

## A ten point plan to tackle climate change effectively

*- An international strategic plan designed to achieve set global reductions in carbon emissions, take account of absorption by forests, and other land use changes, promote sustainable development through an equitable distribution of emission rights prior to trading, whilst allowing each country, through trading, flexibility to determine its own emissions path, and cost-effectively.*

### By 2010 the international community:

**1. Decides**, for the world as a whole, the profile of annual maximum aggregate CO<sub>2</sub> equivalent emissions to 2050 which are judged to be consistent with avoiding 'dangerous' climate change.

(See illustrative chart 1)

**2. Converts** each of the annual maximum limits to a global 'benchmark' of emissions per head (ie, the maximum allowed global CO<sub>2</sub>eq emissions for the year divided by the world population).

**3. Incorporates** agriculture and absorptive land uses (eg, forests) into the scheme by defining maximum CO<sub>2</sub>eq emissions as direct emissions plus or minus changes in absorptive capacity from the 2010 base line (ie, the cumulative annual effect of cutting down and planting forests combined).

(See illustrative chart 2)

**4. Adopts** a global, all sector, all gases cap and trade scheme as the cost-effective means for the world to comply with the maximum allowed global CO<sub>2</sub>eq emissions. The cap and trade system would yield an internationally-based 'price of carbon', thereby internalising the externality of CO<sub>2</sub>eq emissions into consumption and production decisions throughout international and national supply chains.

**5. Agrees** an 'initial' allocation of emission certificates to each country based on the global average emissions per head multiplied by the country's population, or a phased convergence.

(See illustrative chart 3)

**6. Requires** each country to implement a legal framework which establishes a National Carbon Authority (NCA) for each country (supported by an International Carbon Authority - ICA), and makes it illegal for a business, public sector or not-for-profit organisation, unless statutorily exempted, to carry out CO<sub>2</sub>eq emitting activities anywhere in the world which are not backed by authorised carbon certificates (thereby including international aviation and shipping). It would cover fuel suppliers and gas suppliers to domestic users, albeit that the CO<sub>2</sub>eq emissions occur at the point of use (eg, domestic car travel, cooking and heating).

(See illustrative 'two country' institutional structure)

**7. Confirms** that organisations with CO<sub>2</sub>eq emitting activities would be required to register and, where exemptions are granted, an aggregate allowance for CO<sub>2</sub>eq emissions by exempt entities would be deducted from the initial allocation by the NCA. Land uses would equally be registered, and a reduction in absorptive capacity from the agreed baseline year, say 2010 (eg, cutting down a forest) would require the purchase annually of emission certificates by the landowner, and increasing absorptive capacity would be rewarded each year by the NCA issuing further carbon certificates (credits) and paying the prevailing value of those certificates to the landowner.

(See illustrative chart 4)

**8. Expects** the national carbon authority to be responsible for controlling the production of annual emissions' certificates to the level of the 'initial' allocation from the ICA, distributing those certificates to registered entities by selling and/or allocation, facilitating and regulating the secondary trading markets and their international trading, monitoring compliance, and prosecuting as required fraud and malpractice.

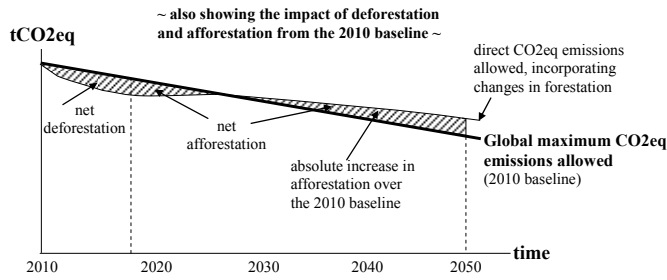
(See illustrative 'two country' institutional structure)

**9. Accepts** that each country will comply with its international obligations by ensuring that the annual direct emissions by registered entities within its jurisdiction equal the 'initial allocation' from the ICA plus (or minus) emission certificates bought (or sold) internationally plus (or minus) the change in absorptive capacity of registered land uses, being the 'final allocation'.

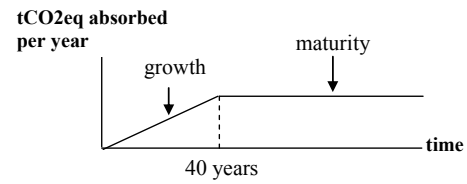
(See illustrative chart 5)

**10. Declares** that the flow of funds between countries from above average to below average emitters per head arising from an 'equitable' pre-trading distribution of emission rights - a precondition for an effective, forward-looking international agreement to mitigate the effects of dangerous climate change - would be the foundation for clean, sustainable development, and in turn foster flows of low-carbon technology business to support that development.

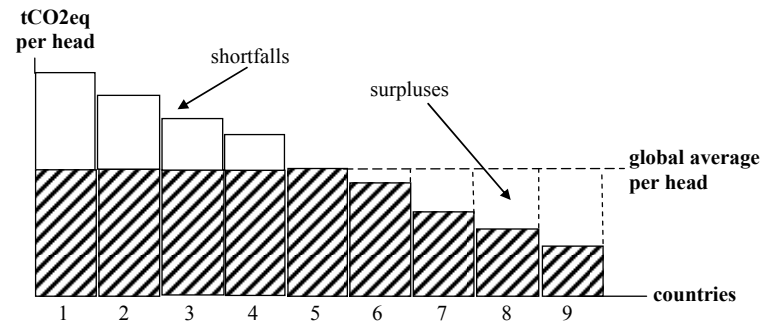
**Chart 1: Illustrative global maximum CO2eq emissions pa to 2050**



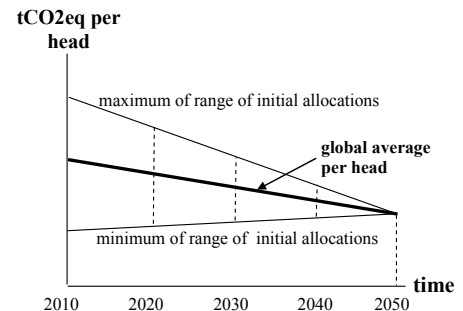
**Chart 2: Illustrative profile of annual CO2eq credits for a unit of afforestation**



**Chart 3: Illustrative range of country CO2eq emissions per head compared to a global average 'initial allocation' at 2010**



**A phased convergence of 'initial allocations'**



**Chart 4: Illustrative outcomes for a year (eg, 2030) with forest land uses included**

Forest land use (global & country)	Initial CO2eq allocation	Afforestation credits	International purchases (sales)	Final CO2eq allocation	of which CO2eq split	
					emissions	deforestation
no change on 2010	800	0	n/a	800	800	0
deforestation only	800	0	n/a	800	700	100 <sup>0</sup>
afforestation only	800	200*	n/a	1000	1000	0
<b>global combined:</b>	800	200*	n/a	1000	900	100 <sup>0</sup>
'buying' countries	400 }	100* }	150 }	650 }	600 }	50 <sup>0</sup> }
'selling' countries	400 }	100* }	(150) }	350 }	300 }	50 <sup>0</sup> }

\* Each National Carbon Authority allocates or auctions 500 emission certificates (400+100 credits) and pays afforestation owners at prevailing carbon price. <sup>0</sup> Deforestation owners obtain emission certificates (50)

**Chart 5: Illustrative outcomes**

IA = initial allocation

DE = direct CO2eq emissions

▨ additional emission certificates purchased

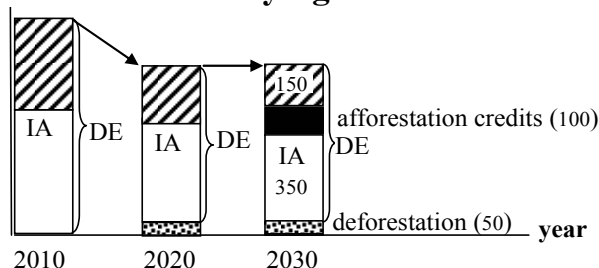
▨ deforestation (CO2eq emission certificates required)

▨ afforestation (total CO2eq credits over base year)

▨ surplus initial allocation sold

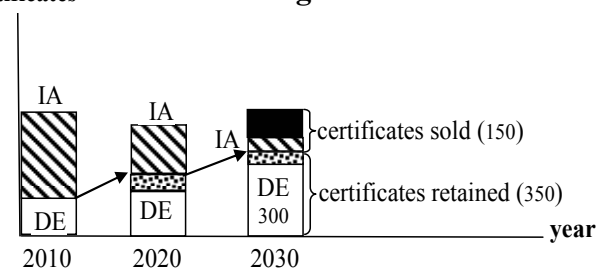
tCO2eq emission certificates

'buying' countries



tCO2eq emission certificates

'selling' countries

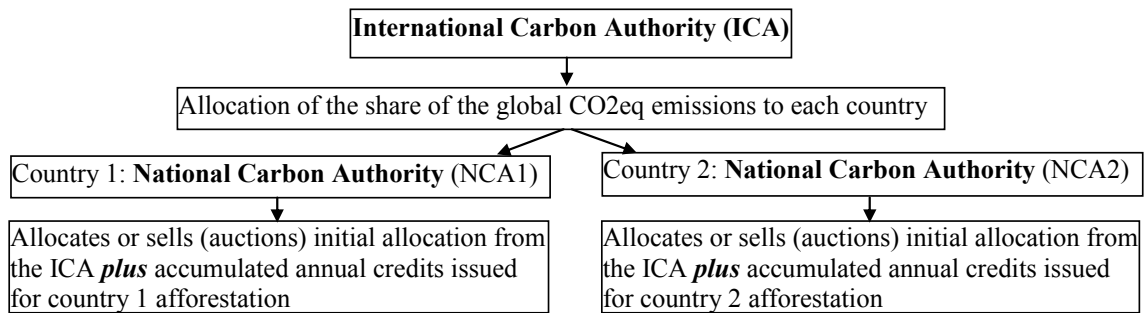


**Reference:**

Bartle I and Vass P (2007), Climate Change Policy and the Regulatory State ~ A Better Regulation Perspective, Centre for the study of Regulated Industries (CRI), Research Report 19, University of Bath, UK, pp138, ISBN 1 85790 164 9, [www.bath.ac.uk/cri](http://www.bath.ac.uk/cri) for download.

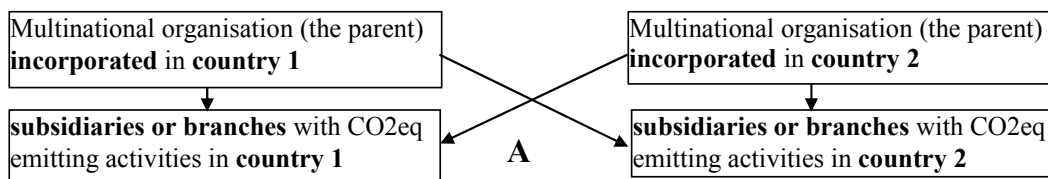
**A ten point plan: the institutional structure**  
*- a 'two country' illustration to accompany the plan and illustrative charts.*

**The initial allocation (IA), for example, 2020**



**Type of organisation [territorial, extra-territorial and 'surrogate']**

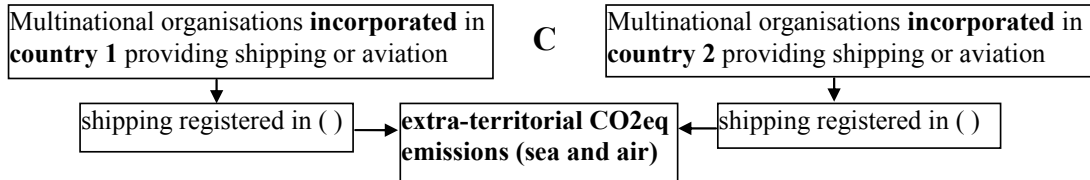
**TYPE 1: Multinational organisations with CO2eq emitting activities in various countries**



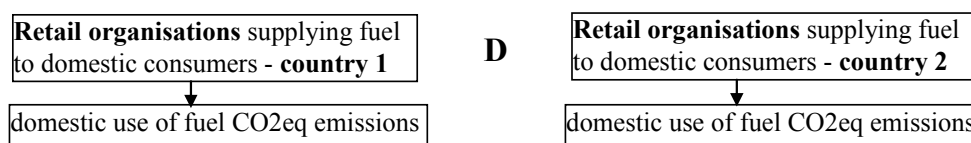
**TYPE 2: National organisations with in-country emitting activities only**



**TYPE 3: Extra-territorial - international shipping and aviation**



**TYPE 4: Domestic emissions (fuel: personal transport and domestic use) - the supplier 'surrogate'**



**End of 2020: the outcome**

Each NCA must confirm the total CO2eq emissions (A + B + C + D) within their jurisdiction, that is:

- emitting activities located in their territory (**Type 1 and 2**), including deforestation from the 2010 baseline;
- extra-territorial emissions from shipping and aviation where those services are owned by companies incorporated in the country (**Type 3**);
- 'direct' domestic CO2eq emissions based on the retail sales of fuel to the domestic market (**Type 4**).

Each of the relevant organisations above must supply the CO2eq emitting data (eg, territorial emitters, extra-territorial owners of emissions, and retailers as 'surrogates' for the domestic sector's direct emissions) with the necessary authorising CO2eq certificates to back them (the final allocation), obtained either at the initial distribution by the NCA or in subsequent trading in secondary markets (domestic or international).