GLOBAL COMMONS INSTITUTE

MEMO BRIEFLY ADDRESSING

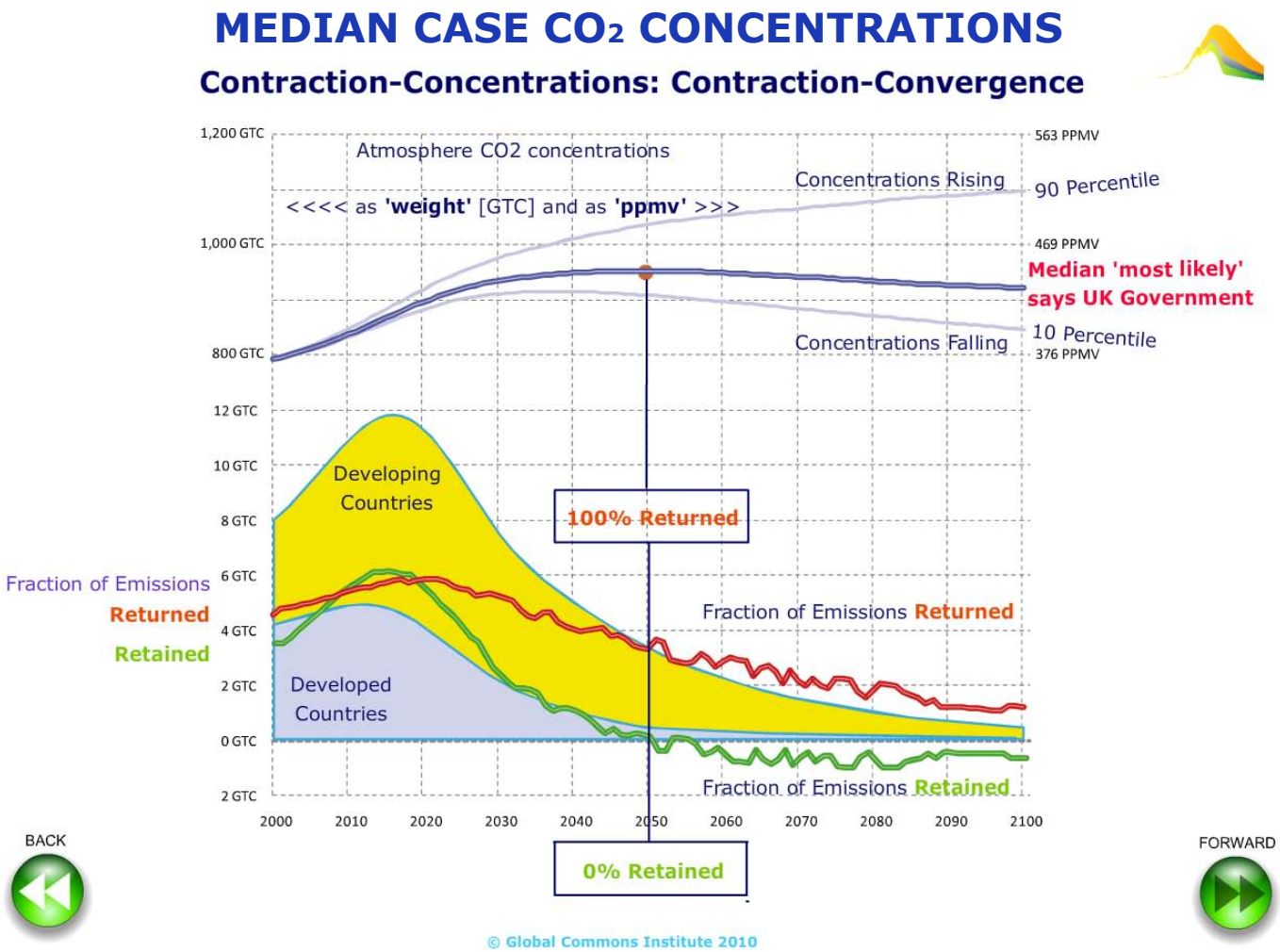
1. The *"unrealistic rate of recovery of sink-efficiency"* [to more than 100% efficiency after 2050] as calculated by the Hadley Centre and reiterated by the UK Climate Change Committee and so underlying the UK Climate Act;
2. The need to be flexible on, *"the rate of convergence under contraction"* [what Ross Garnaut has called *"the main equity lever"*]; this issue was badly mishandled at COP-15;
3. The extreme alternatives to C&C being projected at the UNFCCC, including divisive ideas such as negative emissions-entitlements for Developed Countries.
   Some of these it appears are possible candidates for scrutiny in the UNEP study that has been mooted.

22nd September 2010

'2 Degrees' and 'Sink-Efficiency' in the UK Climate Act

It has been claimed that the Copenhagen Accord [CA] took a step towards a global deal that adds up to working within the limit of an average global temperature rise of below 2 degrees and thus avoiding dangerous climate change.

This claim is not robust. The pledges made in the CA are too small to equal even the *"2016 4% low"* scenario on which the UK Climate Act is based and for which the Climate Change Committee [CCC] gave only 46:54 odds for not exceeding 2 degrees.



Modelling of the concentrations results for *"2016 4% low"* scenario was done by the Hadley Centre and published by the CCC in 2009. These were analysed by GCI. This revealed relative gains in 'sink-efficiency' to 100% by 2050, in the so-called 'median case'. These were projected as 'most likely' [see above] with the '10 Percentile' and '90 Percentile' being projected as 'least likely' [see page 3].

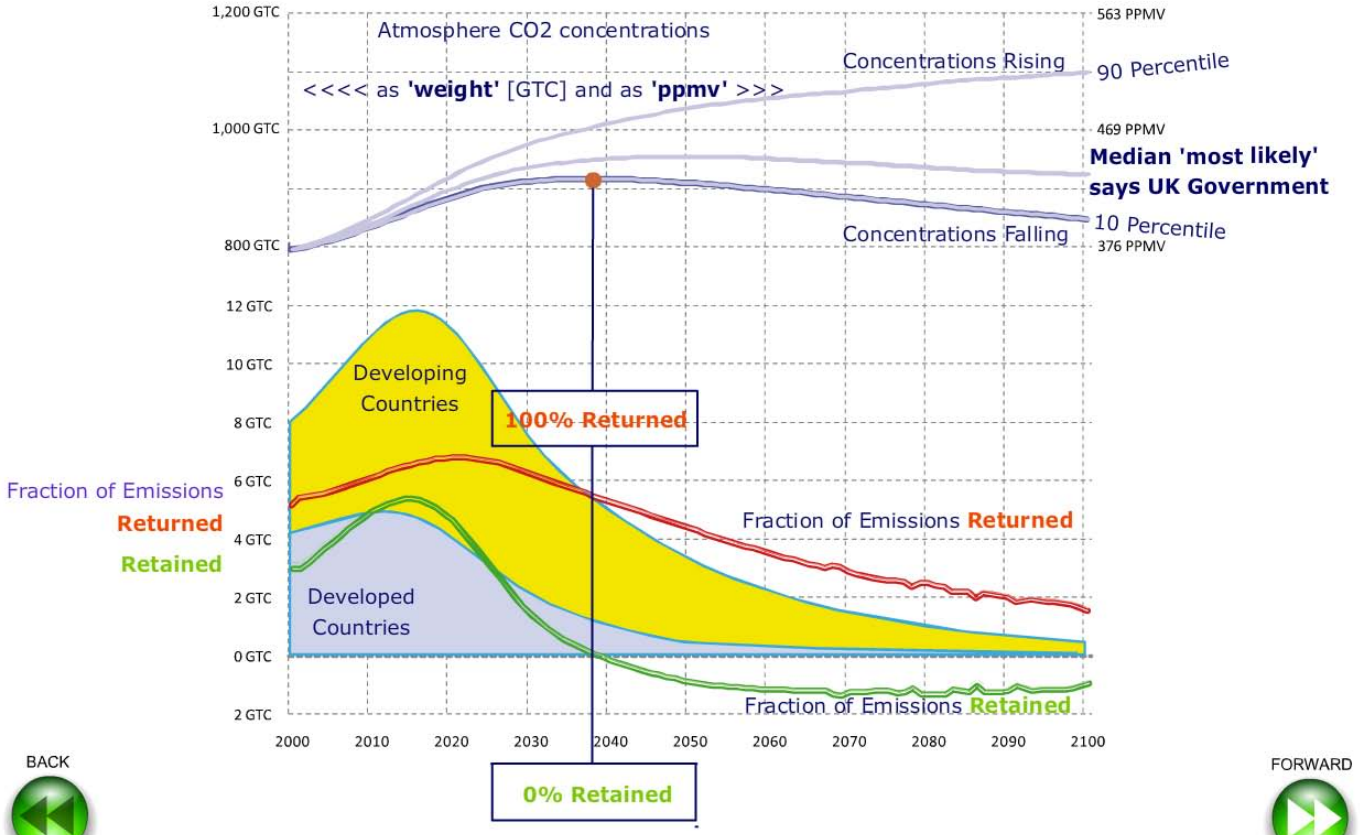
GCI stated that the relative rates of gain in 'sink-efficiency' in the median case were unrealistic saying that evidence to support the trend was lacking. The Hadley Centre agreed with GCI's numerical analysis, but defended the median case as 'most likely' saying, *"it is not unreasonable that the 'sink efficiency' rises above 100% in scenarios with rapidly declining emissions"*.

This rate of gain in sink-efficiency, from less than 50% at present, to more than 100% within 40 years, is wholly improbable. Increasing ocean acidification and warming, suggest a decline in sink-efficiency and not an increase. Consequently, the odds of the 'Copenhagen Accord' adding up to less than 2 degrees are not robust.

Detailed animation-analysis of this sink-efficiency in the Act is shown here: - http://www.gci.org.uk/animations/Sources_and_Sinks_UK_Climate_Act.swf or here: - http://www.gci.org.uk/animations/Sources_and_Sinks_UK_Climate_Act.exe

10 PERCENTILE CASE CO_2 CONCENTRATIONS

Contraction-Concentrations: Contraction-Convergence

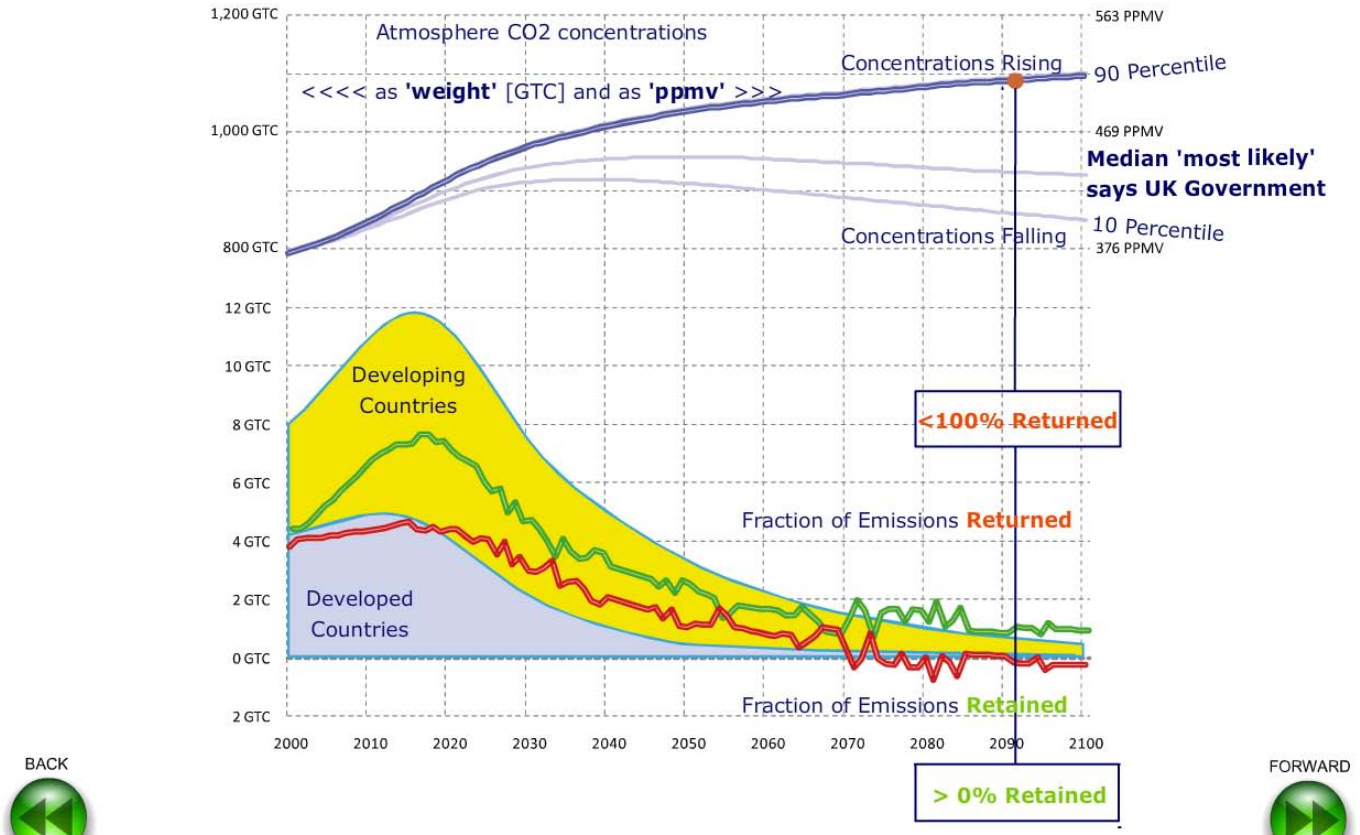


BACK

FORWARD

90 PERCENTILE CASE CO_2 CONCENTRATIONS

Contraction-Concentrations: Contraction-Convergence



BACK

FORWARD

Moreover, in the CCC's own published assessment of '2016 4% Low', this falling-emissions:falling-concentrations from 2050 scenario, *has temperature continuing to rise up from 1.78 degrees in 2050, to 2.13 degrees in 2125.* So what is claimed as *"not unreasonable"* is that temperature will continue to rise for 75 years after concentrations start falling in 2050. In other words, while emissions are still declining, sink-function relatively *strengthens* as temperature *rises* and all the newly extra carbon goes from land to the sea. This modelling obfuscates the link between global concentrations and global temperature. It means claims about not exceeding 2 degrees with *"2016 4% Low"*, let-alone with pledges under the Copenhagen Accord, are not robust.

Correcting the Mishandling of C&C at COP-15

Regarding the way ahead, there has been mention of the reasonable sounding need for finding a balanced range of indicators relating to national responsibilities and circumstances, economic capabilities and developments needs. However, to keep within 2 degrees, we need to get global emissions down to about net-zero much sooner than by 2100, as shown in *"2014 4% Low"*. So the needs in this balanced range of indicators are progressively being zeroed out for everyone much sooner than is realized. Making the defence of this indicators-list the reason for resisting C&C, is a mistake. We cannot negotiate contraction, convergence, detailed differentiation and implementation with this balanced range of indicators *simultaneously.* If we continue to try this, the negotiations to achieve UNFCCC-compliance will remain structureless and doomed to deepen the extra danger generated so far.

The way to deal with this from a C&C perspective is straightforward.

1. define a full-term global emissions budget for two [or 'x'] degrees at the UN;
2. split this budget in two at the UN so above average and below average converge on the global per capita average by negotiated year 'x', noting Garnaut that, *"the rate of convergence is the main equity lever."* [See pages 5 - 6 of this memo].

Promisingly, the UK did a version of point one in the UK Climate Act. However, by conflating emissions with entitlements, the mistake was then made of being prescriptive about point 2 i.e. *prescribing the 'convergence year' as 2050*. The attempt was then made with others to prescribe these rates of C&C to the UN at COP-15.
When this 'prescriptive' attempt inevtiably failed the subsequent attempt to transfer the 'blame' for this failure onto the Chinese diplomatically compounded the error.

The 'global deal' is points 1 & 2. Then, away from the UN, each side negotiates within itself and amongst themselves as to how they share their proceeds of points 1 & 2.

This wouldn't prevent exchanges/trading between the two sides, it just enables an inclusive global deal with Africa, India and China using the 'accelerated convergence' first. The UK/EU have started this offering greater cuts by 2020 which is correct. However, with no quid pro quo, it is just 'symbolic'. It has to be C&C structured.

More extreme proposals than C&C

Beyond C&C, the US, the UK and others are faced with more extreme and arbitrary demands for 'climate-justice'. These even extend to demands to go in two decades to 'negative entitlements' for Developed Countries - see the final chapter at this link: - http://www.gci.org.uk/animations/C&C_COP_15.swf and pages 7 - 10 in this memo. These are proposals that may be considered for inclusion in the review of proposals mooted by UNEP. The US will continue to veto all one-sided proposals such as these.

It is interesting to note here that Nicholas Stern offers the most extreme case for 'negative entitlements' for Developed Countries as he poses the need for these to be *immediate* - see: - http://www.tangentfilms.com/SternPoznan.mp4

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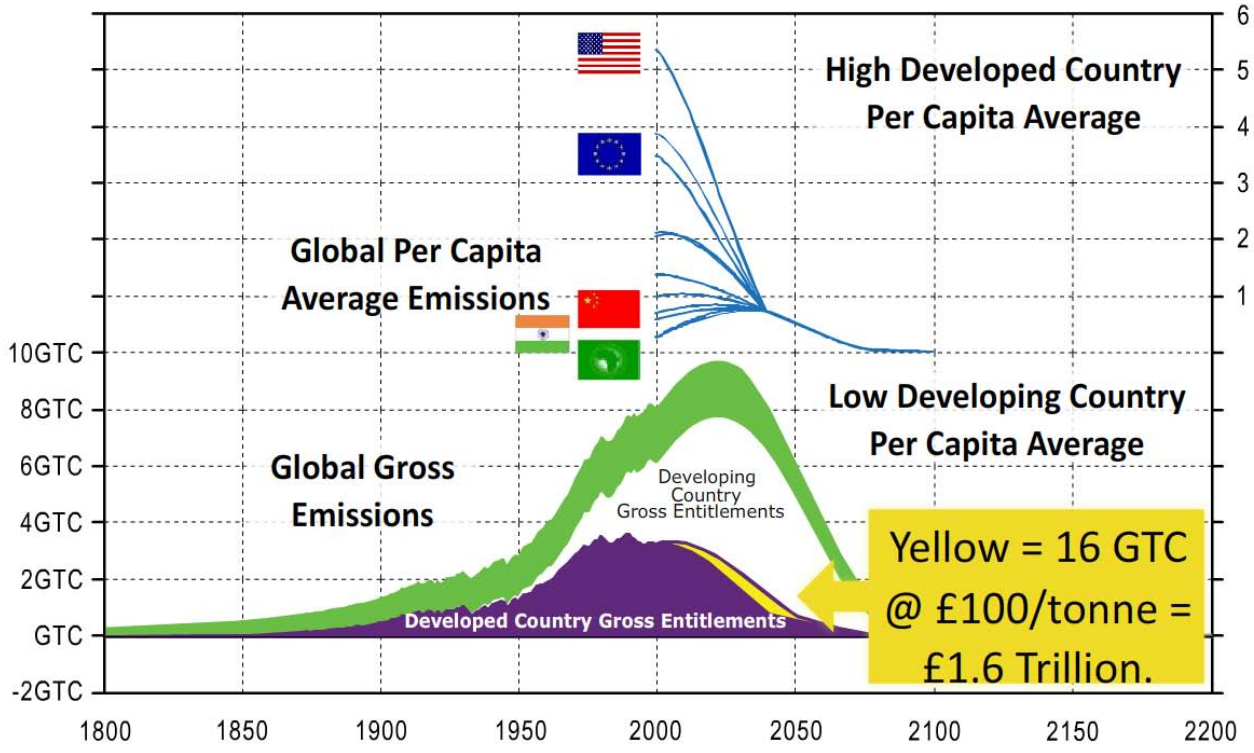
90% Emissions Contraction by 2080
Convergence to Per Capita Equal Globally by **2040**



MENU

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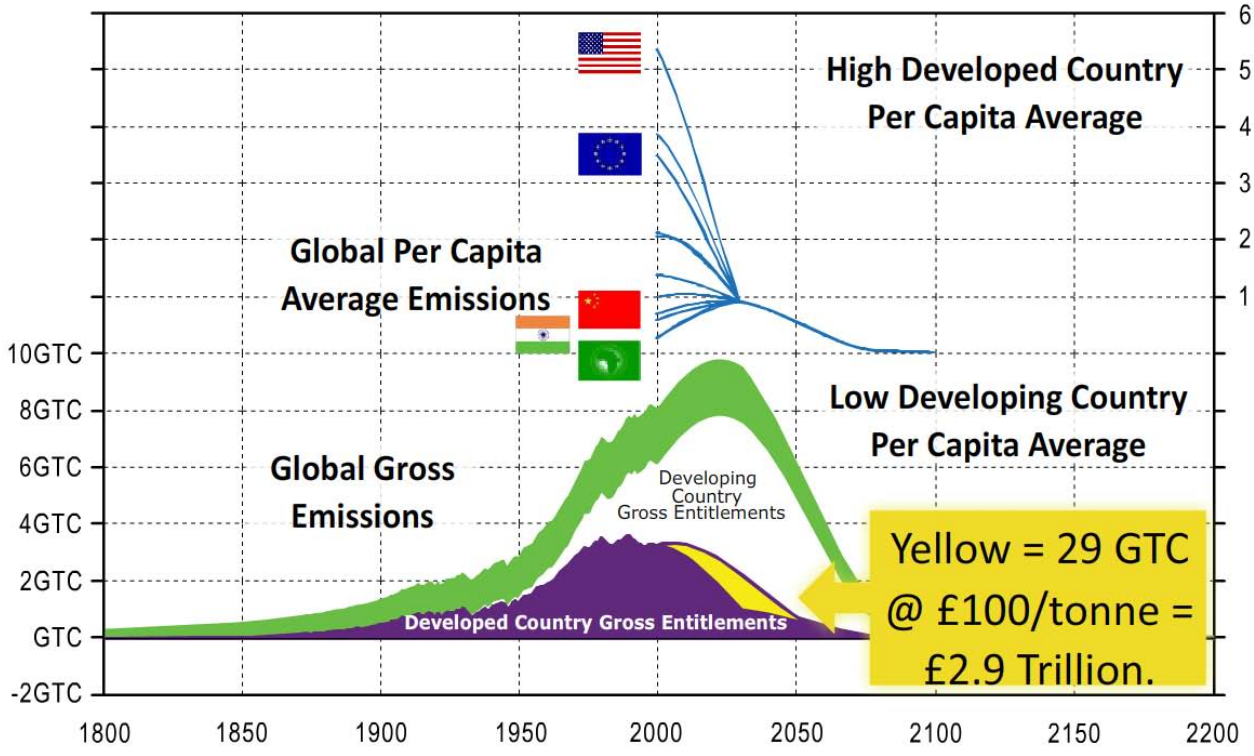
90% Emissions Contraction by 2080
Convergence to Per Capita Equal Globally by **2030**



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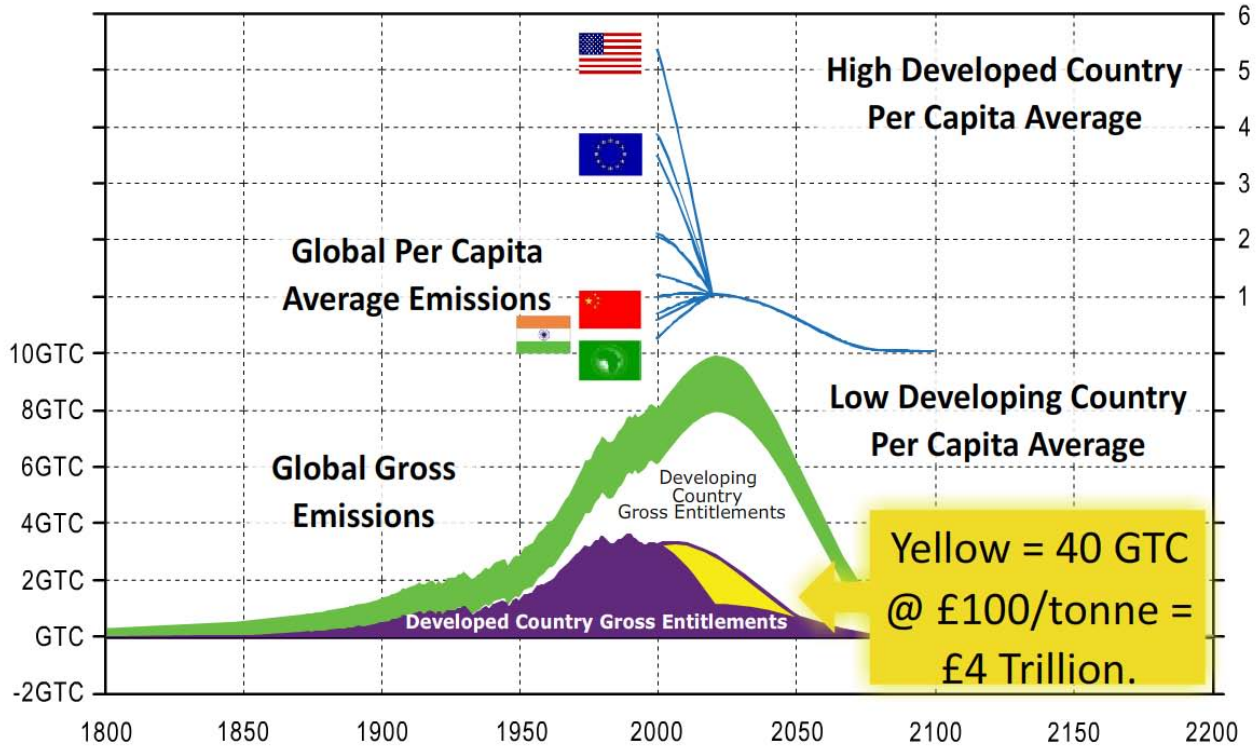
90% Emissions Contraction by 2080
Convergence to Per Capita Equal Globally by **2020**



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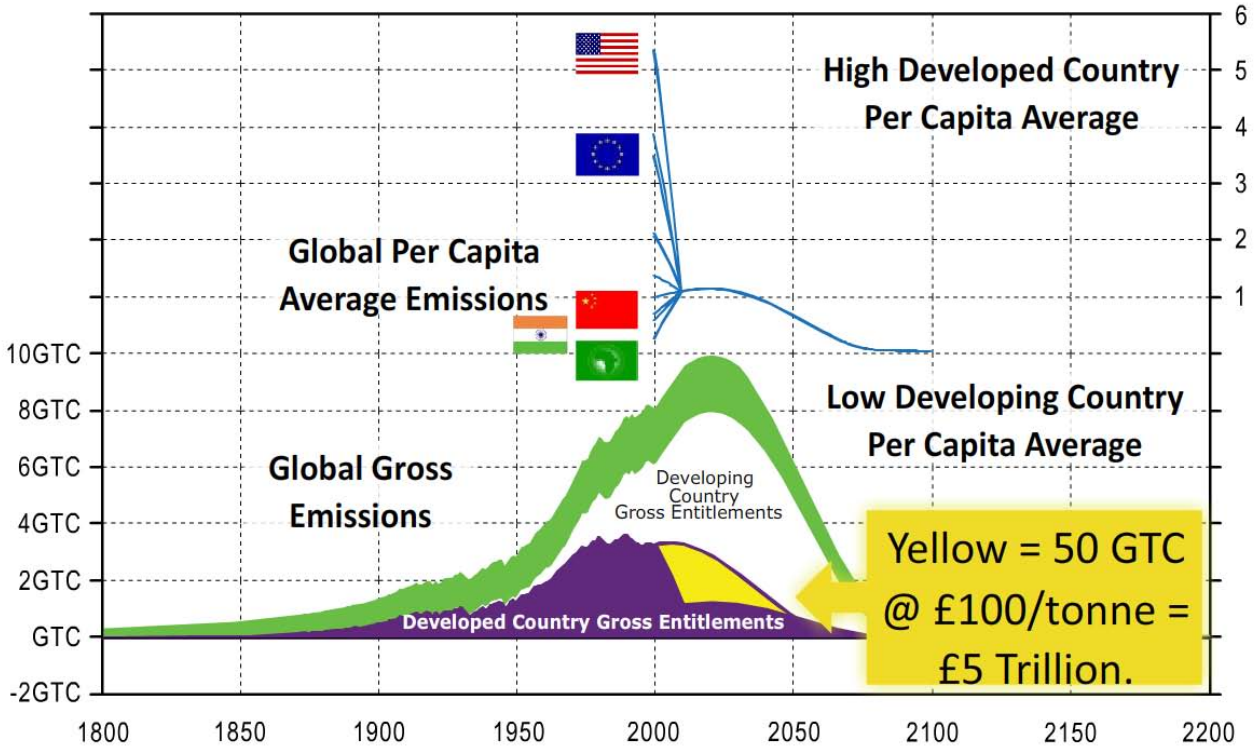
90% Emissions Contraction by 2080
Convergence to Per Capita Equal Globally by **2010**



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CLIMATE JUSTICE WITH A VENGEANCE [1]

e.g. 90% Emissions Contraction by 2080

Instant Convergence to Per Capita Equal Globally

- Known as 'Cap and Share', it 'insists' on an immediate global convergence to per capita equality for 'instant' Climate Justice.
- Per capita emissions entitlements for Developed Countries and Developing Countries must go to the global average immediately [see image below].
- This is an extreme demand of negotiators.

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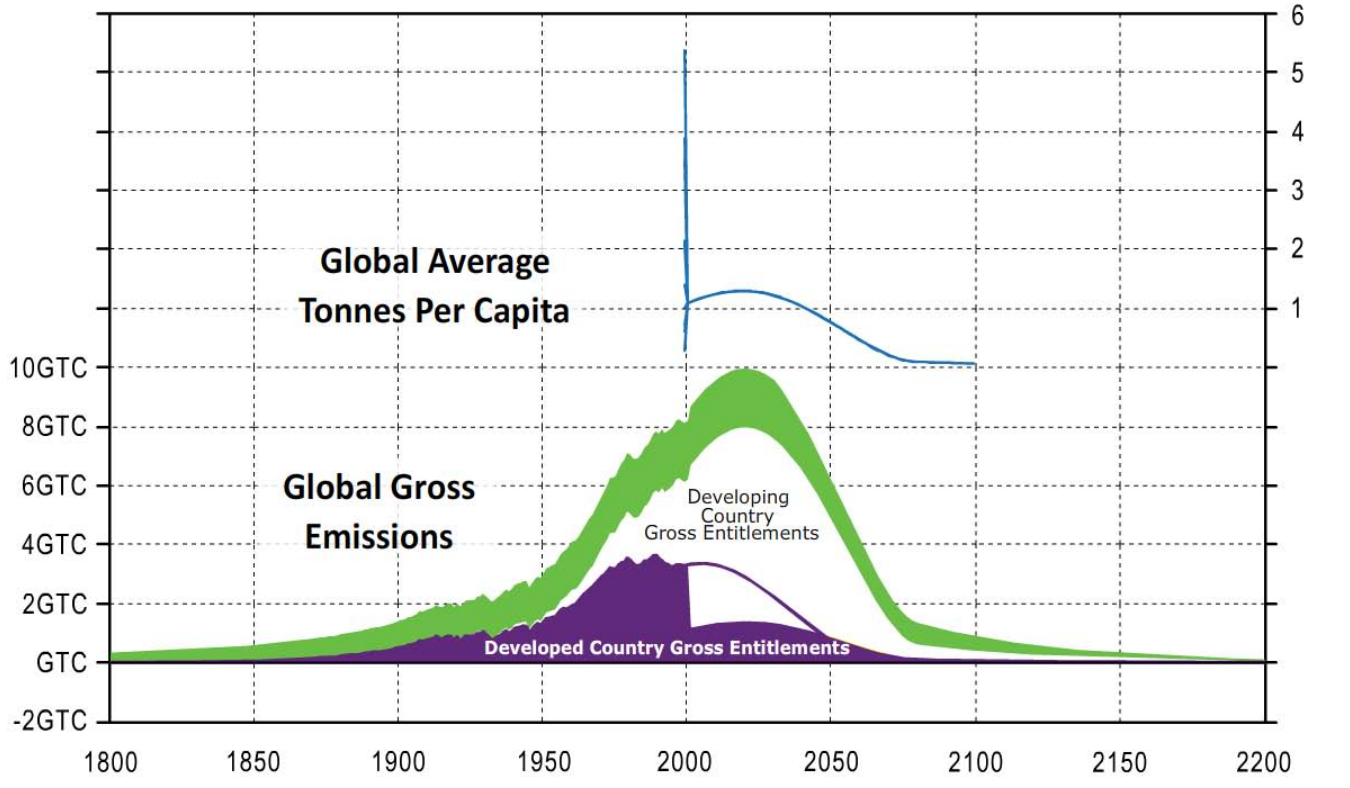
90% Emissions Contraction by 2080
Convergence to Per Capita Equal Globally by 2001



CLIMATE JUSTICE WITH A VENGEANCE [2]

e.g. 90% Emissions Contraction by 2080

Double Convergence beyond Per Capita Equal Globally

- Known as 'Common but Differentiated Convergence'.
- Global convergence to per capita equal shares and then a divergence beyond that followed by a second 'reverse convergence'to equality at zero.
- Developed Countries per capita emissions averages go below the global average so Developing Country averages can go above that average [see next image].
- Trying to intensify Climate Justice with more 'flexibility', its calculations become arbitrary and the politics in this worsen an already intractable negotiation.

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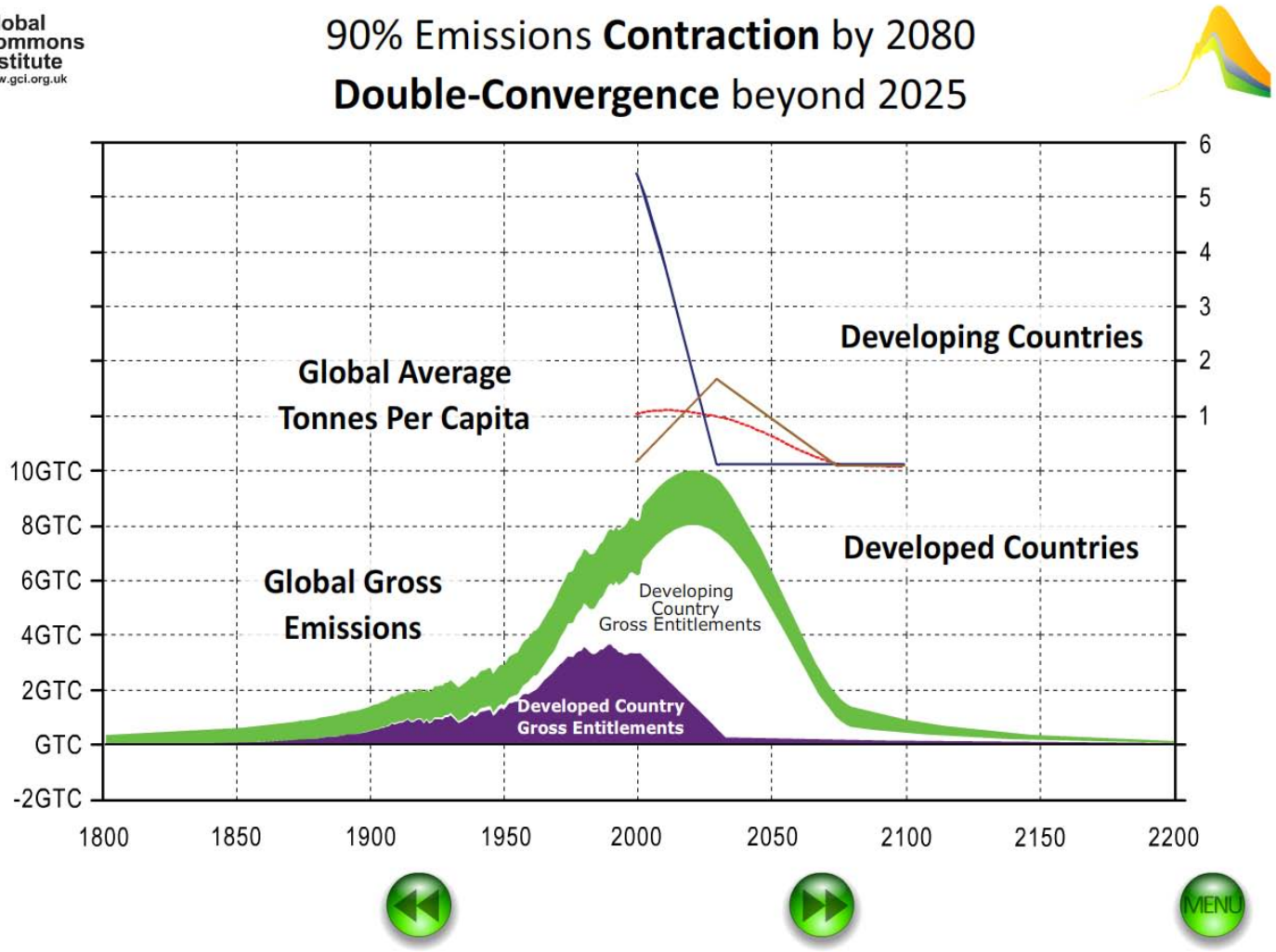

CLIMATE JUSTICE WITH A VENGEANCE [3]

e.g. 90% Emissions Contraction by 2080

Convergence beyond Per Capita Equal Globally

To Negative Emissions Entitlements by 2030 For Developed Countries

• This 'Greenhouse Development Rights' demands convergence to equal per capita and then divergence beyond to Negative Entitlements for Developed Countries with unrestrained emissions for Developing Countries [see image below].

• Calculations and the politics become yet more arbitrary and steer the negotiations into conflict.

• This really is Climate Justice with a Vengeance.

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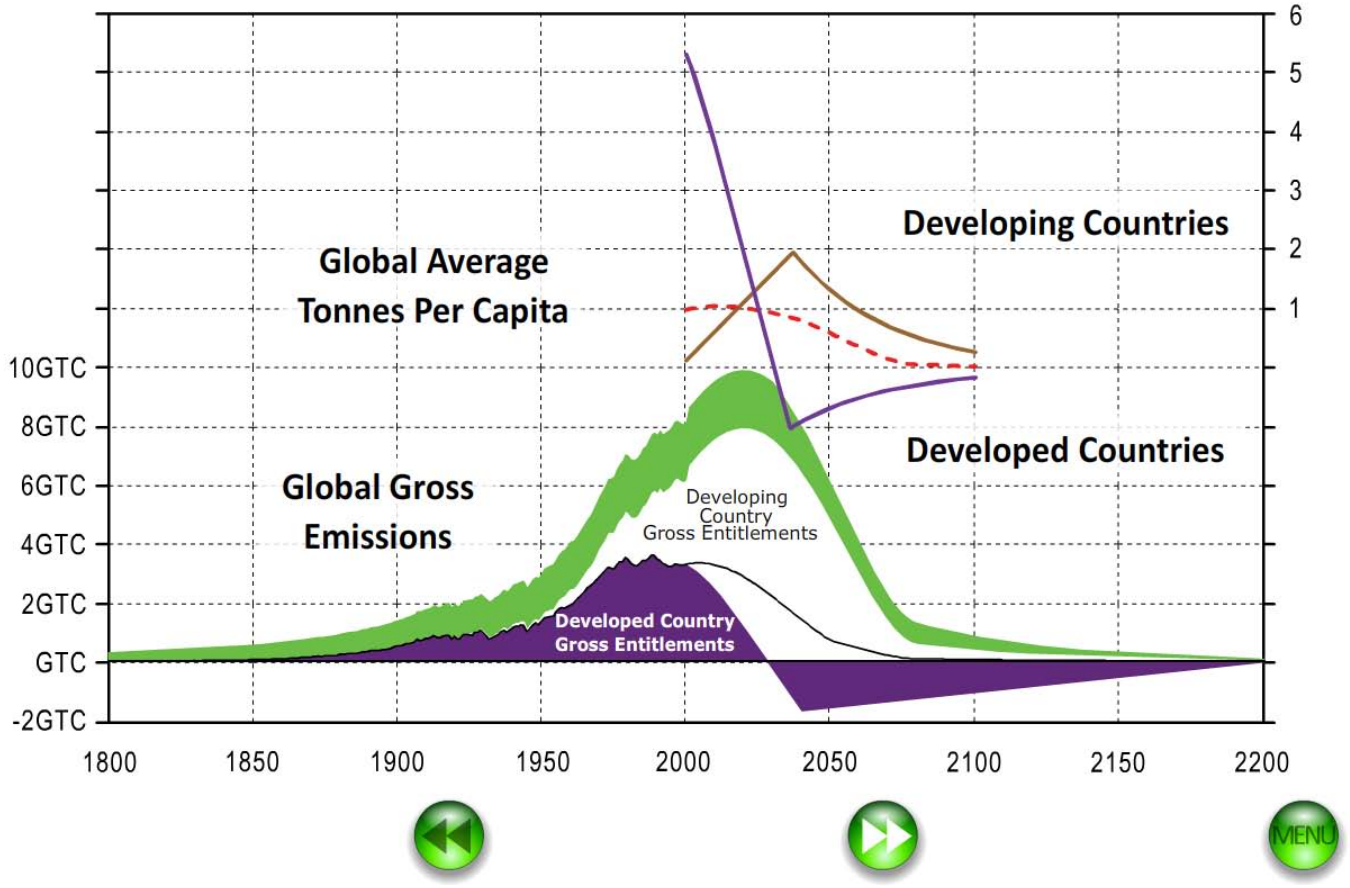
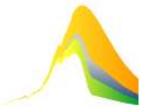
90% Emissions **Contraction** by 2080
'Invergence' to **Negative Entitlements for DCs by 2030!**





- There is a 'fourth' alternative called 'Kyoto-2'.
- Described as 'acting in the spirit of C&(" it .. . .
- ... assumes ownership of fossil fuel reserves globally;
- .. . re-designates the 'consumption' entitlements under 'contraction' as 'production' permits;
- .. . auctions these permits to the world's energy producers, through the world's central banks;
- ... redistributes the trillions of dollars rent raised annually in this way to the world's deserving causes;
- ... and essentially abandons the UNFCCC [and reality] altogether.

This 'fourth alternative' - Kyoto-2 - does not calculate or even engage in any direct linkage with the objective of the UNFCCC - i.e. emissions calculations of contraction:concentrations and contraction:convergence - at all.

It is therefore impossible to graphically chart the Kyoto-2 proposals as self-standing proposals relating to the objective of the UNFCCC, so this space is a blank. The Kyoto-2 website simply says: -

> *Global Commons Institute, the "home" of Contraction and Convergence as promoted by the visionary Aubrey Meyer. The website contains and vast amount of information on climate and C&C in particular.*
>
> *The "contraction" part of C&C is very much part of Kyoto2 and we see no reason to dispute the models or conclusions on desirable CO2 trajectories outlined.*

Saying it is production and not consumption that should be the focus of attention, its authors and advocates present Kyoto-2 as the necessary replacement for C&C.

However, since its agenda is a recipe in favour of arrangements not between nations but between the fossil fuel producers and central banks, it is a fiction to claim that Kyoto-2 is an international arrangement to achieve goal of UNFCCC-compliance. In reality it is a goal-free, unguided private sector proposal, that glosses over asymmetric development, paying futile lip-service to the 'world's deserving causes'.