The European Emission Trading System – origins, current state and future perspectives

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Overview

• The climate challenge
• Initial design of the European carbon market
• Phase 1 – Getting started
• Phase 2 – Allowances become a scarce commodity
• Phase 3 – The shape of things to come
The climate challenge

ICs 80-95% below 1990 by 2050
DCs 15-30% below BAU by 2020
Developed countries need to make reduction commitments of 30% by 2020 in order to see sufficient global reductions.

Mitigation scenario with gradually developing perfect global carbon markets sees 2/3 domestic reduction and 1/3 through trade by 2020.

Carbon market is important to keep cost acceptable, e.g., decreases investment costs with a factor 4.
Why emissions trading?

- Market-based instrument which allows for most cost-effective and targeted environmental policy – flexibility, no market intervention!
- EU ETS is driver for global carbon market: in 2007 valued at around €64 billion (EU ETS: € 50 billion)
- Cornerstone of Europe’s strategy to implement Kyoto Protocol - major structural element for the post-2012 climate strategy
- EU ETS will contribute to reaching more than 40% of the EU’s 15 Kyoto commitment 2008-2012 (i.e. 3.4% of -8% below 1990)

Initial design of the European Carbon Market

- Applicable since 1 January 2005
- Mandatory caps on absolute emissions from around 10,000 installations across EU covering approx. 40% of emissions
- Power plants and large industrial sources
- Decentralised cap-setting and allocation via national plans (largely free allocation of allowances)
- Stringent penalties (100 Euro per tonne CO₂)
- No government intervention
- Limited access to credits from projects in third countries (CDM/ JI)
- Linking with other countries
Phase 1
(2005 to 2007)

Getting started

Achievements in phase 1

- The world’s largest carbon market gets off the ground and carbon enters the boardroom
- Carbon market infrastructure is established
  - Electronic registry system
  - Over 10,000 installations monitor and report emissions
  - Independent verification of reported emissions
- A liquid market emerges
  - Market intermediaries – brokers and exchanges
- Market is provided with increasingly solid analysis
- Valuable learning for authorities and companies
Phase 1 prices and trading volumes

- Phase 1 cap did not deliver a biting constraint mainly because of lack of verified emission data
- Less than 1% was not allocated for free
- Allocation rules - very cumbersome and rather intransparent
- Differentiation between power and industry sectors
- Different treatment of similar installations in different MS: distortions of competition
Is the carbon market inherently more volatile than other commodity markets?

• No, phase 1 volatility is a one-off combination of the
  – … lack of robust emission data for 18 months
  – … absence of banking into phase 2
  – … allocation choices made and the behaviour of power and industry players
  – … time needed for the market to understand fundamental drivers of the allowance price

Phase 2
(2008 to 2012)
Allowances become a scarce commodity
**Major differences in phase 2**

- There will be fewer allowances in the market
- There will be more auctioning (3.4% overall)
- The first non-CO₂ emissions will be opted-in
  - Inclusion of installations in the fertiliser industry emitting N₂O
- Aviation to be integrated as of 2012
- The first trading schemes paralleling the EU ETS will emerge (e.g. RGGI in US in 2009)

**A binding phase 2 cap**

- Phase 2 cap of 2.08 billion allowances per year
  - compares to a phase 1 cap of 2.3 billion allowances per year
- 2005 emissions of > 2.2 billion tonnes

http://ec.europa.eu/environment/climat/2nd_phase_ep.htm
Phase 2 prices and trading volumes

Phase 3 (2013 to 2020)
The shape of things to come
The Commission’s Climate and Energy Package is …
- a set of legislative proposals to equip Europe to implement the -20% independent commitment … (EU ETS, Effort Sharing, Renewables, CCS, environmental state aid guidelines)
- and put provisions in place to scale up efforts to -30% post-Copenhagen …
- complemented by the target to achieve a share of 20% of renewable energy by 2020

The package is going through the EU legislative process as a matter of highest political priority

EU in 2005
-6.5% GHG emissions compared to 1990
8.5% renewable energy

Targets are ambitious but feasible
-14% GHG compared to 2005
+11.5% renewable energy share
Climate and energy package: Approach

Cost-effectiveness and fair distribution

- **Fairness**: differentiate efforts for Member States according to GDP/capita
  - national targets in sectors outside EU ETS
  - national renewables targets
  - redistribution of auctioning rights
- **Cost-effectiveness**: introduce flexibility
  - EU ETS
  - Guarantee of Origin trading for renewable energy

GHG Target:
- -20% compared to 1990
- -14% compared to 2005
- EU ETS
  - -21% compared to 2005
- Non ETS sectors
  - -10% compared to 2005

27 Member State targets, stretching from -20% to +20%
Objectives of the ETS review

The post-2012 EU ETS should
• deliver a cost-effective contribution to the independent target or to a stricter target under an international agreement
• be improved based on practical experience
• provide a clear long-term carbon price signal
• Form the basis for a global trading system

Outcome stakeholder consultation
• Improve predictability
• Enhance transparency

Key design features the revised ETS

• Scope
• Cap setting
• Allocation
• Monitoring, reporting and verification
• Access to JI/CDM
• International linking
## Scope

- Harmonised coverage of large industrial emitters
  - extension to chemical sectors and aluminium
  - extension to other GHGs: nitrous oxide (fertilisers), perfluorocarbons (aluminium)
- Potential opt-out of smallest emitters if equivalent emission reduction measures are in place (e.g. tax)

## Cap setting

- A single EU-wide cap rather than 27 caps proposed by Member States
- CO₂ allowances available in 2020 (based on current scope): 1720 Mt (-21% compared to 2005 emissions)
- Linear decrease
  - predictable trend-line to 2020 and beyond (-1.74%/year)
  - review by 2025
- Automatic adjustment to greater reduction foreseen in international agreement
- Aviation included building on December’s Council political agreement
• Move to auctioning in line with international trend
  - Full auctioning for sectors able to pass on costs (power sector)
  - Partial free allocation to industry as a transitional measure, to be phased out by 2020
  - Exception: higher levels of free allocation where significant risk of carbon leakage
• Auctions must be non-discriminatory, open to everybody and will be carried out by Member States on the basis of harmonised rules
• 20% of auction revenues should be earmarked for combating climate change
• Auctioning rights distributed from Member States with relatively high GDP/capita to MS with lower GDP/capita to balance high investment costs
• Harmonised community-wide rules, e.g. benchmarking, for free allocation
  – to be determined taking into account most efficient techniques, substitutes, alternative production processes, use of biomass and CCS

• More harmonised rules through Regulations on
  – monitoring and reporting of emissions by operators
  – verification of reports and accreditation of verifiers (including mutual recognition)

• Non-compliance penalties (€100/tonne CO₂) to increase by inflation rate to maintain deterrent effect

• To enhance reliability and thus international credibility of the EU ETS
Joint Implementation and the Clean Development Mechanism

- Links EU ETS with projects in >150 countries
- Proposal gives certainty on companies’ potential to use JI/CDM
- Differentiate between EU’s independent commitment to reduce GHG emission and contribution under intern. agreement
  - JI/CDM incentive for 3rd countries to join international agreement
  - Demand from EU only would reduce market-based incentive to increase energy efficiency, low carbon technology investment
  - EU’s renewables target would become more expensive if EU ETS not contributing to its achievement
- Once an international agreement is concluded, the EU ETS will automatically increase the use of credits (JI/CDM/other) by 50% of the additional reduction effort under that agreement

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<thead>
<tr>
<th></th>
<th>No access to JI/CDM</th>
<th>Access to JI/CDM</th>
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<tbody>
<tr>
<td>Reduction EU ETS sectors compared to 2005</td>
<td>-21.3%</td>
<td>-16.0%</td>
</tr>
<tr>
<td>Carbon value in all sectors (65ton CO2-eq.)</td>
<td>39</td>
<td>30</td>
</tr>
<tr>
<td>Renewables value (€/MWh)</td>
<td>45</td>
<td>49.5</td>
</tr>
<tr>
<td>Direct costs as % GDP</td>
<td>0.58%</td>
<td>0.45%</td>
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- JI/CDM reduced emissions in EU ETS, increases the need for additional incentives to achieve the RES target and reduces co-benefits in terms of energy security and health
- However it improves overall cost-efficiency of package
- Allowing the use of JI/CDM credits in the ETS as per COM proposal would lower the carbon price from 39€ to 30€
Linking

- EU ETS covers 30 countries with application in Norway, Iceland and Liechtenstein, and linking agreements can be made with any industrialised country that has ratified Kyoto

- Commission proposes to enable EU ETS to also link with other mandatory emission trading system capping absolute emissions, with any third country, or in sub-federal and regional systems

What are the benefits of the package?

- The ultimate goal: avoid the cost of climate change impacts: 5-20% of global GDP (Stern)

- Large scale innovation in the energy sector: technological leadership in low carbon technology

- Significant energy efficiency improvements

- Energy security: reduction of oil and gas import of €50 billion per year (at $61 per barrel of oil)

- Reduced air pollution, allowing for a reduction of €11 bn per year in 2020 for control measures
What are the costs of the package?

Macro-economic effects

- 2013 – 2020: GDP growth reduction by 0.04 – 0.06 % per year
- In 2020 GDP reduction of 0.45% of GDP (~ €60 Bln) compared to business as usual (+38%)
- Oil price of $100 per barrel would reduce costs by another €30 billion

State of play

ENVI vote of 7 October

- **Wide support** in adopting compromise amendments
- Takes into account a range of **views expressed by industry**
- Maintains the **overall architecture** of the EU ETS
- **Increasing convergence** with the views of Member States
  - **Auctioning** is maintained for the power sector, while other sectors will have a transition to full auctioning by 2020 except where there is a significant risk of carbon leakage
  - **Revenues** are to be used to tackle climate change
  - Use of **high quality CDM**, in a way that maintains the incentives for developing a comprehensive international agreement
State of play
European Council

- Support for overall architecture, but
  - Some fear costs are too high
  - Some wants recalculation of costs due to financial crisis
  - Some want more recognition for past efforts
- Generally continued political support for first reading agreement

Main outstanding issues

Carbon leakage
- Which EII get free allocations (quantitative & qualitative criteria, timing, measures, review) and how much for how long?
- Auctioning for electricity and the possibility of derogations
- How deal with indirect effects
- Price volatility
- Border Adjustment Measure

Ambition level
- Switch to 30% scenario
Main outstanding issues

Flexibility
• Quantity and quality of JI/CDM
• Use of LULUCF and REDD credits
• Flexibility between ETS and non-ETS
• How opt-out small installations
• How design the auctions (access, price controls, timing, frequency)

Solidarity
• What base year to use
• How to distribute auctioning rights
• Earmarking of revenues from auctioning

Commission’s views

• No deviation from main architecture of package
  – Auctioning as principle for allocation
  – Evidence-based approach for free allocations based on objective and measurable data and ex-ante benchmarks
  – No ex-post regulatory interventions
  – 2005 reference year

• Ensure environmental integrity
  – Respect cap
  – Limit CDM (quality and quantity)
  – Manage carbon leakage risks
  – No flexibility between ETS and Non ETS

• Aim for credible proposal that increases chances of achieving an ambitious international outcome
### Next steps

- **Trilogues** between Council – Parliament – Commission to start in November
- Political agreement by early December
- European Council 11-12 December
- Formal adoption at a Plenary session of the EP in December

Visit [http://ec.europa.eu/environment/climat/emission.htm](http://ec.europa.eu/environment/climat/emission.htm)