

Mitigation in Developing Countries: Which Incentives in the future Climate Agreement ?

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Outline

- **The principle of “Common but Differentiated Responsibility”**
 - An excellent principle
 - A “Binary” interpretation in Kyoto and in Copenhagen/Cancun agreements
 - Toward a reconsideration of this binary interpretation
- **The catalyst of carbon pricing**
 - Why carbon pricing is essential
 - An international “bonus-malus” carbon system for governments
 - Preparing the transcontinental carbon market

The Kyoto Protocol: A sophisticated « one-legged » agreement

A few pointers

- Implementation Protocol of the framework convention of 1992 covering the period up to 2012;
- Protocol with different implications:
 - Binding commitments on the reduction of emissions for Annex B countries: 5,2 % between 1990 and 2008/12;
 - No commitments for the others (developing countries)
- Conditions of implementation:
 - Ratification by at least 55 countries;
 - Among countries of Annex B, the signatories must amount to at least 55% of emissions.
- 2008-2012: engagement period covered by the Protocol
- December 2007 : Bali mandate to prepare post-Kyoto
- December 2009 : Copenhagen conference
- December 2011 : “Durban Platform”: mandate for 2015

Three flexibility mechanisms

Emission permits trading:

- Possible trade of permits amongst Annex B countries (article 17)
- Goal: reduce the cost of emission reduction

Two projects mechanisms (credits trading):

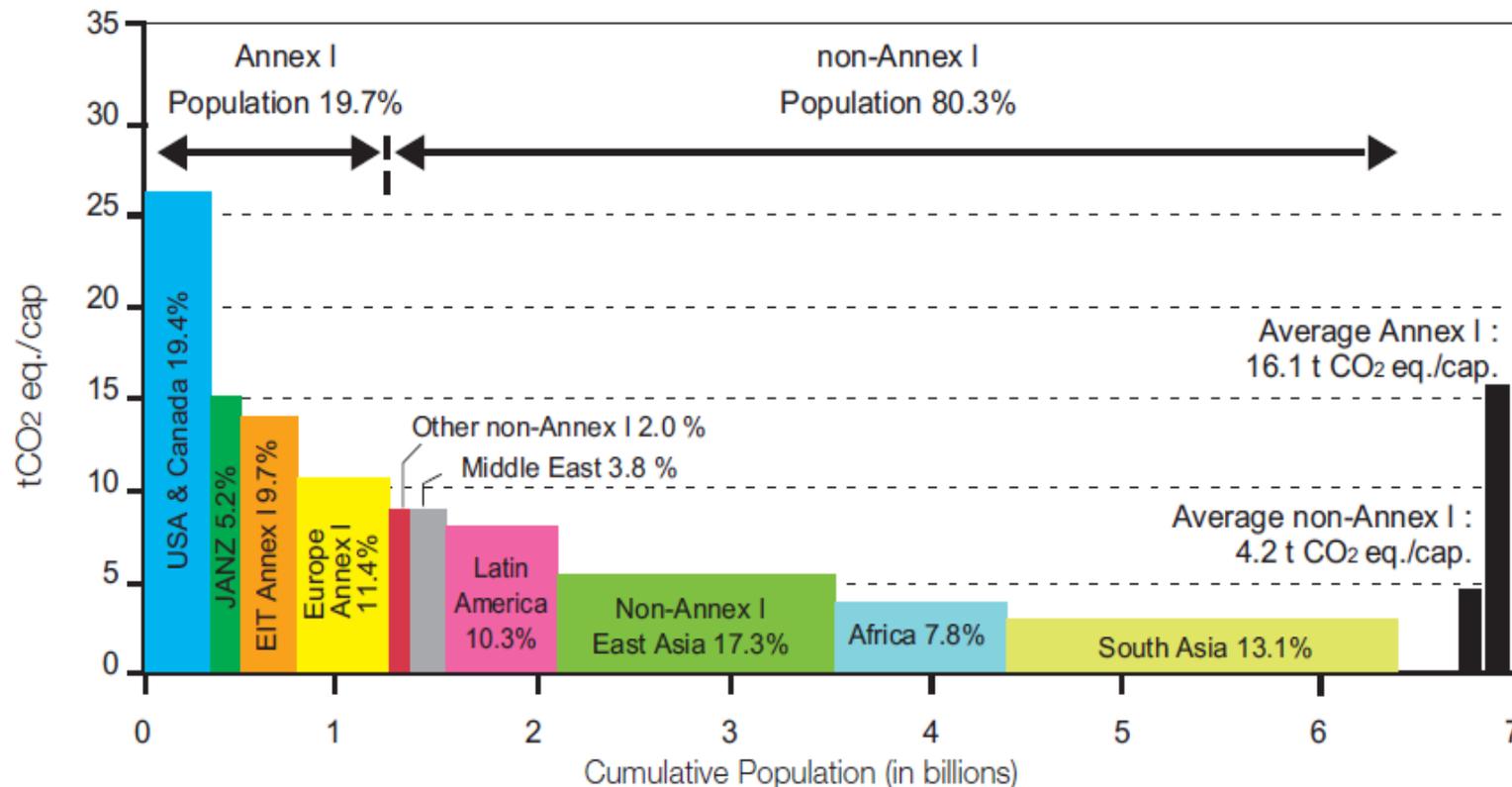
- **Joint Implementation Mechanism:**
Projects between Annex B countries (article 6)
- **Clean Development Mechanism:**
Projects with developing countries (article 12 on projects outside of Annex B)

The Copenhagen-Cancun shifts

- **An enlargement of the commitments**
 - Pledges from non Annex I countries in terms of relative targets ;
 - No real progress in terms of MRV in non Annex I countries (except for forestry) and some regressions among Annex I.
- **Economic incentives:**
 - A promise of transferring \$100billion a year from North to South which reinforces the “binary” interpretation of the principle of Common but differentiated responsibility.
 - No consensus on the distribution of funding among donors and on the distribution of allocating funds for recipients
 - No economic tools based on carbon pricing

The Principle of Common but Differentiated Responsibility (1)

Regional GHG Emissions per capita



The percentage indicated for each region corresponds to its portion of global GHG emissions.
 EIT : Economies in Transition, JANZ : Japan, Australia, New-Zealand.

Source: IPCC, 4th report of the 1st working group, 2007

The Principle of Common but Differentiated Responsibility (2)

	Cumulative emissions (% of global CO2 emissions*)
China	27.8
United States	44.8
EU-27	56.3
India	62.1
Russia	67.6
Japan	71.4
Korea	73.4
Iran	75.1
Canada	76.6
Mexico	78.0
Source : IEA	*CO2 energy emissions only

The catalyst of carbon pricing

- The double function of international carbon pricing
- A “bonus-malus” carbon pricing system for governments
- Preparing the transcontinental carbon market

The double function of international carbon pricing

- Governments:

- To raise money and finance the promises made in Cancun
- To incite all the countries to enter in a common MRV scheme
- To avoid “Free rider” behaviors

- Economic actors:

- To create a strong signal on the cost of emitting GES around the world (based on a “cost-efficiency” approach)
- To rapidly change relative prices of energies
- To mobilize investments in low carbon systems

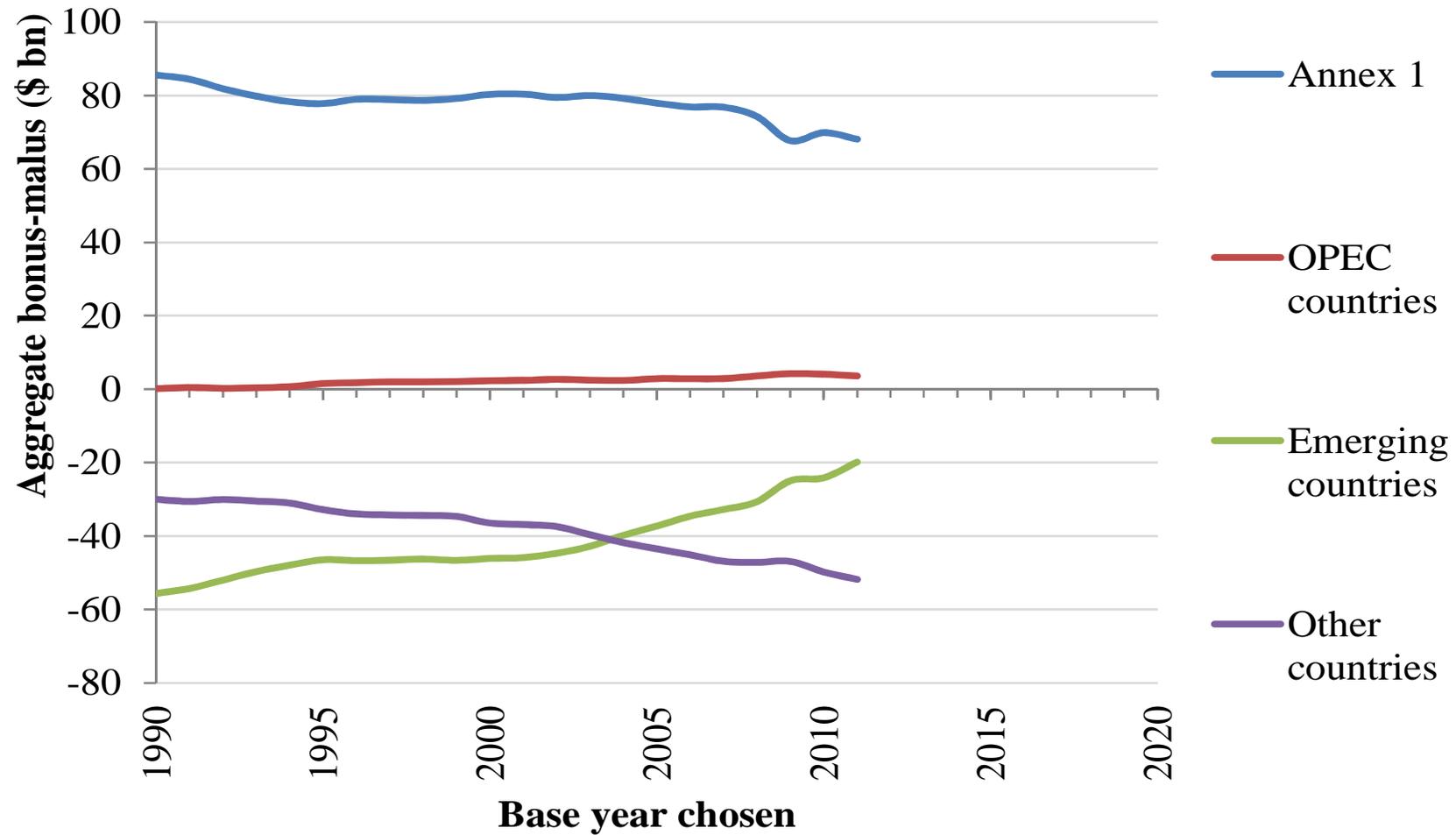
In both cases, the main issue raised by carbon pricing is its distributional effects : a new value, the “carbon rent” is created. How to distribute it in the real Economy ?

The « bonus-malus » carbon pricing scheme for governments

- **An international carbon tax (malus):**
 - Tax base: all GHG emissions above the reference threshold (the world average emission per capita)
 - Tax rate: calculated in order to raise \$100Bn per year starting in 2020 (7-9 \$/t)
 - Main donators with 2011 figures: US, China, Russia, UE
- **Uses of the revenues (bonus):**
 - First condition for the recipients: to comply with the common MRV developed by UNFCCC
 - Transfers calculation: proportional to the difference between per capita GHG and the world average
 - Main recipients with 2011 figures : India, Bangladesh, Pakistan
- **Distributional effects sensible to the choice of the year of reference**

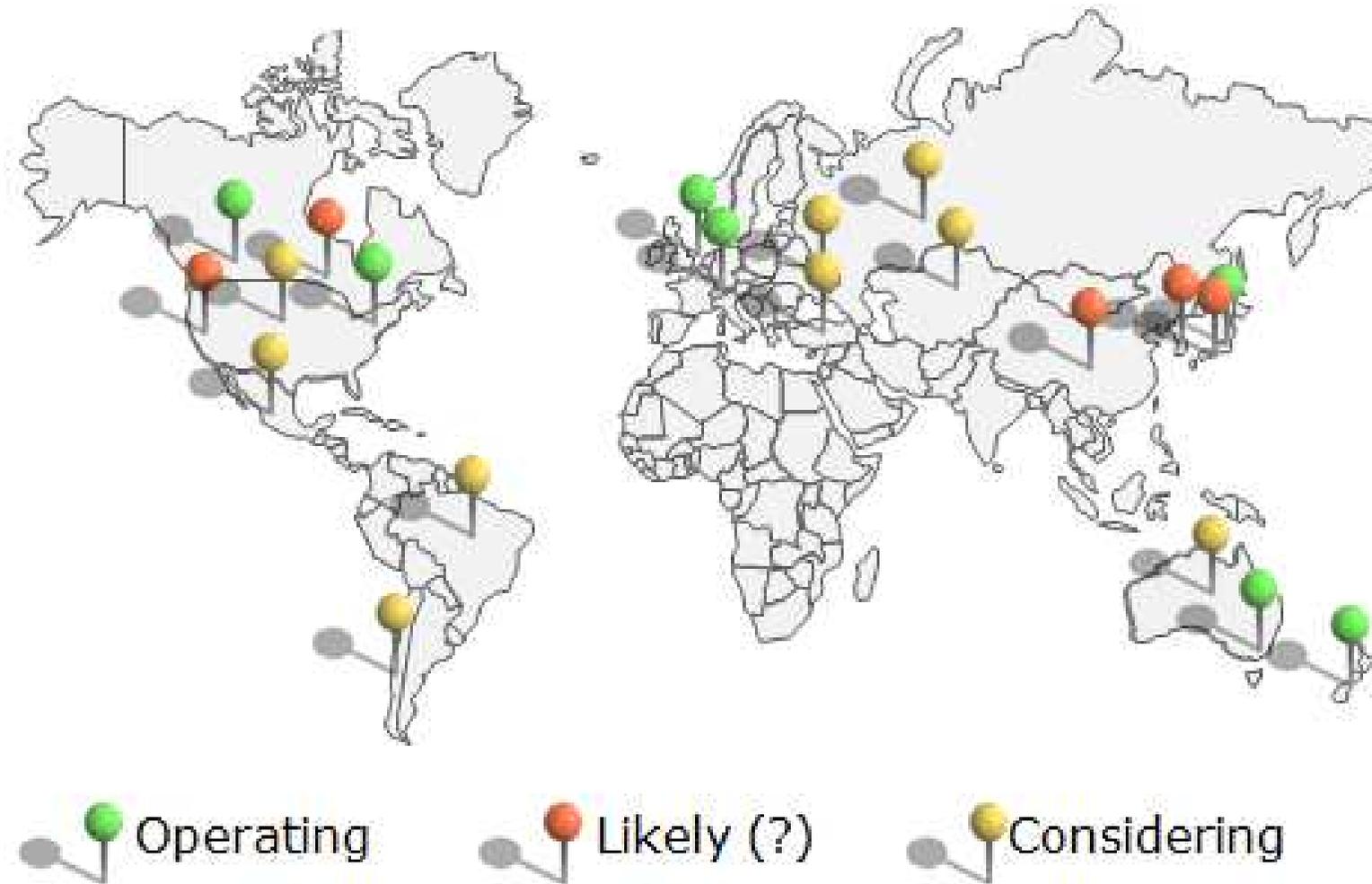
The strategic choice of the period of reference

Net contributors and beneficiaries in the Bonus-malus scheme



Source: Climate Economics Chair (CEC)

The post-Kyoto world: risk of fragmented carbon markets



Source: C.Hood, 2010, IEA information paper

Why and how to introduce carbon pricing in the economy ?

- **The necessity of having a strong and credible carbon price signal**
 - Energy prices are the main drivers of the “Energy transitions” (shale gas revolution in the US, the “thirst” of coal in the world, ...)
 - Energy prices give a value to the scarcity of the fossils underground, carbon pricing gives a value to the scarcity of the atmosphere
 - Carbon pricing creates a “carbon rent” which will compete with “oil rent” to finance a transition towards a low carbon economy.
- **The state of carbon pricing in the world**
 - Many projects, but three main experiences so far: EU, China, the US
 - All schemes are based on “cap and trade” mechanisms covering electricity sector and other emissions linked to energy and industry
 - No coordination and no feasible linkage between the schemes
- **Transforming these pilots into a transcontinental carbon market by 2020**

Preparing the transcontinental carbon market

- **Main technical issues**

- A transcontinental market can be created by unlimited direct linkage between markets (mutual recognition of allowances)
- Harmonizing rules of MRV and compliance
- Creating common registries and market infrastructures
- Facilitating entry of new market participants

- **Main political issues**

- The scope of the transcontinental market (electricity + ... ?)
- Finding an agreement on a cap: the core of the negotiations
- The allocation process and the distributional impacts
- The economic and political incentives to attract new participants (and avoid possible “free riding” behaviors)
- Setting up an appropriate governance through an independent market authority.

Thank you for your attention

For more information,
please visit the Climate Economics Chair website:
<http://www.chaireconomieduclimat.org>

Total Annual Anthropogenic GHG Emissions by Groups of Gases 1970-2010

Source: IPCC, 2014

