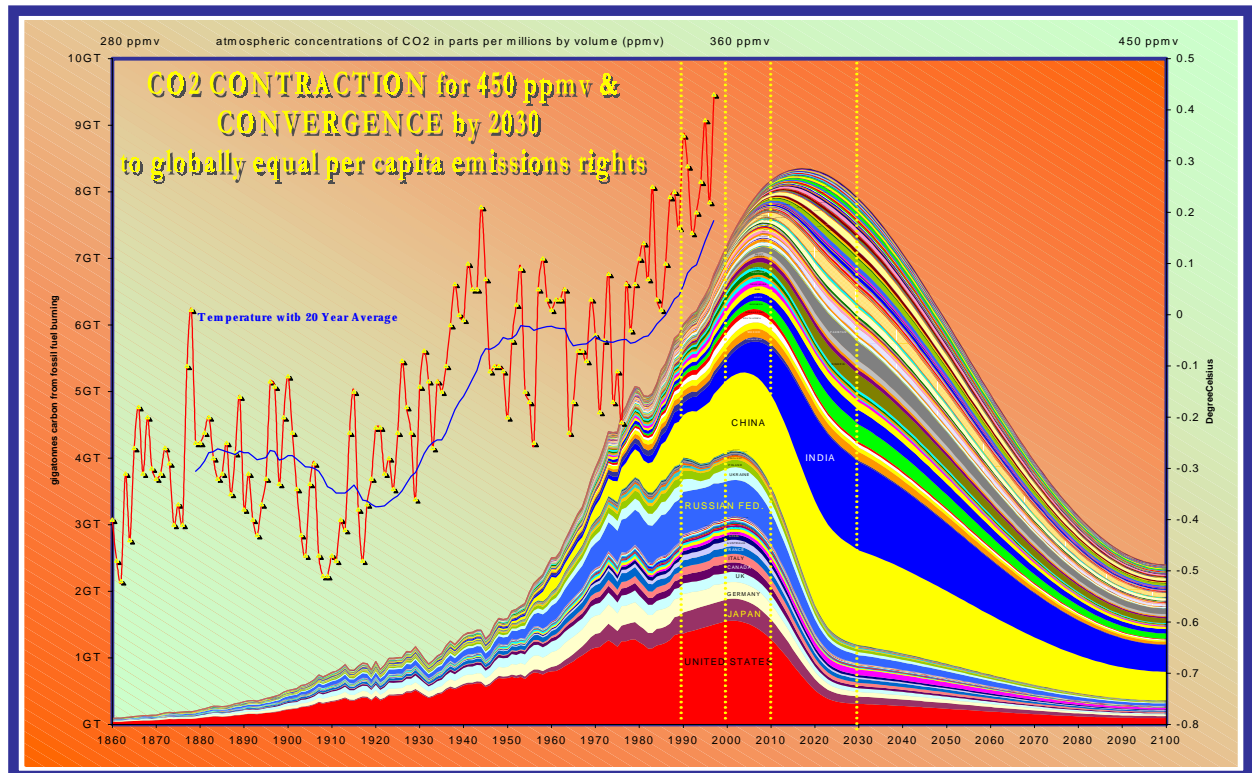
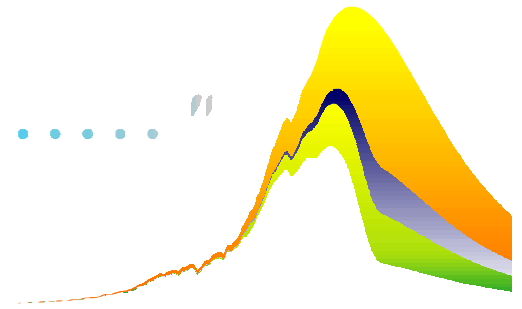


# GCI - "equity and survival . . . . ."



## References for "Contraction & Convergence" (August 11<sup>th</sup> 2001)

Global Commons Institute (GCI)

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

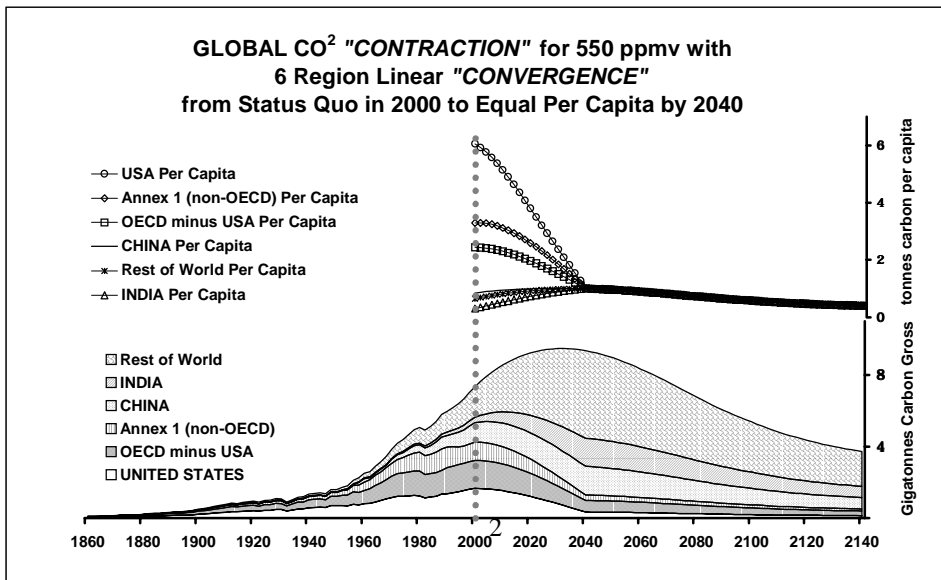
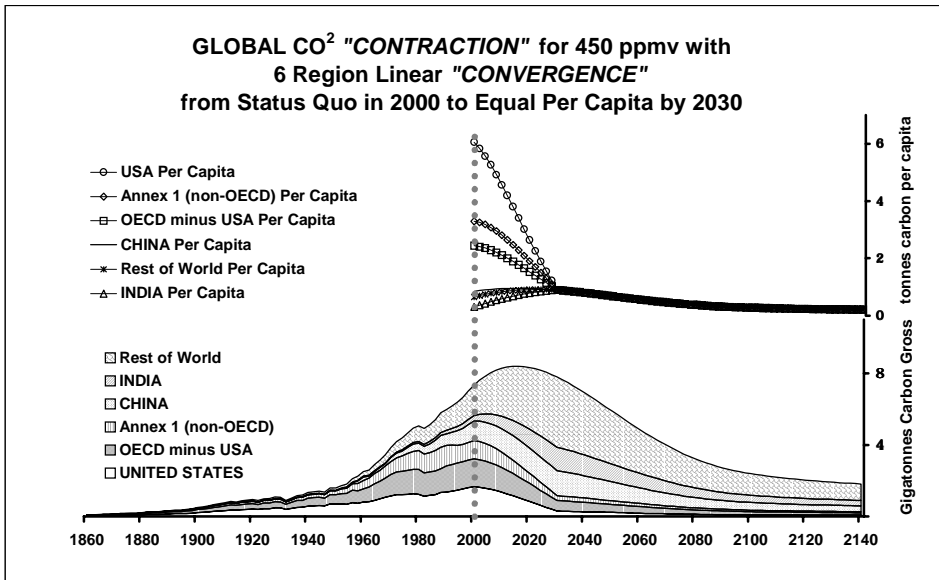
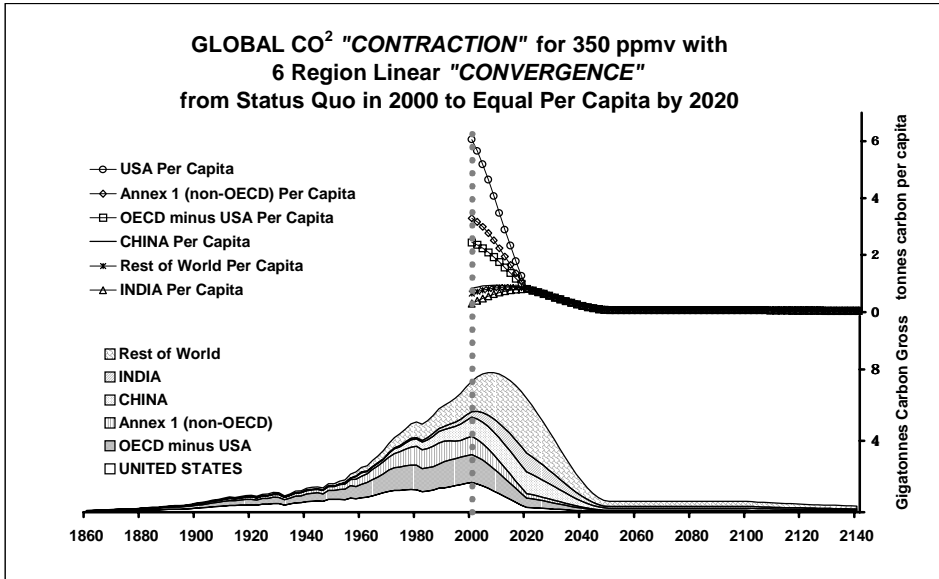
Global Commons Network (GCN): -

<http://www.topica.com/lists/GCN@igc.topica.com/read>

If you wish to join GCN by registering your support for the precautionary logic of C&C, you can do this is by visiting and co-signing the letter at: -

<http://www.gci.org.uk/indlet.html>

Global Commons Institute (GCI), 37 Ravenswood Road, London E17 9LY  
Landline 0208 520 4742, mobile phone 0771 282 6406 e-mail [aubrey@gci.org.uk](mailto:aubrey@gci.org.uk) - website <http://www.gci.org.uk>  
Global Commons Network (GCN) - website <http://www.topica.com/lists/GCN@igc.topica.com/read>



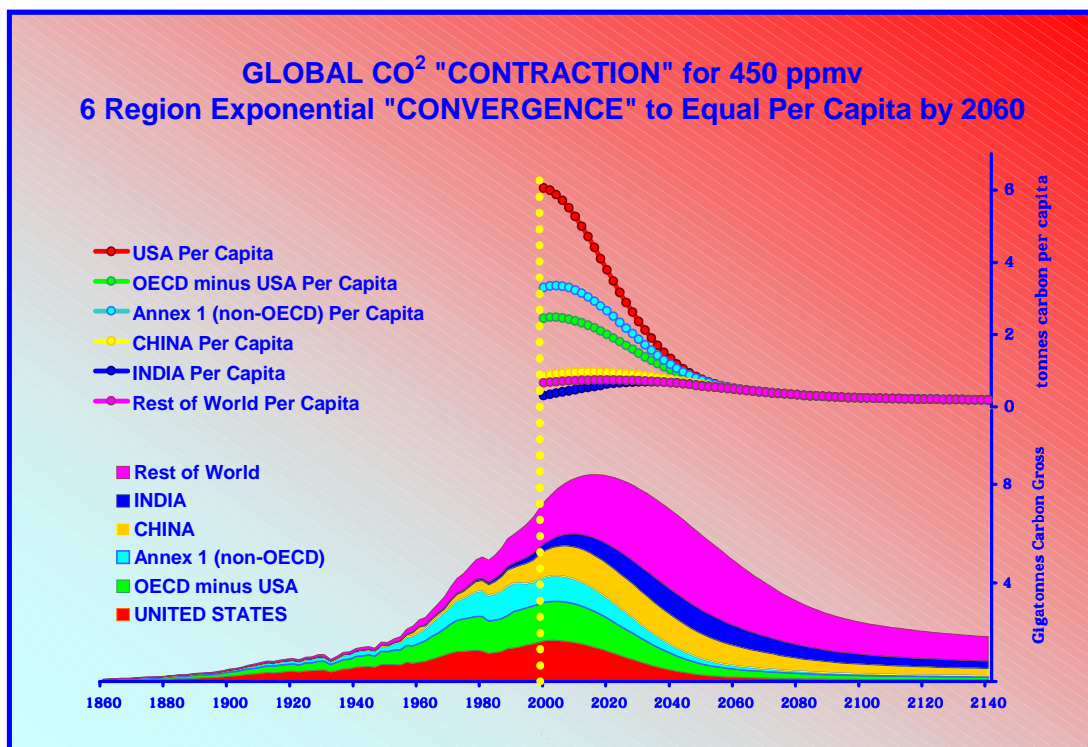
# “Contraction and Convergence” (C&C) in the IPCC Third Policy Assessment (June 2001)

## 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 CO<sub>2</sub>, for instance 450 ppmv (contraction). This budget is then distributed as entitlements to emit CO<sub>2</sub> 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." (See graphics opposite).*



## A Global Framework that Sets a New Economic Agenda

The consequences of global climate change are ultimately incalculable. However, economic losses from climate related natural disasters are now growing at 10% a year and will exceed the total value of all human production within two generations on current trends. (See chart page 4).

- The heads of the US National Ocean Atmosphere Administration and the UK Meteorological Office have stated, "*We are in a critical situation and must act soon.*" (The Independent 24/12/99).
- In January 2000, one thousand Corporate CEOs at the Davos World Economic Forum said, "*Averting climate change is the greatest challenge facing the world,*" asking, "*why has more not been done to avert its devastating trends?*"

**"Contraction & Convergence" (C&C)** is an international framework for limiting the greenhouse gas (ghg) emissions causing climate change whilst positively stimulating the growth of renewable energy technologies and their markets. But it recognises that under these dangerous conditions, climate-efficient commerce must be politically guided, rather than solely reliant on the market, if we are to achieve the goal of the UNFCCC expressed as sustainable development.

Such a framework would underpin and sustain: -

- The growth of economic opportunity
  - The reduction of regional inequity across the world
  - The orderly transition from carbon to renewable technologies
  - While retarding the exponential rise in catastrophic losses
- All these are fundamental to a prosperous financial sector.

### **Recent on the record advocacy of C&C includes statements from: -**

- ♣ Michael Meacher, UK Environment Minister
- ♣ The UK Royal Commission on Environmental Pollution
- ♣ Jan Pronk, Dutch Environment Minister & Chairman of COP-6
- ♣ Klaus Topfer, CEO UNEP
- ♣ Svend Auken, Danish Environment Minister
- ♣ Sir John Houghton, Chair IPCC Working Group One
- ♣ Raul Estrada Oyuela, former Chair Kyoto Protocol negotiations
- ♣ The European Parliament
- ♣ The Africa Group of Nations
- ♣ The Non-Aligned Group of Nations
- ♣ The governments of India and China
- ♣ GLOBE International Parliamentarians Network
- ♣ IPCC WG3 Latin America Equity group
- ♣ The UK Chartered Institute of Insurers
- ♣ The European Federal Trust

C&C has wider international support than any other global proposal. It is described in the Policy Section of the IPCC Third Assessment Report as, "*taking the rights-based approach to its logical conclusion.*" The case for the Governments and Industry to join this consensus is compelling. 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.

## Widely endorsed text for "Contraction, Convergence, Allocation & Trade" (C-CAT)

*"Countries agree a reviewable global ghg emissions carbon 'contraction budget' resulting in a precautionary, stable value for ghg concentrations. The internationally tradable shares in this budget are then agreed on the basis of simple '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. Proceeds 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 [for example 450 ppmv – see page 9]. 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 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 converges on the same allocation per inhabitant by an agreed date, for example by 2020. 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 Trade"** - *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 to achieve prosperity and make development sustainable."*

### **C&C does not replace the Kyoto Protocol. It supersedes it in due course.**

The Kyoto Protocol is an inadequate response to the climate dilemma. It may or may not be ratified. Either way, a global C&C framework must in due course supersede it to avoid a breakdown to randomness and drift. C&C is the logical way to resolve the diplomatic impasse over global participation in the UNFCCC the Kyoto Protocol for now seeks to postpone.

As the UNEP CEO Topfer recognised in June 97, C&C does not displace 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."*

As the Chairman of COP-6 Jan Pronk stated on the 25<sup>th</sup> July in the Earth Times, C&C is, *"the most equitable . . . easier and cheaper,"* than other options and unlike those can also keep us within a tolerable 2 degrees Celsius rise in temperature.

# The "devastating trends of climate change" (Davos CEOs) and 'averting them' with 'Contraction & Convergence'

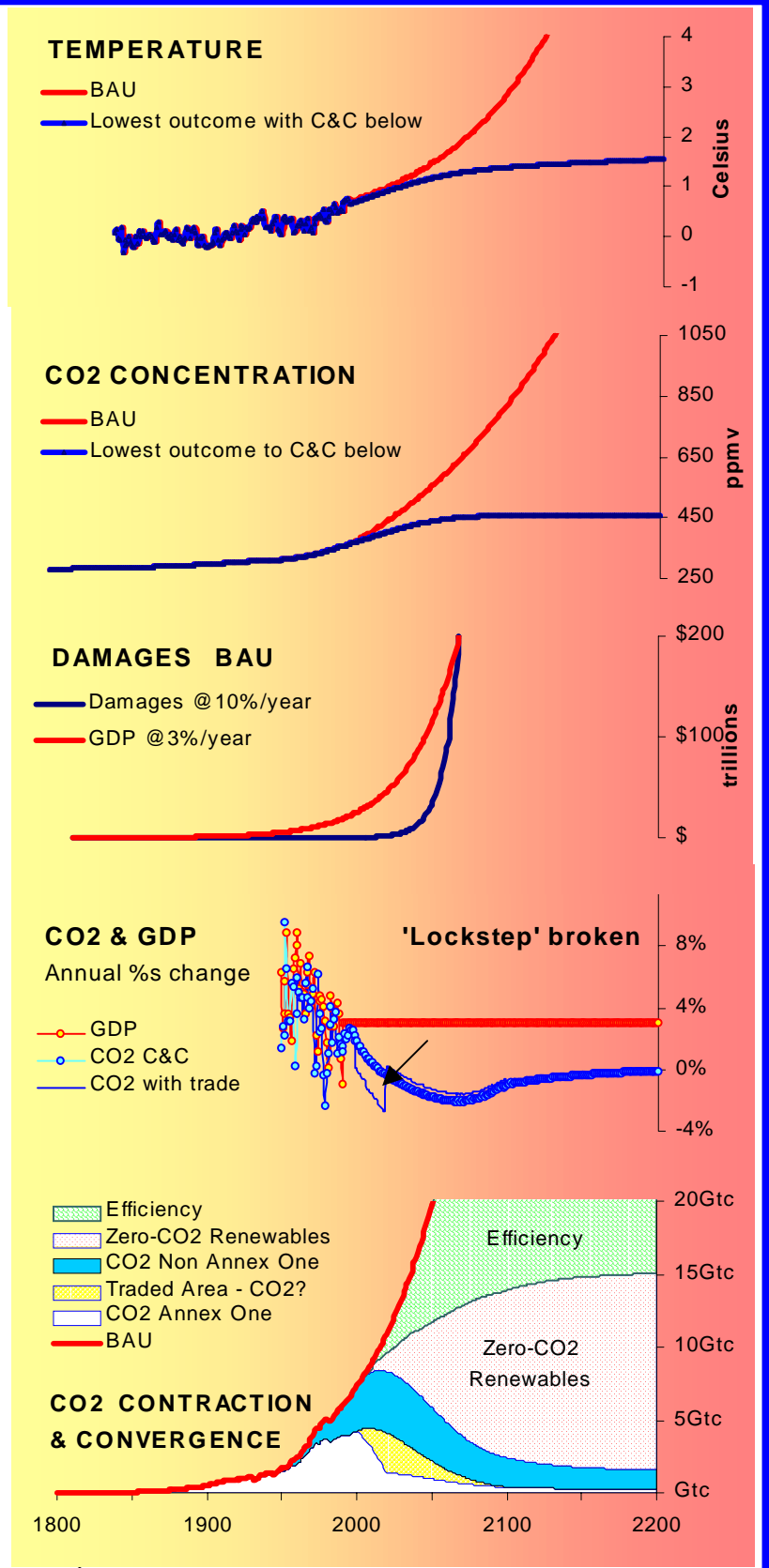
Recorded surface temperature from 1860 until 2000 shows an overall rise of 0.9°C. The future projections are following CO<sub>2</sub> emissions and atmospheric ghg concentrations (in ppmv - parts per million by volume). The red line shows Business-as-Usual (BAU) where the underlying emissions grow at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

Recorded atmospheric CO<sub>2</sub> concentration from 1860 until 2000 shows an increase of 34% over pre-industrial levels. This is a rise both higher and a 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 10% 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<sub>2</sub> 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<sub>2</sub> goes to -2% with the retreat from fossil fuel dependency shown below, that limits CO<sub>2</sub> 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<sub>2</sub> 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.



## **GLOBAL COMMONS NETWORK - Consensus for the principles of "Contraction and Convergence"**

European Parliament - AFRICA Group of Nations - Heads of state of the Non-Aligned Movement of Nations (NAM) - Governments of CHINA and INDIA - Several European Environment and Development Ministers - an extensive and growing international list of eminent individuals and organisations including - Global Commons Institute UK - GLOBE International, [the environmentally concerned parliamentarians network - include US] - Forum for the Future UK - Charter 99 - the UK Royal Commission on Environmental Pollution (RCEP) - Wuppertal Institute GERMANY - International Rivers network California USA - International Federation of Red Cross and Red Crescent Societies - ENDA SENEGAL - Centre for Advanced Studies BANGLADESH - Chatham House UK - Sustainable Development Institute Wyoming USA - United Nations Association UK - National Coalition for the Chemically Injured USA - Pacific Institute NZ - Project for Ecological Recovery THAILAND - SPREP - Ozone Action USA - Institute of SA Studies, LESOTHO - Habitat International Coalition INDIA - Christian Aid UK - New Economics Foundation UK - Earthlife Africa SOUTH AFRICA - European Society for Environment and Development - Solar Hydrogen Energy Group UK - International Institute of Environment and Development UK - Haribon Foundation PHILIPPINES - Pelangi INDONESIA - Friends of the Earth UK - Centre for Science and Environment INDIA - LetsLink SCOTLAND - Corporate Watch UK - Indira Gandhi Institute of Development Research INDIA - Tourism Concern UK - Reforest the Earth UK - Foyle Basin Council Londonderry - Green Party UK - Gawan Environmental Centre SOMALIA - Centre for Public Environmental Advocacy SLOVAK REPUBLIC - Irish Doctors Environmental Association IRELAND - SOS Selangor MALAYSIA - Women Acting Together for Change INDIA - IDEAL MALAYSIA - World Development Movement UK - Focus on the Global South THAILAND - Climate Action Network CENTRAL & EASTERN EUROPE - Climate Network EUROPE - Climate Network AFRICA - Clean Air Action Group HUNGARY - Foundation for the Economics of Sustainability IRELAND - Progress On Line SIERRA LEONE - Association Quebecoise des Energies Renouvelables CANADA - Clary Meuser Reseach Associates California USA - Fos and Associates USA - National Climate Programme PANAMA - The AUSTRALIA Institute - Queensland Transport, AUSTRALIA - Australian Cooperative Research Centre for Renewable Energy, WESTERN AUSTRALIA - Asia-Pacific Network for Global Change Research, Japan - Environment Conservation Society SUDAN - Counterpart International - Resource Planning & Development Commission, TASMANIA - Forum Umwelt & Entwicklung, GERMANY - Population Action International USA - INZET Holland - C-SERGE, UK - The Ecologist UK - Canadian Association for the Club of Rome - Environmental Dept, Chamber of Mines of SOUTH AFRICA - National Institute of Advanced Studies Indian Institute of Science INDiA - The RainForest ReGeneration Institute Washington, D.C. USA - Geonomics Association of BC CANADA - Association of Artists for GUATEMALA - Global Dynamics Institute Rome ITALY - International Forum "Danube -River of Cooperation" HUNGARY - Alternative Information and Development Centre (AIDC) SOUTH AFRICA - President NICARAGUAN Development Association - GAIA Foundation London - Kairos Europa - American Society of International Law USA - Wildlife Centre for Environmental Studies, Lund, University, SWEDEN - UpStart Services Ltd - UNED Forum UK - Potsdam Institute for Climate Impact Research, GERMANY - TERI-Europe, London UK - Good HealthKeeping, UK - Corporation for the Industrial Development of Biotechnology and Clean Technologies, COLOMBIA - North East Resistance Against Genetic Engineering USA - AAC-Asociación para la Acción Climática, Montevideo, URUGUAY - Stuart M. Leiderman - "Environmental Refugees & Ecological Restoration" Environmental Response/4th World Project, New Hampshire, USA - International Journal of Humanities and Peace - Tetworld Center for Peace and Global Gaming - Metanoia Trust and REEP, London, UK - Institute for Agriculture and Trade Policy, Minneapolis, Minnesota USA - Center for Russian Environmental Policy, Moscow, RUSSIA - Pacific Biodiversity Institute, Winthrop, WA - Agentura GAIA, Prague, CZECH REPUBLIC - Ecological NW Line, St.Petersburg, RUSSIA - Scientists and Technicians for a Non Nuclear Future - The Source Natural Healing Centre, Vancouver, CANADA BC - Zululand Environmental Alliance (ZEAL), Empangeni, SOUTH AFRICA - Latin American Center Social Ecology - Friends of the Earth CZECH REPUBLIC - GroundWork, SOUTH AFRICA - Sustainability Network - Solar Energy Applications for SAREP, South Asia Renewable Energy Programme - SOUTH AFRICA Development Fund - Diatribal Press London UK - Earth Day Network, Seattle USA - Foundation for Conservation and Development, ECUADOR - Blazing Tattles - Pacific Institute for Studies in Development, Environment, and Security CA USA - Scientists for Global Responsibility UK - Global Exchange - Darling Sustainable Energy and Employment Scheme SOUTH AFRICA - OILwatch EUROPE - Vuk'Afrika, Cape Town, SOUTH AFRICA - Environmental Monitoring Group, Wynberg, SOUTH AFRICA - Association for Protection of Environment & Culture (APEC), Morang, NEPAL - Institute for Global Futures Research (IGFR). AUSTRALIA - Networking for a Common Future in Society Victoria, BC. CANADA - CHPA, London - Green Futures - Institute for Transport & Development Policy, ECUADOR - Religion Science and the Environment, GREECE - Calvert World Values Fund - Department of Philosophy, Lehman College, Bronx, N.Y. - Innovat - Special Projects and Technology Applications, Columbus, Ohio, USA - Center for Energy & Environmental Policy, US - Ghulam Ishaq Khan Institute of Eng. Sciences & Technology, TOPI 23460, District PAKISTAN - Environment Office, Imperial College, London - Institute for Public Policy Research, London UK - Ecosoluzioni, ITALY - Department of Transport Engineering Pontificia Universidad Catolica de CHILE - Mto Consulting, AUSTRALIA - Instituto Plan Agropecuario, URUGUAY - Renewable Energy Information Network of NAMIBIA - Deutsche Energie Consult Germany - ZIMPOWER Engineers Zimbabwe - Energy & Development Research Centre, University of Cape Town, SOUTH AFRICA - Second Nature, Inc. Boston, MA USA - CENN, CAUCASUS Environmental NGO Network - GEORGIAN Society of Forestry, National Parks and Conservation - Ageing Research Foundation of INDIA, Tiruchirappalli, INDIA - ECOjustice, Environmental Consultant. SPAIN - International Association of Educators for World Peace - Wisconsin Secretary of State, Madison, Wisconsin USA - Canadian Wind Energy Association - SOLAR AGE NAMIBIA, Windhoek, Republic of NAMIBIA - Science and Environmental Health Network - Environmental Systems Research - Corporate Europe Observatory, NETHERLANDS - A SEED Europe - Energy&Development Group Noordhoek Cape Town SOUTH AFRICA - Environmental Advisory Council, E.Pennsboro, PA - IMSA, NETHERLANDS

## Statements by key Government Individuals

### Europeans in Red

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

*"Contraction and Convergence" ["most equitable . . . easier & cheaper" than alternatives].*

Full text at: - [http://www.earthtimes.org/jul/environmentthekyotoprotocoljul25\\_00.htm](http://www.earthtimes.org/jul/environmentthekyotoprotocoljul25_00.htm)

*" . . . . 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. . . . . "[July 2000].*

#### **Klaus Topfer, Dir. United Nations Environment Programme (UNEP) - June 1999**

*"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."*

#### **Dr Song Jian - Chinese State Councilor Climate Change & Population - Oct 1997**

*"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."*

**Svend Auken, Danish Environment Minister - 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, such as the max. 2 degrees temperature rise, and the max. 550 ppmv CO2-concentration, recommended by the European council of ministers.*

**Michael Meacher UK Minister of the Environment - April 1999**

*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.*

**Tom Spencer, Chair European Parliament Foreign Affairs Committee at COP-3.**

*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.*

**John Porter, US Parliamentarian Chair GLOBE USA - Nov 1998**

*"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." [Viewed at: - <http://www.globeusa.org>].*

**Indian Environment Minister for a "Global Solution" at COP1 - April 1995**

*"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."*

**Prof Saifuddin Soz MP. Indian Environment Minister in Kyoto - Dec 1997**

*"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."*

**Kjell Larsson Swedish Minister of the Environment – 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."*

**Olivier Delouze Belgian Minister of the Environment – 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."*

**Tony Blair, Prime Minister United Kingdom - October 1998**

*"Dear Cynog - I note what you say about the 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."*

**Jaques Chirac, President of France – COP6 November 2000**

*"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."*

### **Sir John Houghton, Chair IPCC WG1 - 2000**

*"Three widely accepted principles will govern the international agreements needed to meet the threat of climate change. The first is 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 an appropriate action. The reason for such action is simply stated as the stabilisation of the concentrations of greenhouse gases (such as CO<sub>2</sub>) in the atmosphere in ways that allow for necessary economic development. The second principle is the Polluter Pays Principle, which implies the imposition of measures such as carbon taxes or carbon trading arrangements. The third is the principle of Equity, both intergenerational and international which is the most difficult to apply. However a proposal by the Global Commons Institute 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."*

### **Sir Robert May, UK Government Chief Scientist - Oct 1998**

*"Thank you for your letter of the 23rd April and 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."*

### **Ambassador Raul Estrada Oyuela, Fmr. Chair Kyoto Negotiations - Feb 2000**

#### **CONTRACTION AND CONVERGENCE**

*"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. I have read that the Chairman of IPCC's WGI, Sir John Houghton, has said that this is the "logical approach". Analysis of Contraction and Convergence in TAR is a must if equity is going to be taken into account in the report.*

## Statements by key Institutions

### **UK Chartered Insurance Institute (CII)**

CII's report on the impending devastation of global climate change was published in March 2001. In it government and industry stakeholders and decision takers at the United Nations negotiations are bluntly told to,

*“show some leadership by coming out in support of the principle of Contraction and Convergence.” (C&C)*

With a clear signal to the commercial sector, the report also states 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 C&C logic.”*

The report 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 was created by the Global Commons Institute (GCI) and is incredibly simple in its detail. Essentially, everyone has the right to emit an equal amount of pollution (in this case CO<sub>2</sub>) 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. Figure 10.9 illustrates this process, showing that by the year 2100 emissions will have fallen to well below today's levels, and will emanate from what are, today, developing countries. 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 C&C logic.”*

## **The Royal Commission on Environmental Pollution (RCEP) - June 2000**

Chapter Four, "The Need for an International Agreement",

"Contraction and Convergence" Chapter 4 [<http://www.rcep.org.uk/pdf/chp4.pdf>]

*"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 which 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 the 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.<sup>18</sup> 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 which 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.<sup>20</sup> 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.<sup>21</sup>*

*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 which 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 which had sold quota heavily went on to emit in excess of their revised entitlements.*

### **Environmental Justice Network Forum (EJNF) South Africa - August 1998**

*"EJNF commits itself to campaign in support of the "Contraction and Convergence" proposals that specifically embody the principles of global equity and sustainability. This means that EJNF will advocate that the apportionment of future international greenhouse gas (ghg) emissions entitlements shall be the result of a deliberate convergence process to a point of equal per capita shares globally by a date to be negotiated by the United Nations Framework Convention on Climate Change (UNFCCC)."*

### **European Parliament - 1998**

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

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

## **Federal Trust, 2001**

### **A Climate Community - A European Initiative with the South<sup>1</sup>**

#### **Equity and Contraction and Convergence**

*“The first embraces equity. It is the notion that on a planet where the most precious of commodities, a stable climate, is under threat, and where, in consequence, emissions must be rationed - every citizen should 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. Equally obviously, that ration should be based on a total level of emissions which scientists agree will be essential to avoid the worst effects of climate change. Clearly, given the huge disparity at present between the wealth and emissions of nations, there must be a significant transition period - say 30 years - to the time when quotas are equalised. The length of that transition will be a key issue of negotiations. From the start all emission quotas would be marketable, like those in the Kyoto protocol, ensuring maximum efficiency and flexibility in energy saving and new technologies. Such a concept binds all countries to the goal, but allows huge flexibility in applying it. If a rich country goes slower in reducing emissions or a developing one grows faster it can buy others’ emission quotas. If the opposite happens an energy-lean country can sell emission quotas. Marketable emission quotas are fine in the context of stringent targets.*

*This concept, known as Contraction and Convergence, is familiar enough to cognoscenti of global climate negotiations. It was developed by the Global Commons Institute and expanded in a recent book.<sup>2</sup> It has been adopted as a policy goal by the major developing regions - India, China and much of Africa - and approved by a resolution of the European Parliament. It has been urged by the Royal Commission on Environmental Pollution. In March 2001 the Chartered Insurance Institute in a research report on the grim effects of climate change bluntly told Government and industry stakeholders ‘to show some leadership by coming out in support of the principle of Contraction and Convergence.’ It urged that global emissions be cut from the present 1 tonne of carbon equivalent per person of the world’s 6 billion population, unequally shared, to one third of that amount, equitably shared, by 2040. It added that ‘as the insurance companies own the oil companies (through equity ownership)’ they have ‘both the collateral and the need to adopt Contraction and Convergence.’<sup>3</sup> The concept is not yet the official policy of the European Union but many Ministers are in sympathy and the decision to adopt it would open a new and hopeful perspective for the planet. The European Community itself was founded by committing to an ambitious goal (a common market) with a precise transition period (twelve years) in which to adapt and reach it. The greater goal of arresting climate change deserves no less commitment and a well-planned transition.”*

## **European Commission Responds, 15<sup>th</sup> May 01**

### **Enviro. Director James Currie for General Director Romano Prodi.**

*“It is crucial that support is built in developed and developing countries for the necessity of ambitious targets going far beyond Kyoto. This (Climate Community Initiative) is highly commended for raising these essential issues and to initiate a wide dialogue within civil society and among political leaders.”*

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<sup>1</sup> European Essay No 15 by Chris Layton; ISBN 1-903403-29-4

<sup>2</sup> “Contraction & Convergence, The Global Solution to Global Climate Change” Aubrey Meyer, Greenbooks 2000

<sup>3</sup> The Chart on the cover of this references booklet gives one example of Contraction and Convergence for all countries - in this case to equal emission rights in 2030.

### **The Africa Group - August 1997**

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

- 1. There must be limits on all GHGs if the danger to our climate is to be averted. The IPCC scientific assessment report provides us with the basis for global consensus on such limits.*
- 2. A globally agreed ceiling of GHG emissions can only be achieved by adopting the principle of per capita emissions rights that fully take into account the reality of population growth and the principle of differentiation.*
- 3. Achievement of a safe limit to global GHG emissions can be achieved by reducing the emissions of Annex One while at the same time ensuring that there is controlled growth of future emissions from Non-Annex One countries, reflecting our legitimate right to sustainable economic growth. We strongly believe that this will take us along a path to responsible climate management that allows us to reach our goal of defining a mutually agreed point of convergence and sustainable development. Such a convergence Mr. Chairman must ensure that we maintain a global ceiling on emissions to prevent dangerous interference with the climate system.*
- 4. When we look at time frames, we believe that insufficient commitment by Annex One countries will only result in delaying our influence on the climate system. If this course is maintained, then we will all suffer and the burden will be even greater for humanity in general. The burden for any future mitigation efforts on those of who have not been historically and currently responsible for creating the problem will be greater.*

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

### **GLOBE International General Assembly (GIGA) - August 1998**

In August the GIGA adopted a statement that included the following wording: -

*"Support the adoption of a mandate at Buenos Aires to redefine the way in which greenhouse emission cuts are currently shared between countries, following the principle of equity enshrined in the Contraction and Convergence analysis, and urge the summit of the Non-Aligned Movement countries meeting in Durban, RSA, to persist in demanding an equitable approach as a precondition for their participation in COP4 at Buenos Aires."*

### **Non-Aligned Movement (NAM) - September 1998**

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."*

## **The GLOBE Southern Africa Network - August 1998**

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;*

## **International Federation of Red Cross & Red Crescent Societies - June 2000**

*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.*

*Ironically, poor people in poor countries suffer whatever the debt – whether from the smaller, conventional debts their nations owe, or from the larger, more threatening carbon debts being amassed by industrialized nations. There is a direct link between fossil-fuel use and the economic output gained from over utilizing these non-renewable reserves. Because of this, the carbon debt can be given illustrative estimates in economic efficiency terms. Such sums show heavily indebted poor countries in carbon credit up to three times the value of their conventional debts. G7 nations, however, fall US\$ 13 trillion into debt. Given the policy conditions associated with conventional debt, logic suggests that poor countries should now, in the face of climate change, be able to impose a reverse form of structural adjustment on those most responsible. In 'Caring for the Future: Report of the Independent Commission on Population and Quality of Life', M.S. Swaminathan comments that "what we really need is adjustment to sustainable life styles". The onus is on industrialized countries. Instead of old-style structural adjustment programmes for poor, indebted countries, a far more critical challenge will be devising sustainability adjustment programmes for the rich. Klaus Töpfer, executive director of the UN Environment Programme (UNEP), has called for a 90 per cent cut in consumption in rich countries to meet the challenge. Töpfer, in UNEP's latest report, 'Global Environmental Outlook 2000', pointed to global warming as one of the main threats to the human race, and added that "a series of looming crises and ultimate catastrophe can only be averted by a massive increase in political will".*

*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. Our collective survival could depend on addressing both.*

**From Speech by the Rt Hon Charles Kennedy MP Leader UK Liberal Democrats,  
At Green Alliance 20th March 2001**

*"<sup>4</sup> . . . 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."*

**Adair Turner, former Director General of Confederation of British Industry),  
in the UK New Statesman (7 May 2001):**

*"Since the only equitable and politically feasible long-term vision would give each country a roughly equal right to emissions per capita, the emissions of the developed world will ultimately have to fall not by the 5-10 per cent agreed in the Kyoto protocol, but by 70 per cent or more." [http://www.newstatesman.co.uk/thisweek\\_index.htm](http://www.newstatesman.co.uk/thisweek_index.htm)*

**International Petroleum Industry Environmental Conservation Association  
'IPIECA' GLOSSARY 2001 - "Contraction and Convergence" (C&C).**

*Some have promoted the idea of "Contraction and Convergence" as a long-term strategy for managing greenhouse gas emissions. Contraction refers to a global cap which would be set on worldwide emissions, together with an overall strategy 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 the total emissions allowances to countries are proportional to population. Proponents of the system of "Contraction and Convergence" argue that it is equitable and that it would be truly global, involving the participation of all countries."*

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<sup>4</sup> full speech at <http://www.gci.org.uk/speeches/Kennedy.pdf>

## USS - Universities Superannuation Scheme – July 2001

### Climate Change, Risk Management Challenge for Institutional Investors

#### “Beyond Kyoto - Contraction & Convergence” (pp 28 29)

*“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 too 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 CO<sub>2</sub> 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](http://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'.*

*Under C&C, the right to emit greenhouse gases would be apportioned on a per capita basis from a given date. The total amount of emissions would be constrained and would fall steeply until it reached a level considered safe. Since the majority of the world's population lives in the developing world, while per capita emissions are much higher in the industrialised world, rich countries would need to find ways to reduce their emissions - **contraction** - by finding efficiencies or renewable energy sources in the next few decades, or pay handsomely for the privilege of continuing to use fossil fuels. In this way they could approach equal per capita emissions to those in other countries - **convergence**.*

*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.”*

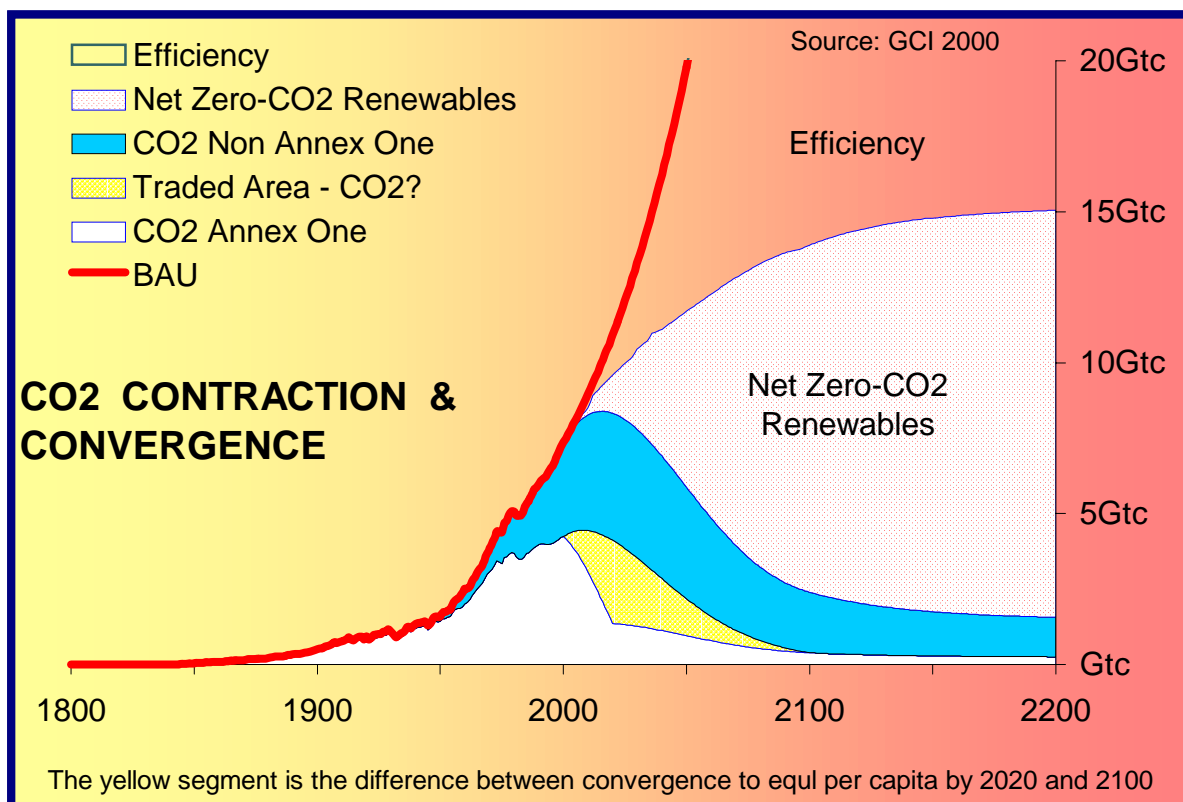
## The Insurance & Financial Services Industry Initiative of UNEP (UNEPIII)

On July 19<sup>th</sup> 2001, the UNEPIII held a public meeting and a press conference at the United Nations climate negotiations in Bonn.

Their message was to promote ‘sustainability’ by trying to implement the ‘small step of Kyoto’ along with climate friendly ‘policies and measures at national level’ and ‘the need to establish a long-term framework such as “Contraction and Convergence” (C&C).’

They said this is so ‘because we do all need to know where we are going’ and that ‘C&C is such a framework as it is consistent with the principles of the UNFCCC’ and quite ‘possibly the framework to take the whole process forward.’

The demonstrated these points with the use of this graphic: -



**International Petroleum Industry Environmental Conservation Assoc. (IPIECA)  
“Symposium on The Economics of Climate Change” (1997)  
Richard Richels and Alan Manne of EPRI**

Richard Richels has made the point that no economist can come up with sensible numbers for the international distribution of the costs of climate change policy “*until the economists had been given the rules of distribution.*” At the IPIECA event, Messrs Manne and Richels presented a study based on: - “*. . . a widely discussed proposal: a transition to equal per capita emissions rights (globally) by 2030.*”

**Robert Stavins  
Albert Pratt Professor of Business and Government  
Director, Environmental Economics Program  
John F Kennedy 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.”*

**The BYRD HAGEL Resolution, June 1997**

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.

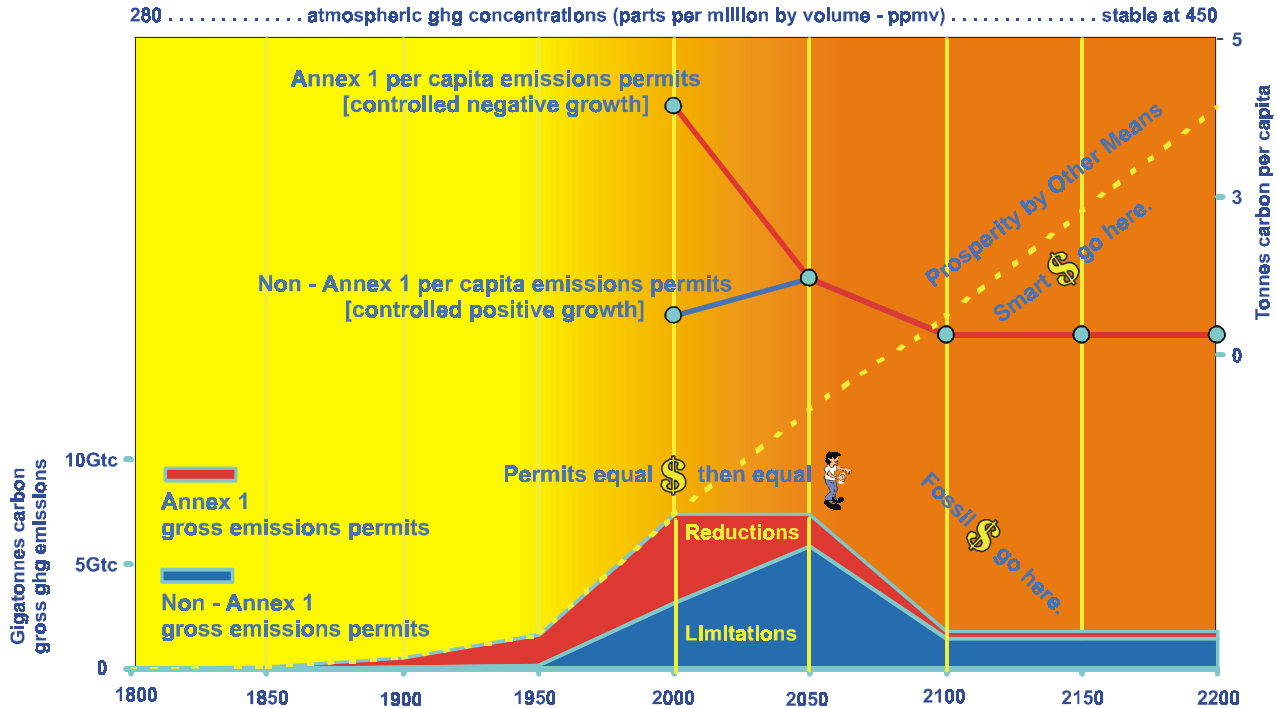
*“Now, therefore, be it Resolved that: -*

*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 in the Byrd Hagel Resolution is in paragraph 1A. Two defining distinctions are maintained. The first is between the Annex One Parties and the Developing Country Parties. The second is between 'limit' ghg emissions and 'reduce' ghg emissions. Limitation of ghg emissions is controlled positive growth of ghg emissions and reductions of ghg emissions is controlled negative growth of emissions. If we put these concepts together “*within the same compliance period*”, the paragraph can only translate into a process of formal “*Contraction and Convergence*”. Annex One Parties will reduce (or contract) their ghg emissions while the Developing Country Parties will limit their ghg emissions (so as to converge with Annex One Country Parties). Technically, not just rhetorically, there has to be a 'convergence factor' to do this. This can only emerge by design and consent and not by accident. The authors and supporters of this resolution have to face this unavoidable question.

# THE USA, Byrd Hagel Resolution & "CONTRACTION & CONVERGENCE"

Past 'EXPANSION & DIVERGENCE' - - - - - Future 'CONTRACTION & CONVERGENCE'



The US has affirmed:

1. That 'a global solution' to the 'global problem' of climate change is needed.
2. The objective of the UNFCCC [stabilisation of ghg concentration in the global atmosphere] is ghg emissions 'contraction' by definition [here 2000 - 2100].
3. That all countries must be involved in emissions control [here 2000 - 2200].
4. That a 'central organising principle' is applied to distribution (initially this was 'all countries will reduce ghg emissions by x% pro rata' [here 2050 - 2200]
5. The 'Byrd Hagel Resolution', where this central organising principle was modified to combine 'Reductions' [controlled negative growth] with 'Limitations' [controlled positive growth] giving 'convergence' [here 2000 - 2050].
6. That the 'commitments/entitlements' arising from this controlled 'contraction and convergence' must be 100% tradable.
7. That inter-emissions-budget-period borrowing must be allowed.

## CONCLUSION

As there is no other way to combine all their requirements, *other than with anti-precautionary guess-work*, it is logical *minima* to observe that the US proposals are not in conflict with "Contraction and Convergence" to equal per capita tradable entitlements globally by an agreed date under a predefined global cap. It is also logical to ask what else is intended if not this?