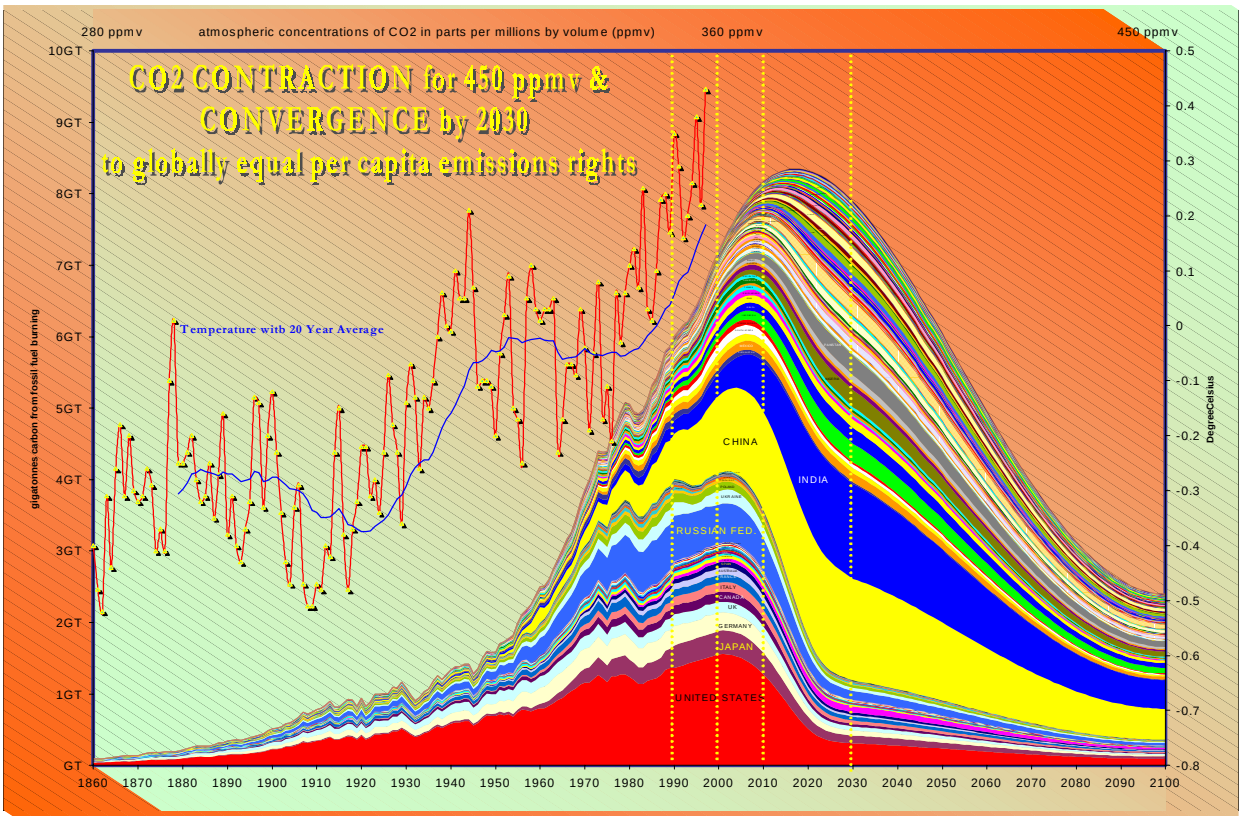
GCI



"Contraction & Convergence"

". . . the logical conclusion of a rights-based approach."

IPCC Third Assessment - June 2000

". . . provides a possible example of a long-term framework to reduce emissions globally in order to achieve the necessary transition to sustainability."

UNEP Financial Institutions Position Paper at COP-7 UNFCCC - Dec 2001

Contents

Early Day Motion 325

" . . . this House

1 Welcomes the Government's commitment to resolve asymmetric conflicts such as global terrorism and climate change through the process of international coalition building;

2 Further welcomes the launch of the Energy Review and the Government's commitment to respond to the 22nd Report of the Royal Commission on Environmental Pollution (RCEP), 'Energy-the Changing Climate';

3 Notes that terrorism is more likely to flourish in conditions of social injustice and environmental degradation;

4 Further notes the significant disparities in energy consumption and greenhouse gas emissions between developed and developing countries;

5 Further welcomes Recommendation 3 of the RCEP's 22nd Report that 'The Government should press for a further global climate agreement based on the Contraction and Convergence approach, combined with the international trading in emission permits;

6 Is seriously concerned at the vulnerability to terrorist attack of Britain's nuclear power stations and facilities and the related transportation of radioactive materials;

7 Is encouraged by the rapid development of renewable energy technologies which offer the prospect of security and self sufficiency in energy supply to developed and developing countries;

8 And, therefore, calls on the Prime Minister to demonstrate further global leadership at next year's World Conference on Sustainable Development by arguing the case for a policy of Contraction and Convergence of greenhouse gas emissions as the only realistic means of managing the transition from a carbon economy in a way that allows for equitable access to safe, renewable, low-intensity, self-sufficient and decentralised forms of energy supply.

UK Parliament - Signatories to EDM 325 as at 10/05/2002

1. Mr David Chaytor
2. Ms Diane Abbott
3. John Austin
4. Norman Baker
5. Mr Harry Barnes
6. John Barrett
7. Mr A J Beith
8. Mr Harold Best
9. Tom Brake
10. Mr Colin Breed
11. Mrs Annette Brooke
12. Malcolm Bruce
13. Mr John Burnett
14. Mrs Patsy Calton
15. Menzies Campbell
16. Alistair Carmichael
17. Mr Martin Caton
18. Mr Michael Clapham
19. Mrs Helen Clark
20. Ann Clwyd
21. Harry Cohen
22. Mr Tony Colman
23. Frank Cook
24. Jeremy Corbyn
25. Brian Cotter
26. Mr Jim Cousins
27. Mrs Ann Cryer
28. Valerie Davey
29. Mr Ian Davidson
30. Mr Terry Davis
31. Mr Hilton Dawson
32. Mrs Janet Dean
33. Jim Dobbin
34. Sue Doughty
35. Mr David Drew
36. Julia Drown
37. Jeff Ennis
38. Mr Bill Etherington
39. Paul Flynn
40. Mr Don Foster
41. Andrew George
42. Mr Neil Gerrard
43. Dr Ian Gibson
44. Sandra Gidley
45. Matthew Green
46. Jane Griffiths
47. Mr Win Griffiths
48. Mr Mike Hancock
49. Dr Evan Harris
50. Nick Harvey
51. Paul Holmes
52. Mr Kelvin Hopkins
53. Simon Hughes
54. Lynne Jones
55. Mr Nigel Jones
56. Mr Piara S Khabra
57. Mr Archy Kirkwood
58. Norman Lamb
59. Mr Mark Lazarowicz
60. Mr David Lepper
61. Mr Elfyn Llwyd
62. Alice Mahon
63. Mr Paul Marsden
64. Chris McCafferty
65. Mr Kevin McNamara
66. Mr Tony McWalter
67. Mr Alan Meale
68. Laura Moffatt
69. Mr Michael Moore
70. Dr Doug Naysmith
71. Mr Mark Oaten
72. Lembit Opik
73. Dr Nick Palmer
74. Mr Gordon Prentice
75. Syd Rapson
76. Mr David Rendel
77. Joan Ruddock
78. Mr Adrian Sanders
79. Phil Sawford
80. Mr Alan Simpson
81. Mr Andrew Stunell
82. David Taylor
83. Matthew Taylor
84. Mr Simon Thomas
85. Mr Mark Todd
86. Dr Jenny Tonge
87. Jon Trickett
88. Mr Paul Truswell
89. Dr Desmond Turner
90. Mr Paul Tyler
91. Dr Rudi Vis
92. Mr Robert N Wareing
93. Brian White
94. Hywel Williams
95. Mr Roger Williams
96. Mr R Younger-Ross
97. Chris Mole

Introduction to C&C

The consequences of global climate change are ultimately incalculable. However, economic losses from natural disasters (80% weather related) are now growing at 12% a year. That is four times the rate of growth in the global economy. Assuming the growth rate of 3% in the global economy continues, these losses will exceed the total value of all human production within two generations on current trends. (chart page 6).

The research compiled by IPCC also indicates that the future risks are grave and will compound with the underlying trends in unsustainable development. That is why in December 1999, the heads of the US National Ocean Atmosphere Administration and the UK Meteorological Office stated,

> *"We are in a critical situation and must act soon."*

In January 2000, 1,000 Corporate CEOs at the Davos World Economic Forum said: -

> *"Averting climate change is the greatest challenge facing the world, why has more not been done to avert its devastating trends?"*

In March 2000, the UK Prime Minister said; -

> "The process is accelerating. For some parts of the world, particularly the poorer parts, the effects will be catastrophic."

To avert these devastating trends and bring the process of climate change under control as soon as possible, GCI proposes an international framework for controlling the greenhouse gas (ghg) emissions whilst positively stimulating the growth of renewable energy technologies and their international markets.

This framework is *"Contraction and Convergence"* (C&C) and is outlined on page 4. C&C recognises that to avert these trends, climate-efficient commerce must be politically guided, rather than solely reliant on the market, if we are to achieve the objective of the United Nations Framework Convention on Climate Change (UNFCCC) and thus enable future economic and social development to be sustainable. Establishing the C&C framework is at the political and constitutional heart of the UNFCCC process so as to progress: -

- Choice and opportunity
- The reduction of regional inequity across the world
- An orderly transition from carbon to renewable energy technologies
- The reversal of the exponential rise in catastrophic losses

<u>All these are fundamental to long-term prosperity and security.</u>

By globally integrating precaution, equity and efficiency, C&C coordinates control to reduce risk exposure at source. It thus defines the political commitment necessary to avoiding dangerous climate change while promoting prosperity by other non-carbon energy based means. The case for C&C is compelling and as governments, industry and civil society conjoin in its enabling simplicity, C&C will become the standard by which progress at the UNFCCC is measured. As Appendices One and Two of this document suggest, C&C has wider international support than any other global proposal. Also in the context of creating global emissions permits as tradable property rights, C&C is described in the Policy Section - Working Group Three - of the IPCC Third Assessment Report as, *"taking the rights-based approach to its logical conclusion."*

Essential Proposition of C&C

Countries agree a reviewable global greenhouse gas (ghg) emissions 'contraction budget' targeted at a precautionary, stable value for atmospheric ghg concentrations. The internationally tradable shares in this budget are then agreed on the basis of 'convergence' from now, where shares are broadly proportional to income, to a target date in the budget timeline after which they remain proportional to an agreed base year of global population. Revenue 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

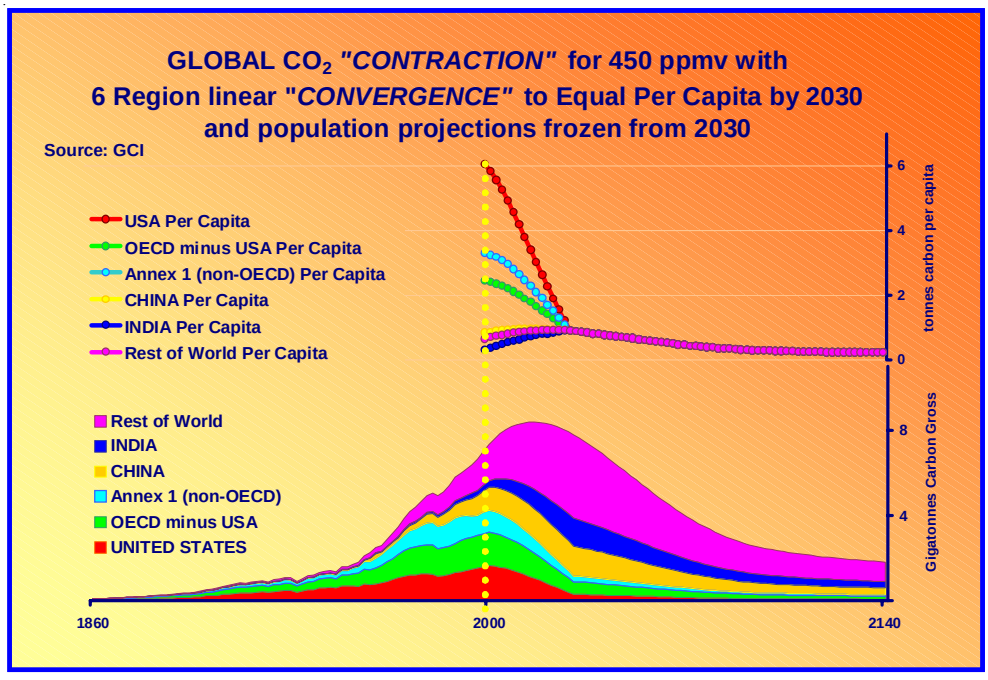
On the basis of equity, convergence means that each year's ration of this global emissions budget is shared out so that every country progressively converges on the same allocation per inhabitant by an agreed date, for example by 2030. It recognises the need for access rights to the 'global commons' of the atmosphere with the fundamental principle of globally equal rights 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 less developed countries the income to fund development in zero-emission ways. Industries in developed countries would benefit from the export markets this restructuring would create.

Sustainable Growth

C&C does not place a straightjacket 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.



Overview of trends with and without C&C

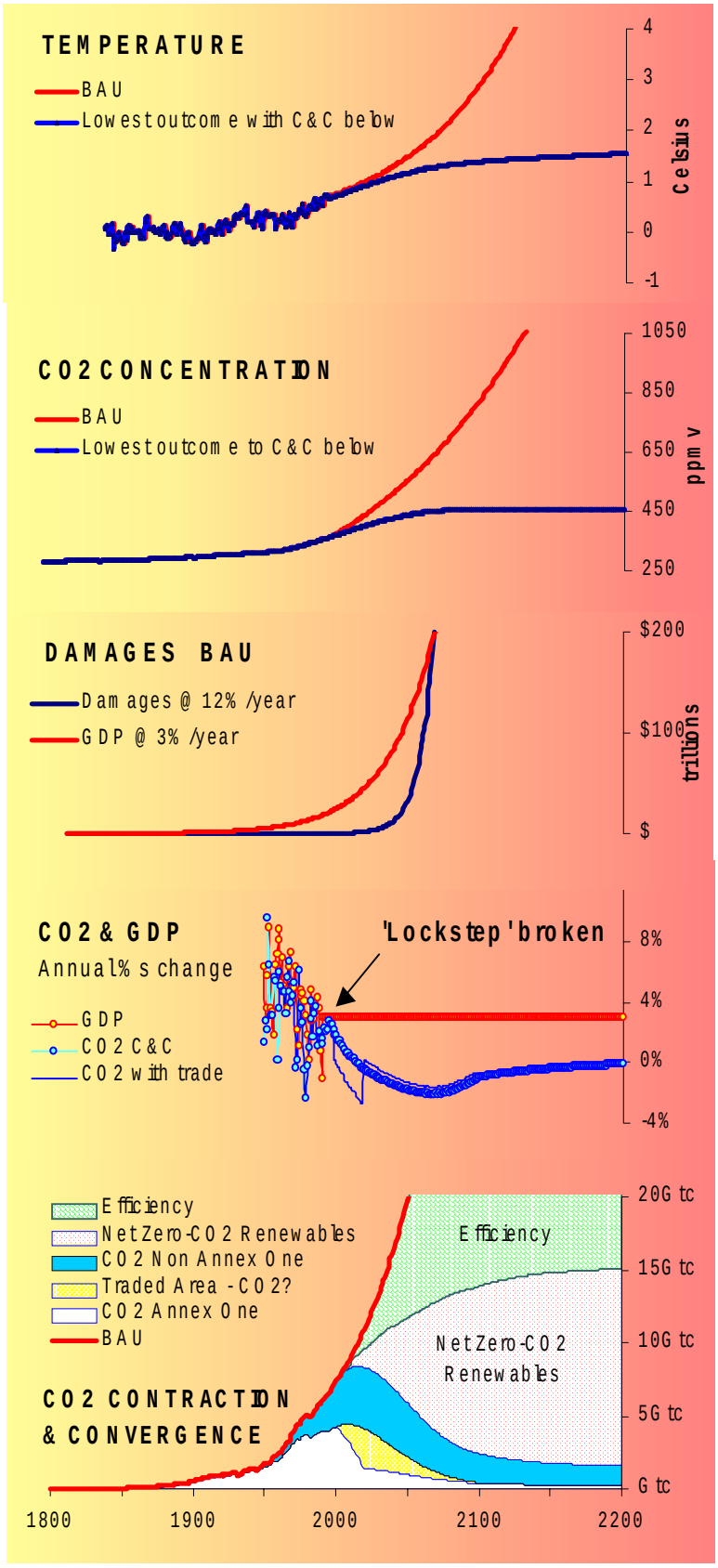
Surface **temperature** from 1860 until 2000 shows an overall rise of 0.9°C. The future projections are following CO_2 emissions and atmospheric ghg concentrations (in ppmv - parts per million by volume). The red line shows Business-as-Usual (BAU) where the underlying emissions grow at 2%/yr. The blue line shows the lowest possible climate sensitivity - a rise of 1.5°C - assuming a contraction by 2100 of 60% in annual emissions.

Recorded atmospheric **CO_2 concentration** from 1860 until 2000 shows an increase of 34% over pre-industrial levels. This is a rise both higher and faster than anywhere in the ice-core sampling back 440,000 years before now. Concentrations are rising as the result of accumulating emissions. In future, the worst case is the red line as BAU. The best case sees this concentration stabilised at 70% above pre-industrial levels due to a 60% contraction in the underlying emissions by 2100.

Damages here are the global economic losses (Munich Re) for the four decades past for all natural disasters projected at the observed rate of increase of 12% a year in comparison to global $GDP at 3%. If the global trends continue BAU, damages will exceed GDP by 2065! The risks will soon rise beyond the capacity of the insurance industry and even governments to absorb. Damages will rise for the century ahead even with emissions contraction, but the rate can be reduced with Contraction, Convergence, Allocation and Trading (C-CAT).

For the past four decades, the output of **CO_2 and GDP from global industry have been correlated nearly 100%** (known as 'lockstep'). Breaking the lockstep is essential. Future GDP is projected here at 3% a year. Future CO_2 goes to -2% with the retreat from fossil fuel dependency shown below, that limits CO_2 concentrations to 70% above pre-industrial levels, shown above. If the traded area is also converted to zero-emissions supply (below), the carbon retreat might achieve up to - 4% a year.

The red line shows BAU CO_2 emissions. The solid segments show "**Contraction, Convergence, Allocation and Trade**" [C-CAT] to manage emissions down by at least 60% within a given time frame (2100 here) with an agreed 'contraction budget' (here 680 billion tonnes of carbon). The internationally tradable shares of this budget (here, 100 billion tonnes) result from convergence to equal per capital emissions by an agreed date and population base year (here 2020). If this is invested in zero-emissions technologies, risk and damages are lowered further as the budget is then net of these emissions as well. The renewables opportunity is the difference between C-CAT and BAU. It is worth trillions of dollars per annum - the biggest market in history.



UNFCCC, C&C and the Kyoto Protocol

UNFCCC states,

> *" . . . must achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system . . . should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity. . . developed country Parties must take the lead in combating climate change. . . (while) the share of global emissions originating in developing countries will grow to meet their social and development needs."* [9]

The Kyoto Protocol is an incomplete response to the UNFCCC because Developing Countries are excluded from emissions control. Nor will its targets meaningfully begin to achieve stabilization of greenhouse gases in the atmosphere. A global C&C framework is the logical and probably the only way to secure global participation in the process that does achieve this. As the UNEP CEO Topfer recognised in June 97, C&C is the logical extension of the Protocol: -

> *"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."*

UNFCCC, C&C and Byrd Hagel Resolution

In July 1997 US Senators Byrd and Hagel tabled a resolution about the US involvement with the Kyoto Protocol. It rehearsed all their objections to what they felt was the 'flawed' character of the Berlin Mandate and the impending Kyoto Protocol.

> *"Now, therefore, be it resolved that: - The US should not be a signatory to any protocol to, or other agreement regarding, the UNFCCC of 1992, at negotiations in Kyoto in December 1997, or thereafter, which would mandate new commitments to limit or reduce greenhouse gas emissions for the Annex I Parties, unless the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties within the same compliance period."*

The crucial detail here is that two defining distinctions are maintained between: - Annex One Parties (Developed Country Parties) and Developing Country Parties and *'limit'* ghg emissions and *'reduce'* ghg emissions. Limitation means controlled positive growth of emissions and reductions means controlled negative growth. Putting these concepts together in the same compliance period, translates into a formal process of *"Contraction and Convergence"*. Annex One Parties will reduce (or contract) their ghg emissions while the Developing Country Parties will limit their ghg emissions and thus converge with Annex One Country Parties. This will not emerge by accident but by design and consent. *"Contraction and Convergence"* provides the logical modus operandi for the resolution.

Statements by Individuals

Contents

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 par values for consumption on a per capita basis globally."

1997

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-Parl. 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

"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 - 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.

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 - 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 . . . "

2001

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."

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."

November - Jaques Chirac, President of France

"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."

November - Olivier Deleuze, 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."

2002

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."

Statements by Organisations

Contents

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

"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.

2000

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 - UK Chartered Insurance Institute (CII)

A research report by the Society of Fellows of the CII's report on global climate change describes 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."

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

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 C02 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."

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, establish-ing 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."

2002

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."

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."

References

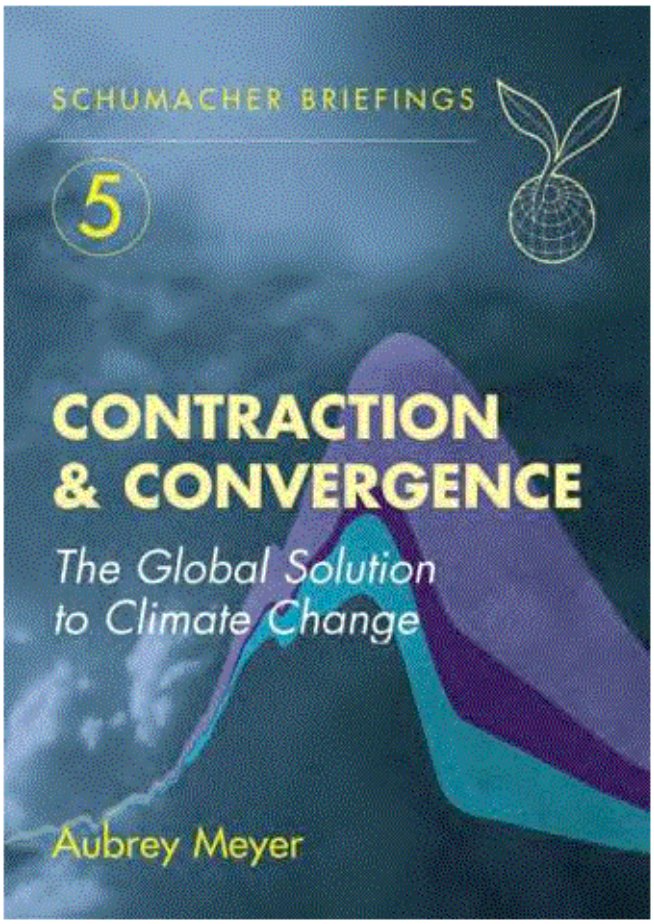
Global Commons Institute (GCI)

Technical support and information about *"Contraction & Convergence"* and the planning model itself (CCOptions) are available at: - http://www.gci.org.uk

Contraction & Convergence, the Global Solution to Climate Change

Schumacher Briefing No. 5 by Aubrey Meyer - Published November 2000.

Green Books price £5: - http://www.greenbooks.co.uk/cac/cacorder.htm



"If you read only one book on climate change its past and future, politics and solutions, read this one.
This is the global picture and the key to a global solution."

Prof Tom Spencer, University of Surrey
President, GLOBE International 1994-99

" . . . brilliant. It reads like a novel.

I particularly liked your interpretation of the Tao Te Ching . . . the policy analysis sharp as ever . . . analysis of how the climate negotiations up to and beyond Kyoto went off track is spot on."

Jonathon Loh
Policy Officer WWF International

"Man-made climate change is probably the most serious environmental threat we face. Contraction & Convergence is one way to address the challenge. It is a very powerful idea and we are moving remorselessly in that direction."

Michael Meacher
UK Minister for Environment

"It is clear that urgent action is called for not only by government and industry but also by ourselves. If our lives are to be conducted according to principles of conscience and survival, we cannot continue to evade our responsibility on this portentous issue. I can think of no better investment of time and no more effective means of jolting people out of their complacency on the ramifications of global warming than by reading this remarkable book."

Mayer Hillman
Town & Country Planning

"This then, is the book of the GCI campaign. Read and learn, and marvel."

Dave Bradney
Green Party

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