation. I therefore take this opportunity once more, to thank GCI and HBF on behalf of my colleagues.

Pass my regards to all your colleagues at GCI.

Grace Akumu

Coordinator Climate Network Africa.

“The Global Commons Institute is one of the few places in the world giving the necessary emphasis to a radical questioning of short-sighted economic theory. GCI’s approach is rational and compassionate. Their voice must be heard & should be further elaborated in the international debate on global warming & other global ecological challenges.

Their papers are stimulating. The characterisation of countries’ socio-economic efficiencies particularly, is quite original. It would be highly desirable to have them on board for future work on equity in the IPCC context.”

Dr Ernst von Weizacker

Director Wuppertal Institute for Energy, Climate and Transport, Germany.

“We would like to invite you to the IPCC Workshop on Equity and Social Considerations - Nairobi, (18/23 7 94) to make a presentation entitled

‘Unequal Use of the Global Commons: Consumption Patterns as Causal Factors in Global Change’.

We know that with your widely recognised expertise in this field, you would make an important contribution to the work of the IPCC. It is very much hoped that you will respond positively to this invitation”

Bert Bolin

Chairman Intergovernmental Panel on Climate Change (IPCC)

James P Bruce and Hoesung Lee

Co-Chairs, IPCC Working Group Three (WG3)

“We offer great thanks for coming to the Fourth IRNES (Interdisciplinary Research Network on Environment and Society) Conference and delivering such a stimulating and powerful talk.

Your presentation was the highlight of the whole conference in terms of its clarity, directness and passionate delivery. I really think you made people think that evening. GCI could not have a more eloquent and dedicated advocate than yourself.”

Peter Newell

Keele University, Co-Organiser IRNES conference 1995.

Thank you very much indeed for your letter and for the enclosed materials, which seem to me very valuable indeed.

I strongly support your aims. I’m trying to encourage more teaching on ecological issues in the LSE than exists at present. So perhaps we could keep in touch about this and I’ll ask one of my colleagues from the LSE to get into contact with you too.

Anthony Giddens

Director The London School of Economics

On behalf of the Secretary-General, I should like to thank you for your letter dated 1 September 2000 and the Contraction and Convergence Report you kindly attached.

The Report contains useful information and will provide valuable input for the Rio+10 preparations. We have sent a copy to Under-Secretary-General Klaus Toepfer, Director of the United Nations Environment Programme.

John Ruggie

Assistant Secretary-General, United Nations

May I take the opportunity of saying how much we value the pioneering work you have done over the years in making the case for contraction and convergence. It is work such as yours that has allowed us to develop our own arguments more effectively.

Sir Tom Blundell FRS

Chairman, Royal Commission on Environmental Pollution

I am writing to express my sincere thanks for your efforts in making the recent staff meeting at Henley a great success. It is very seldom that a speaker generates as much debate and reaction amongst all the different types and varieties of staff that we employ.

Several staff have said that it was the most interesting talk they have heard since they joined the Agency. There has been as much debate since as to how things can be taken forward.

Some staff have expressed the view that faced with such global problems, are we going to make a difference or are we destined to a very hot and sticky fate. At least by raising the profile we can help by keeping the issue high in people's minds. At the end of the day it is only by capturing sufficient minds that the necessary action will happen.

I am glad that you found my suggestion of using the mayors of major cities as a useful conduit. We have already raised the issue the GLA and the recent launch of the study on the impacts of climate changes on the south east has highlighted the issue of sea level rise with many people at an influential level in the Region.

Once again I would like to thank you for taking the time to join us for the day and making such an impact on us.

Simon Read

Regional EP Manager, Environment Agency, UK

Thanks very much for your recent letter and update materials on Contraction and Convergence. Good to see the latest information.

As regards my own influence, I don't take over as Chairman of the Sustainable Development Commission until our first meeting at the end of October, and until then I think I'd probably have to write as a private individual rather than in any formal capacity. But it's just possible that there may be a meeting with the Prime Minister before then, in which case I shall certainly raise the issue.

Jonathon Porritt

Programme Director, Forum for the Future

I write to thank you very much indeed for your splendid presentation at the SGR conference on 16th November. I had not heard of the Global Commons Institute until it was suggested that you be invited to speak at the Conference and I am delighted that I have had the opportunity to remedy the omission.

I have been interested in green policies for many years, and I was fascinated to hear your argument and justification for your suggested policy. I was also most impressed that you have had backing from, among others, Tory MEPs. The policies you describe are often supported by those who suffer from inequitable distribution, but by definition have little power. It is extremely encouraging that you are being supported by the establishment in the West.

Thank you very much again for offering the members of SGR such a stimulating and informative Keynote Address. It certainly provided the Conference with a most exciting start to the day. Now that I am aware of your Institute I shall certainly look out for any information in the press relating to it. Indeed, if you have any relevant publications I shall be most interested to see them.

Judith Furner

Scientists for Global Responsibility

“Global warming requires international collective action. There are many ways of achieving effective restraint. The Kyoto protocol approach is for rich countries to set themselves targets for emissions reductions, and the recent agreement between European nations and Japan to move ahead with the protocol is a positive step forward. Looking further down the road, it is critically important to get at least all of the E-7 involved.

The Global Commons Institute, an NGO, has come up with an innovative proposal for how to do this. The proposal entails agreeing on a target level of emissions by the year 2015 and then allocating these emissions to everyone in the world proportionally. Rich countries would get allocations well below their current level of emissions, while poor countries would get allocations well above. There would then be a market for emission permits.

Poor countries could earn income selling some of their permits; rich and poor countries alike would have strong incentives to put energy-saving policies into place; and private industry would have strong incentives to invent new, cleaner technologies. One of the hopeful things about globalization is how an innovative idea like this can quickly gain currency and support.”

Globalization, Growth and Poverty

World Bank Policy Research Report, 2002

I found your supporting pack on “Contraction and Convergence” persuasive and would encourage you to ensure that the DETR staff involved in climate change policy are aware of its contents.

Foina Strens

Ministry of Defence, UK

The Kyoto Protocol is only the first step, and in further commitment periods wider participation and deeper emission cuts will be necessary to achieve the ultimate objective of the Framework Convention.....In these negotiations, all options to limit and reduce emissions in a fair and equitable way will be discussed. Contraction and Convergence is one of the interesting alternatives in this regard.

Jean Francois Verstryngne

Acting Director-General, Directorate-General Environment, European Commission

I fully agree that our tasks will become easier as the political and financial community becomes advocates of "Contraction and Convergence".

Koos Richelle

The Director General, DG Development, European Commission

I note what you say about Aubrey Meyer's Contraction and Convergence proposal. I agree that, in the fight against climate change, this 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

Prime Minister, UK

This does not deny the intuitive appeal to many of the case for contraction and convergence which Aubrey and GCI in general make.

The debate on climate change is a lively one and rightly so. The Global Commons Institute's contribution to that debate is welcome and valued.

Hillary Benn MP

Under Secretary, Department for International Development, UK

I wish to thank you heartily for your excellent contribution to the Linz conference. The conference was deemed a success by the participants I had the opportunity to speak to, and we owe this success in no small part to your contribution, which was both passionate and very convincingly argued.

The Contraction and Convergence idea is one which I am sure is destined to increasingly influence the agenda of negotiations in the future, and I wish you the best of luck in your advocacy work.

Ilona Graenitz

Member European Parliament

If CSE is the been the key Southern advocate of a per-capita climate treaty, the honor for main Northern advocate clearly goes to Aubrey Meyer of London's Global Commons Institute, which has put "Contraction and Convergence" on the map, particularly in Europe.

Tom Athansiou

EcoEquity, California

"I sincerely hope that we can stay in close contact and explore avenues of co-operation. The three documents you sent are particularly relevant for us in the design of the Earth Report. The information of "global benefit and disbenefit" and related themes for eg offers a very useful analytical approach as well as the trends of global industrial CO2 impact, GDP income and efficiency.

The GCI abstract for the US Global Climate Conference offers a very interesting methodological framework for a systematic analysis. We would very much appreciate if you could continue providing these very useful documents and information on the trends of sustainable development."

Alicia Barcena

Executive Director Earth Council, Costa Rica

"Congratulations on your success co-organising the Commonwealth Partnerships Conference. I am truly stunned by the extent to which GCI's ideas were incorporated into the conference statements. Your analysis is clear, rigorous and very useful to us. We want to keep in touch with you."

H E Ambassador Afamasaga Toleafoa

Ambassador of W Samoa to the EC.

"I recommend the Global Commons Institute as lead authors in the IPCC working group 3. I have been very impressed by the quality of GCI's work in developing comprehensive methodologies for conducting "benefit/disbenefit analysis", which seems the most appropriate first step in the development of genuinely sustainable solutions and policy formulation."

Dr Frank Rosillo Calle

Biomass User's Network, King's College.

"I would like to congratulate you for the (Benefit/Disbenefit) research done and for its wide distribution. I would ask you to send us, as soon as possible, the complete version of your work."

Carlos E Suarez

Institute of Energy Economics, Lead Author on IPCC WG3 Second Assessment Report.

"I feel that it is worth a concerted effort to finance the Global Commons Institute. GCI makes an important contribution balancing the key players from business, industry and government."

Jane Knott

European School Brussels

"Thank you very much for keeping me informed about your work. Its nice to have your support in this battle."

Dr (Mrs) Jyoti Parikh

Lead Author on IPCC WG3 Second Assessment Report - Indira Gandhi Institute.

"We strongly recommend to you the Global Commons Institute as lead authors for your report on the socio-economic framework for decision-taking concerning the economics of climate change. GCI includes a network of authors who are both literate and numerate in this debate. They have been involved with these matters at the UN and beyond over several years. They have built up a considerable reputation doing cross-cutting socio economic analysis. This has had a clear focus on benefits and disbenefits and who it is who provide these and who suffer these. This effort has been successfully challenging short-sighted economic theory still typical of the pro-growth lobby in the industrial countries. GCI has successfully been providing a focus for those who express a more globally responsible view. Support for their work is considerable and widespread."

Nicholas Hildyard and Larry Lohman
the Ecologist Magazine.

"I did hear from the Intergovernmental Panel on Climate Change Working Group Three secretariat about your paper on "Global Benefit". I think you should be very pleased at the response, because you have very effectively made the point that you intended."

Dr R K Pachauri
Director TATA Energy Research Institute, India.
Lead Author on IPCC WG3 Second Assessment Report.

"We formally request a copy of your publication "Equity and Survival - Climate Change, Population and the Paradox of Growth." This document is vital to this agency as a resource material on our awareness education on climate change and population growth - matters which globally affect mankind. Please will you inform us on all your priority areas and provide any relevant documentation. May God bless you in your service to his people."

Rev Peter A Indalo
Programme Director, Oyani Christian Rural Services, Kenya.

"GCI are the best campaigners for non-industrialised people that we know."

Tom Wakeford
Scientists for Global Responsibility.

"The paper on climate change, population and growth is most interesting. It will be very useful for our future work on post-UNCED strategies for the South."

Branislav Gosovic
Director, the South Centre

"GCI should be very pleased with the influence they have already had on the economists at IPCC's Working Group 3."

Peter Sturm
OECD Economist, Head of Division "Resource Allocation"

“Please may we order the full ‘Equity and Survival’ series of GCI publications.”

Joint International Monetary Fund/World Bank Library

USA

“It was a great pleasure to receive your paper “Equity and Survival - Who provides global benefit; who causes global disbenefit?”.

This paper will be very useful for my section.”

Sung Woong Hong

Korea Research Institute for Human Settlements and Lead Author on IPCC WG3 Second Assessment Report.

“We intend to disseminate the information in your booklet as widely as possible.”

Riza Selahettin

Malaysian High Commissioner’s Office, London.

“Your intervention here was brave and not the sort of thing we are used to hearing here. I agreed with everything you said.”

Gerard Dorin

Head Administrator OECD Environment Directorate, OECD “Economics of Global Climate Change Conference”

"A quite excellent analysis and superb graphics. I'm impressed yet again by the concise way in which you tackle the subject in hand. I only hope it has the same impact on the UN Climate negotiations!"

Dr Julian Salt

Department of Peace Studies. University of Bradford.

"Thank you for the GCI materials. They are both useful and interesting. I am hoping you can speak at the Second "Science for the Earth" forum in Cambridge. Your perspective on the role played by economists in addressing global environmental problems would be interesting. We like the questions you pose."

Tim Lenton

Scientists for Global Responsibility.

"With regard to the intervention by the Global Commons Institute, my delegation wishes to support every word of what they have just said."

Mohammed S al Sabban

Head of Saudi Arabian Delegation to the IPCC - concerning the GCI rebuttal of the case made by the World Bank representative for measuring the incremental costs for protecting the global environment.

"Your papers are a real treasure. I enjoyed the graphs enormously."

Prof. Tim O'Riordan

University of East Anglia Environmental Sciences Department and Associate Director CSERGE.

"The principles of international equity that are embodied in sustainable development require that the industrialised countries recognise the global impact of their consumption patterns, and provide development opportunities for poorer countries. Recent papers provided new perspectives on the importance of the international dimension . The Global Commons Institute have highlighted the accumulated debt in terms of over-use of the atmosphere, and calculated an estimated debt value that vastly exceeds the financial debt owed by the South."

Barry Coates

WWF UK, Climate Action Network Conference on Transport & Global Warming

I have read several times GCI's submission to IPCC WG3. I have always been sympathetic to per-capita emissions allocation, but have never seen such a clear and persuasive explanation of why such an allocation is needed both for ethical and practical reasons. Also, I liked very much your point that climate policy analysts should make explicit the ethical positions and values inherent in their work. So much of the debate on tradable emissions quotas and JI avoids the crucial issue of allocation.

I also agree with you that the Climate Action Network should discuss this issue more.

My group is participating in a newly formed network of East Asian NGOs (Atmosphere Action Network for East Asia (AANEA)) working on atmospheric issues. I want everyone in this network to read your paper, because we as a network need to develop a common position on the issue of equity, and your paper is the best base for discussions I know.

Dwight Van Winkle,

Citizens Alliance for Saving the Atmosphere (CASA), Osaka, Japan

Atmosphere Action Network for East Asia (AANEA)

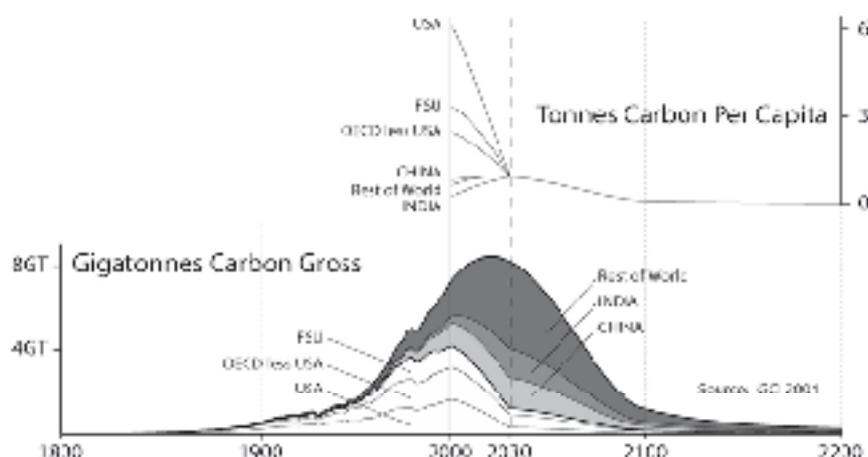
A new network for regional cooperation

Current AANEA member organisations:

China:	Friends of Nature
Hong Kong:	The Conservancy Association
Hong Kong:	Environment Centre
Japan:	Citizens Alliance for Saving the Atmosphere and the Earth (CASA)
Japan:	Acid Rain Monitoring Network
Japan:	Air Pollution Victims Association
	Peoples Forum 2001, Global Warming Study Group
Mongolia:	Mongolian Association for Conservation of Nature and Environment (MANCE)
Russia:	Geographical Society
	Wildlife Foundation
South Korea:	Center for Environment and Development, Citizens Coalition for Economic Justice (CCEJ)
	Green Korea
Korean:	Federation of Environmental Movements
Taiwan:	Climate Action Network Taiwan
Taiwan:	Environmental Protection Union

GCI BRIEFING: "CONTRACTION & CONVERGENCE"

Contraction & Convergence



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

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

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

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

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

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

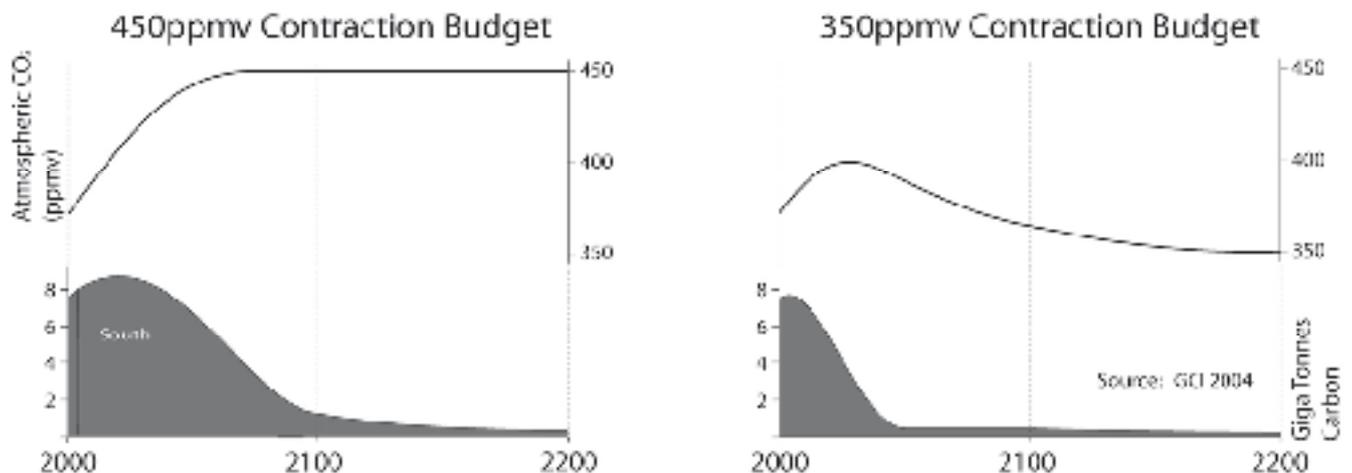
Since then C&C has been widely referenced in the debate about achieving the objective of the UNFCCC. In 2000 C&C was the first recommendation of the UK Royal Commission on Environmental Pollution in its proposals to government. [6] In December 2003 C&C was adopted by the German Government's Advisory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

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

- [1] <http://www.gd.org.uk/signon/OrigStatement2.pdf>
- [2] <http://www.gd.org.uk/articles/tear0806.pdf>
- [3] http://www.gd.org.uk/archive/MegaDoc_19.pdf [page 116]
- [4] http://www.gd.org.uk/tear04/SUPRECA_GROUP.pdf
- [5] http://www.gd.org.uk/temp/COPS_Transcript.pdf
- [6] http://www.gd.org.uk/endorsements/RCGP_Chapter_4.pdf
- [7] http://www.gd.org.uk/endorsements/ANSGU_Summary.pdf
- [8] http://www.gd.org.uk/oldshow/C&C_UNFCCC.pdf
- [9] <http://www.gd.org.uk/speeches/Williams.pdf>
- [10] <http://www.gd.org.uk/transitions.html>

“CONTRACTION & CONVERGENCE” - DEFINITION STATEMENT

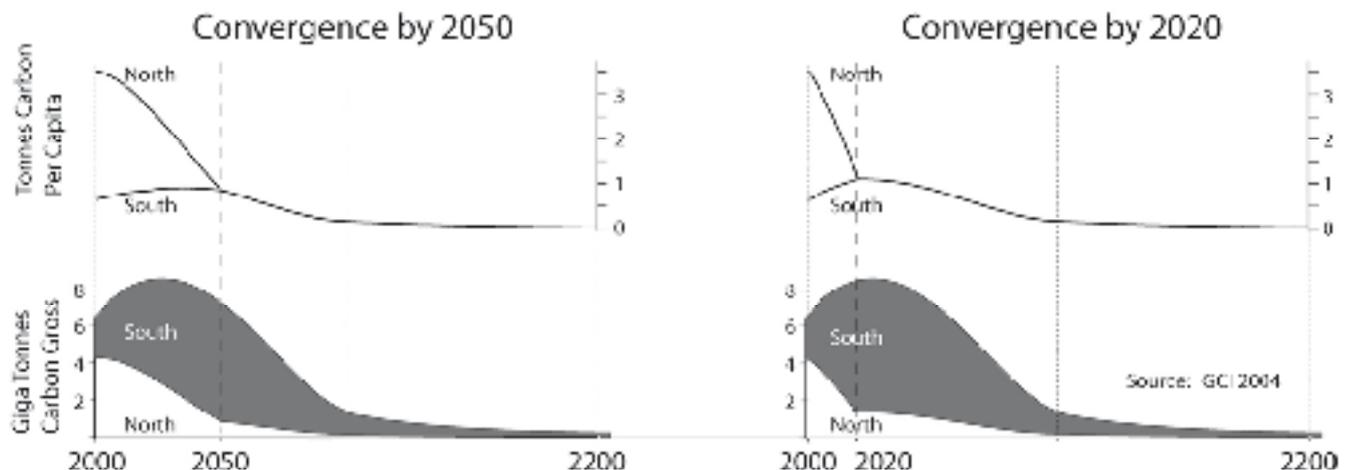
Negotiating Rates of Contraction



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

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

Negotiating Rates of Convergence

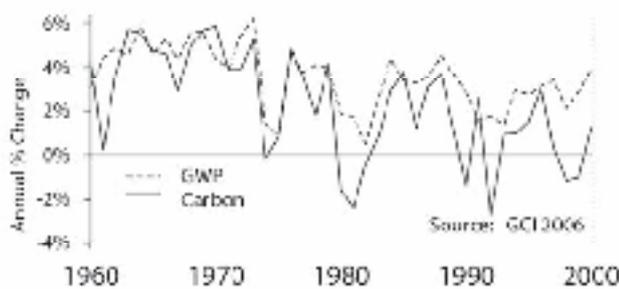


Per capita emissions around the World converge on equality by a negotiated "Convergence Date".
 Two examples of convergence are shown here, each within a 450ppmv contraction budget.

- * The inter-regional, inter-national and intra-national tradability of these entitlements in an appropriate currency such as 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.
3. Presently, the global community continues to generate dangerous climate change faster than it organises to avoid it. The international diplomatic challenge is to reverse this. The purpose of C&C is to make this possible. It enables scenarios for safe climate to be calculated and shared by negotiation so that policies and measures can be internationally organised at rates that avoid dangerous global climate change.
 4. GHG emissions have so far been closely correlated with economic performance (See Image Four Page Three). To date, this growth of economies and emissions has been mostly in the industrialised countries, creating recently a global pattern of increasingly uneconomic expansion and divergence [EMD], environmental imbalance and international insecurity (Image 4 p 3).
 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.gd.org.uk>
 [2] <http://www.gd.org.uk/node/48.html>
 [3] [http://www.gd.org.uk/images/CC_Demo\(p2\).wmv](http://www.gd.org.uk/images/CC_Demo(p2).wmv)
 [4] http://www.gd.org.uk/images/CC_Bubbles.pdf
 [5] <http://www.fseets.org/events/kiotoconf/sleepwalking.pdf>
 [6] <http://www.roep.org.uk/pdf/chp4.pdf>
 [7] http://www.nbgn.de/nbgn_en2003_engl.pdf
 [8] http://www.gd.org.uk/Archive/1999_2004
 [9] <http://www.gd.org.uk/consolidatory/Deedawa.pdf>
 [10] <http://www.gd.org.uk/papers/bwr.pdf> (appendix C, page 34)
 [11] http://www.gd.org.uk/temp/CCF3_Transcript.pdf
 [12] <http://www.gd.org.uk/briefings/CC&C&Yrd.html>
 [13] http://www.gd.org.uk/consolidatory/UNFCCC_A_Brief_History_to1998.pdf [pp 27 - 32]
 [14] http://www.gd.org.uk/ENC/Climate_C&C_Report.pdf
 [15] <http://www.gd.org.uk/links/kioto.html>
 [16] http://www.gd.org.uk/briefings/Consensus_Report.pdf

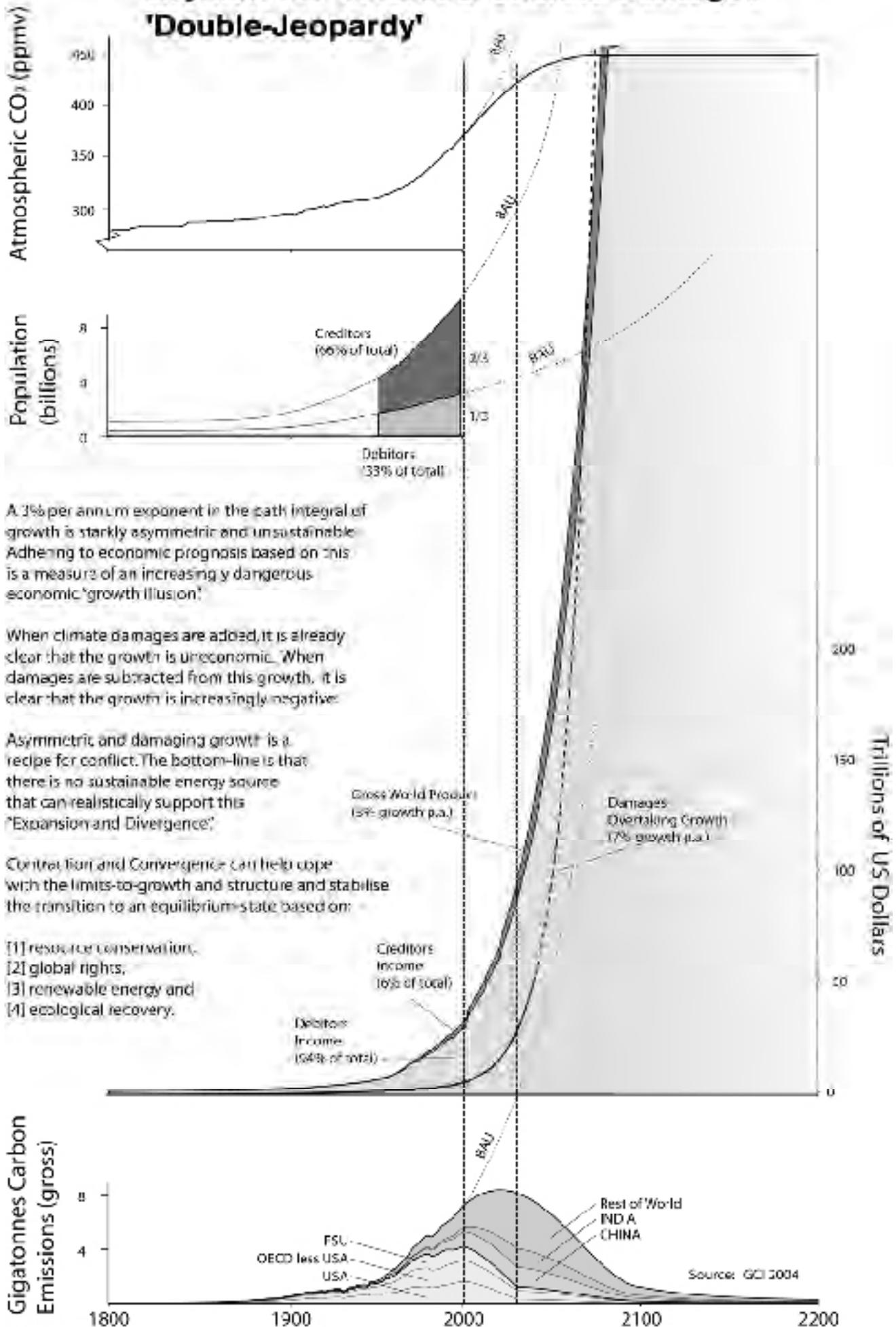
GWP, Carbon Lockstep



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

5. The C&C answer to this is full-term and constitutional, rather than short-term and stochastic. It addresses inertial argument about 'historic responsibilities' for rising concentrations recognising this as a development opportunity cost to newly industrialising countries. C&C enables an international pre-distribution of these tradable and therefore valuable future entitlements to emit GHGs to result from a rate of convergence that is deliberately accelerated relative to the global rate of contraction agreed (Image 3 p 2).
 6. The UK's Royal Commission on Environmental Pollution [6] and the German Advisory Council on Global Change [7] both make their recommendations to governments in terms of formal C&C. Many individual and institutional statements supporting C&C are now on record. [8, 9] The Africa Group of Nations formally proposed it to the UNFCCC in 1997. [10] It was agreed in principle at COP-3 Kyoto 1997. [11] C&C meets the requirements of the Byrd Hagel Resolution of the US Senate of that year [12] the European Parliament passed a C&C resolution in 1998 [13] the UK Parliament has reported on C&C [14, 15, 16].
- The charts on page four are stacked one above the other on the same horizontal time axis [1800 - 2200]. This helps to compare some of what is known about existing rates of system change with an underlying assumption in favour of a C&C arrangement being put in place.
- A new feature shown is the rate of economic damages from increasingly 'unnatural disasters' (measured as 'uninsured economic losses' by Munich Re) now rising at 7% per annum, twice the rate of global growth. Another is the devastating and worsening economic asymmetry of "Expansion and Divergence" (EMD). 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 'debitors']. The other two thirds, who live on less than 40% of the average global per capita income, collectively have 6% of global purchasing power and a 10% share of GHG pollution. [We call these 'creditors'].
- To escape poverty, it is creditors who embody the greatest impulse for future economic growth and claim on future GHG emissions. But this group also has the greatest vulnerability to damages from climate changes.
- Most institutions now acknowledge that atmospheric GHG stabilization, "inevitably requires Contraction and Convergence". However, some of the response to C&C, sees it merely as 'an outcome' of continued economic growth with only tentative acknowledgement of the damages and little comprehension of EMD.
- 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.

Asymmetric Growth & Climate Damages 'Double-Jeopardy'



A 3% per annum exponent in the path integral of growth is starkly asymmetric and unsustainable. Adhering to economic prognosis based on this is a measure of an increasingly dangerous economic 'growth illusion'.

When climate damages are added, it is already clear that the growth is uneconomic. When damages are subtracted from this growth, it is clear that the growth is increasingly negative.

Asymmetric and damaging growth is a recipe for conflict. The bottom-line is that there is no sustainable energy source that can realistically support this "Expansion and Divergence".

Contraction and Convergence can help cope with the limits-to-growth and structure and stabilise the transition to an equilibrium state based on:

- [1] resource conservation,
- [2] global rights,
- [3] renewable energy and
- [4] ecological recovery.

C&C briefing with references is at: - www.gci.org.uk/briefings/ICE.pdf

The C&C framework is supported by manifesto commitments from the **Welsh Nationalists [Plaid Cymru]** and the **Scottish Nationalists** and the **Liberal Democrats** and the **Greens** and the **Respect Party**.

http://www.gci.org.uk/presentations/RSA_C&C_G-8_Quotes.pdf

Many individual Labour Party MPs advocate C&C, **some Conservative MPs** do too.

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=29500&SESSION=875>

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=27350&SESSION=873>

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=27080&SESSION=873>

The network of support for the C&C framework is now considerable. With its initial introduction in 1990, C&C was established and has been on the record as a formal well-supported position at the UNFCCC since 1996: -

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

http://www.gci.org.uk/briefings/UNFCC&C_A_Brief_History_to1998.pdf

<http://www.gci.org.uk/Endorsements/UNEPFI5f.pdf>

Indeed the United Nations Framework Convention on Climate Change (UNFCCC) administration itself has said since 2003 that: - "*Contraction and Convergence is inevitably required to achieve the objective of the convention*": -

http://www.gci.org.uk/UNFCCC/C&C_Janos_Pasztor_UNFCCC.pdf

The Africa Group of Nations have supported C&C since before COP-3 1997, United Nations Framework Convention on Climate Change (UNFCCC): -

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

The transcript of COP-3 Kyoto as C&C was agreed at climax of COP-3 in 1997: -

http://www.gci.org.uk/temp/COP3_Transcript.pdf

The C&C Booklet 13 languages from COP-11 12/2005: -

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

An archive with a 15 year history of this campaign: -

http://www.gci.org.uk/Archive/Mega_Doc_1989_2004.pdf

The Urgency Briefing: -

"Can we do Enough Soon Enough: History and Future Airborne Fraction of Emissions Increasing"

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

shows some of the serious consequences of substituting the politics of blame for global strategy, and highlights the risks of atmospheric concentrations rising much faster than originally supposed because the fraction of emissions retained in the atmosphere is increasing, above the acceleration of emissions per se.

An issue to some is that C&C merely describes generically an 'outcome' of many future aspirational phases of the Kyoto Protocol. This is what the corporations collectively call 'an inadequate patchwork', see slides 20/1 here: -

http://www.gci.org.uk/presentations/RSA_C&C_G-8_Quotes.pdf

To cure this very randomness, C&C formally means the structure a of full-term, concentration-target-based framework endowed by GCI from the outset, as accepted for example by DEFRA: -

http://www.gci.org.uk/correspondence/Meacher_15_11_02.pdf

and in 2004 by the House of Commons Environmental Audit Committee and result: -

http://www.gci.org.uk/correspondence/EAC_response_GCI_300904.pdf

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

C&C briefing to the May 2006 all-party enquiry into climate-consensus and result: -

http://www.gci.org.uk/briefings/APGCCC_Evidence_single_A4_pages.pdf

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



Tower of London's ravens are kept indoors

The Tower of London has decided to keep its famous ravens indoors to protect them from C&C.

Special aviaries have been created for the six birds within one of the towers of the fortress on the Thames.

Legend has it the Tower of London will collapse and the kingdom will fall if all the ravens leave.

The Tower ravens, named Branwen, Hugine, Munin, Gwyllum, Thor and Baldrick, are said to be getting used to their new surroundings.

The Tower's Yeoman raven master, Derrick Coyle, said: "Although we don't like having to bring the Tower ravens inside, we believe it is the safest thing to do for their own protection, given the speed that the C&C virus is moving around the globe.



The raven master said they do not like to keep the birds inside

"We are taking advice on the vaccinations against this, and in the meantime, we will continue to give our six ravens as much care and attention as they need."

**But Tower Ravens agree,
- quoth - 'the Future is C&C'**

Thor & Baldrick



UK Parliament HANSARD - Thursday 8th November 2007

<http://www.publications.parliament.uk/pa/cm/cmhansrd.htm>

"Government still refuses to acknowledge that the emissions cut of 60% by 2050 in the climate-bill came from the RCEP Report [2000] and the Contraction & Convergence framework by GCI.

Why are Government embarrassed by that piece of history? They answer queries and parliamentary questions with unnecessarily evasive answers.

It is almost as if Contraction and Convergence was some kind of shameful state secret and if it ever got out

. . . the ravens in the Tower of London would fly off and never return."

Colin Challen MP [Labour - Morley and Rothwell - LEEDS]

