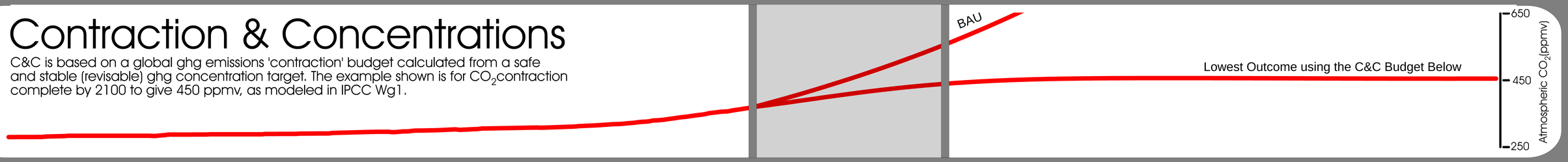
C&C, if the past is "Sunk Costs", is the future "Bubble" theory?

Contraction & Concentrations

C&C is based on a global ghg emissions 'contraction' budget calculated from a safe and stable (revisable) ghg concentration target. The example shown is for CO_2contraction complete by 2100 to give 450 ppmv, as modeled in IPCC Wg1.



Contraction & Convergence

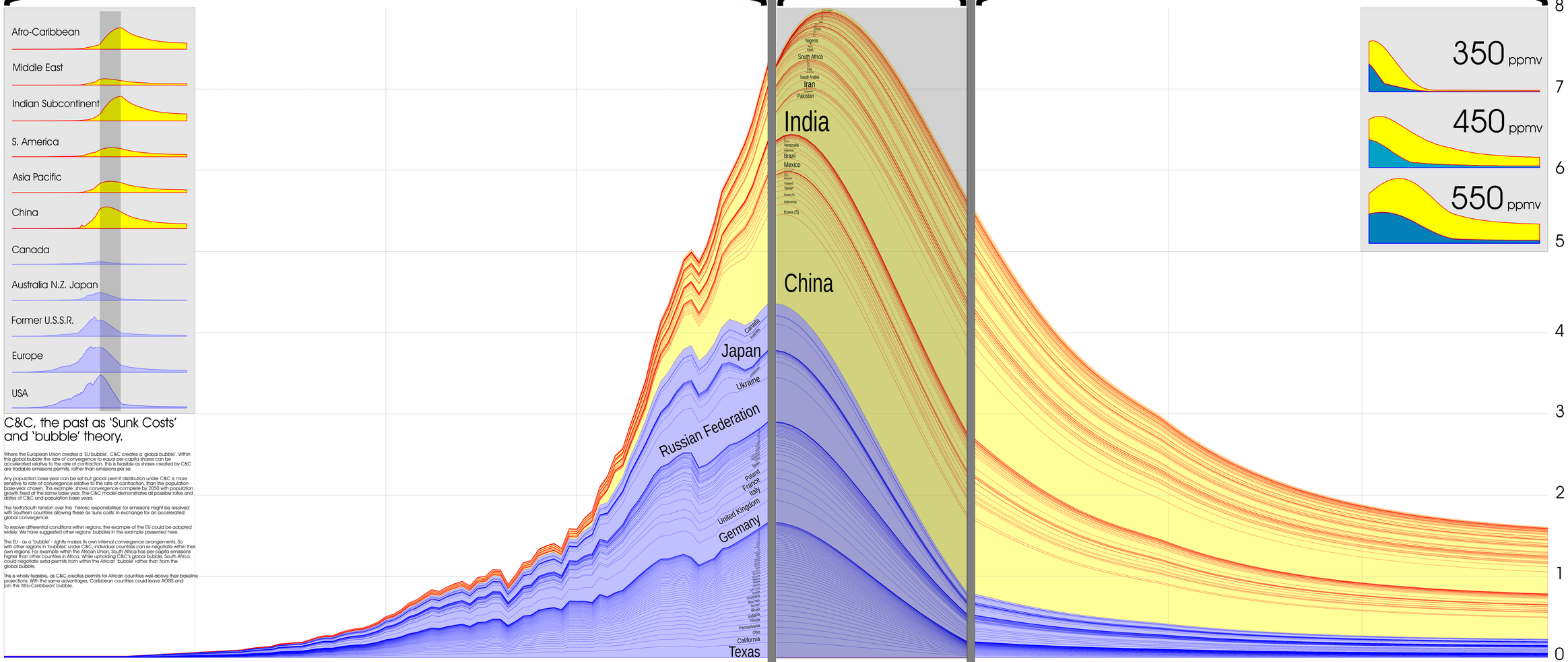
Convergence Is to equal per capita shares of contraction by an agreed date, [here by 2050 [population base year 2050]. The model will show any rates of C&C.

(1) Historic expansion of annual global CO_2emissions
(2) Historic divergence of per-capita emissions within different regions and countries

CONTRACTION
(1) Global emissions contract at a rate consistent with stabalising atmospheric CO_2concentrations at a chosen level (450ppm in this example)
(2) Each years carbon budget is distributed globally as CO_2emissions entitlements

CONVERGENCE
(1) In the first year, emissions entitlements are allocated to countries in proportion to their current emissions. (2) From there on countries entitlements converge to equal per-capita allocation by the "Convergence Date" (2050 in this example).

Equal per-capita emissions entitlements



C&C, the past as 'Sunk Costs' and 'bubble' theory.

Where the European Union creates a 'EU bubble', C&C creates a 'global bubble'. Within this global bubble the rate of convergence to equal per-capita shares can be accelerated relative to the rate of contraction. This is feasible as shares created by C&C are tradable emissions permits, rather than emissions per se.

Any population base year can be set but global permit distribution under C&C is more sensitive to rate of convergence relative to the rate of contraction, than the population base-year chosen. This example shows convergence complete by 2050 with population growth fixed at the same base year. The C&C model demonstrates all possible rates and dates of C&C and population base years.

The North/South tension over the 'historic responsibilities' for emissions might be resolved with Southern countries allowing these as 'sunk costs' in exchange for an accelerated global convergence.

To resolve differential conditions within regions, the example of the EU could be adopted widely. We have suggested other regions' bubbles in the example presented here.

The EU - as a 'bubble' - rightly makes its own internal convergence arrangements. So with other regions in 'bubbles' under C&C, individual countries can re-negotiate within their own regions. For example within the African Union, South Africa has per-capita emissions higher than other countries in Africa. While upholding C&C's global bubble, South Africa could negotiate extra permits from within the African 'bubble' rather than from the global bubble.

This is wholly feasible, as C&C creates permits for African countries well-above their baseline projections. With the same advantages, Caribbean countries could leave ACSS and join this 'Afro-Caribbean' bubble.

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