CIRAD

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L'atténuation des émissions de gaz à effet de serre

Implementing the flexibility mechanisms, from theory to practice

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Scope

- *International GHG emissions trading (Article 17, Kyoto Protocol)*
- *European Union Directive on tradable quotas of GHG emissions*

Emissions trading (Art. 17) - 1

- *Governments – and entities authorised by them – can trade AAUs to achieve national emission objectives*
- *Unlike pre-existing trading systems (SO_2, NO_x, lead…), absence of financial penalty to ensure compliance*
  - *Rogue states could undermine the environmental integrity of the trading system (‘take the money and run’)*
  - *Solution: Commitment Period Reserve. Countries must keep, permanently, a significant share of their allowances in their registry*

Emissions trading (Art. 17) - 2

- *Emissions trading negotiated with an underlying notion of a perfect and stable market*
  - *Historical role of global computable general equilibrium models :*
    - *a single international price balances supply and demand*
    - *Governments align their domestic efforts on the international price*
    - *Striking cost reductions in theory: 60% or more from a without trading scenario*
  - *Lessons from market experiments, in 'real time'*
    - *Prices fluctuate and* follow policy decisions *rather than guide them, in the cases of governments*
    - *Domestic policies take years to negotiate and implement*
    - *Some degree of irreversibility in policy setting*

Emissions trading (Art. 17) - 3

- *How will governments behave on the international GHG market?*
  - *GHG allowances: not a strategic commodity/service (unlike oil, or currencies)*
    - *Extreme scenario: buy once every five year to match its projected emission level and comply with Kyoto*
    - *Only few governments have taken early steps to assure adequate supply of allowances for compliance (Netherlands)*
  - *Governments likely to represent the vast majority of the net transfers of allowances*
    - *Emission trading systems at domestic level will not cover transport and residential sectors.*
    - *Options exist but politically unrealistic and not necessarily sound from a pure economic perspective*
  - *Yet unlikely to be active traders*

Emissions trading (Art. 17) - 4

- *How will governments behave on the international GHG market? (continued)*
  - *No straightforward knowledge of mitigation cost*
    - *Full social cost of transport policy, on a per tCO2 basis?*
  - *Compliance trading: buy to ensure compliance, do not absolutely seek least-cost compliance through active trading*
  - *Lack of full visibility on supply and demand*
    - *National emissions not without surprises (related to GDP, weather, international energy prices)*
    - *Precise inventories (including sinks and non-energy related GHG) take > one year to finalise, about two years to be approved internationally (KP Article 8, in-depth review of inventories)*
    - *Some share of overall supply and demand may 'meet' when prices no longer influence policy (e.g. in 2014 for emissions recorded between 2008-2012)*

Emissions trading (Art. 17) - 5

- *Possible evolution of trading under Article 17*
  - *Not necessarily driven by cost-minimisation alone (Govts)*
    - *See reluctance to acquire Russian 'hot air' and pressure to ensure that trading revenues will be used to promote other GHG mitigation activities (conditional GHG trading)*
  - *Role of domestic politics in policy setting*
    - *Increase gasoline taxes to reduce transport emissions, or*
    - *Increase (very modestly) gasoline taxes to finance the purchase of international allowances to offset momentary increase in transport emissions?*
      - *Emissions trading as a solution to high* political *cost of GHG mitigation policy?*
  - *In all, uncertainty regarding the effects of the system in terms of economic efficiency*
  - *Above all, primary concern is behaviour of Russia with respect to its 'hot air'*

From KP emissions trading to EU CO_2 trading directive

- *EU Directive : a "nested doll" inside the Kyoto Protocol regime*
  - *EU governments have agreed to emission commitments between 2008-2012, and are now sub-allocating these objectives to their large industrial sources*
  - *EU industry regime is air-tight, vis-à-vis the over-arching Kyoto regime*
    - *Some access to project-based reductions, if Kyoto enters into force*
  - *Learning phase: 2005-2007*
  - *Race to "least-common denominator": restriction on how much governments can auction (I.e. sell) allowances to industry (5% in first period, 10% in second period)*

Rationale behind the EU CO_2 trading directive

- *Back to source: an instrument well-suited to industrial reality*
  - *Driven by interest to minimise own costs (maximise benefits, as a seller)*
  - *Full knowledge and control over own mitigation options*
  - *Accustomed to market mechanisms*
  - *And a popular precedent: SO2 allowances regime in the USA*
- *Other key argument originally:*
  - *As an instrument that guarantees least-cost outcome, will avoid imposing unneeded costs on industry subject to international competitiveness from non-Kyoto countries*

Key difference with the "model"

- *Short-term allocation only (in 2004 for 2005-2007, in 2006 for 2008-2012), versus a 30-year allocation in US SO_2 regime*
  - *Understandable: Kyoto does not define goals beyond 2012*
  - *Potential problems:*
    - *Limited time to adjust emissions (which implies, in turn, limited scope for governments to ask for meaningful mitigation efforts)*
    - *Uncertainty related to both future emission goals and carbon prices: investment choices may prove erroneous – and costly*
    - *Frequent renegotiation of emission goals could create a "subsidy" to keep emission levels high*
- *The competitiveness issue (absent from US SO_2 debate)*
  - *Unilateral action by EU countries (although most of EU countries trade is done with EU partners)*
  - *Threat of economic dislocation and relocation is extremely difficult to evaluate ex ante*
    - *Unknown price of carbon, cumulated with uncertainty of impact of a carbon price on price of internationally-traded products*

EU and rest of Annex B (1)

- *EU Directive: no obvious door open to non-industry systems*
  - *no access to Kyoto allowances other than allocated as allowances under Directive*
  - *a desire to put industry on the right path towards declining emissions*
- *Creates two markets under Kyoto?*
  - *industry to industry in EU (+JI and CDM)*
  - *government to government transactions*

EU and rest of Annex B (2)

Different prices for different players

- *Industry under EU cap: its own supply and demand fundamentals*
  - *profit-driven mitigation and transactions*
  - *limited access to "hot air" (via Green Investment Scheme-type transactions?)*
- *Governments:*
  - *will need to offset transport and other non-industry emission increases*
  - *limited alternatives (buy or not comply?)*
  - *access to "hot air" but risk of market power*
  - *non-economic considerations (int'l relations…)*

EU and rest of Annex B (3)

Does this matter?

- *Efficiency: not enhanced by two price-regimes*
- *Politically:*

  If gov't to gov't transactions are priced lower: will industry accept paying a higher price than other sectors which are not subject to international competitiveness?

  ➔ *an* efficiency *and an* equity *concern*
- *Solutions? Neither obvious, nor provided for*
  - *Governments sell into EU trading system to bring prices down?*
  - *Remove access barriers to increase supply into EU industry system?*

(very preliminary) conclusions

- *Emission trading regime of unprecedented size*
  - *Original estimates, with USA in Kyoto: about US$ 50 billions transferred annually from East to West*
- *With mixed scope of players and motives*
  - *Governments and industry*
- *In spite of limitations, provides an additional, fully legitimate opportunity to comply with Kyoto goals without endangering overall environmental objective*
- *One possible, partial interpretation of US pull-out*
  - *Negotiated –7% against a +30% emission trend by 2010*
  - *Is emissions trading better suited as a tool for marginal adjustment in GHG policy than as a tool to organise large transfers of resources – even if driven by cost reductions?*
  - *Lessons for the negotiation of future commitments*