Relationship between the EU ETS and the Kyoto Protocol Flexible Mechanisms, from the Perspective of Bioenergy and C Sequestration

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Outline

- The European Emissions Trading System
- Linking with JI and CDM projects
- How are bioenergy and C sequestration included?
- For comparison: McCain Lieberman Bill
- What about bioenergy in the CDM?
- Conclusions

DIRECTIVE 2003/87/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 13 October 2003

establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 175(1) thereof,

Having regard to the proposal from the Commission [1],

Having regard to the opinion of the European Economic and Social Committee [2],

Having regard to the opinion of the Committee of the Regions [3],

Acting in accordance with the procedure laid down in Article 251 of the Treaty [4],

Whereas:

(1) The Green Paper on greenhouse gas emissions trading

(3) The ultimate objective of the United Nations Framework Convention on Climate Change, which was approved by Council Decision 94/69/EC of 15 December 1993 concerning the conclusion of the United Nations Framework Convention on Climate Change [6], is to achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level which prevents dangerous anthropogenic interference with the climate system.

(4) Once it enters into force, the Kyoto Protocol, which was approved by Council Decision 2002/358/EC of 25 April 2002 concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the joint fulfilment of commitments thereunder [7], will commit the Community and its Member States to reducing their aggregate anthropogenic emissions of greenhouse gases listed in Annex A to the Protocol by 8 % compared to 1990 levels in the period 2008 to 2012.

The EU ETS

- Covers 15 to 20 000 installations in the EU 25
- First period 2005-2007, second 2008-2012
- First period: only CO2
- Allocation of allowances (EUAs) by member states
- Guidelines for allocation
- National allocation plans (NAPs) by March / May.
- Guidelines for monitoring and reporting

Activities	Greenhouse gases
Energy activities	
Combustion installations with a rated thermal input exceeding 20 MW (except hazardous or municipal waste installations)	Carbon dioxide
Mineral oil refineries	Carbon dioxide
Coke ovens	Carbon dioxide
Production and processing of ferrous metals	
Metal ore (including sulphide ore) roasting or sintering installations	Carbon dioxide
Installations for the production of pig iron or steel (primary or secondary fusion) including continuous casting, with a capacity exceeding 2,5 tonnes per hour	Carbon dioxide
Mineral industry	
Installations for the production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or lime in rotary kilns with a production capacity exceeding 50 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day	Carbon dioxide
Installations for the manufacture of glass including glass fibre with a melting capacity exceeding 20 tonnes per day	Carbon dioxide
Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day, and/or with a kiln capacity exceeding 4 m^3 and with a setting density per kiln exceeding 300 kg/m^3	Carbon dioxide
Other activities	
Industrial plants for the production of (a) pulp from timber or other fibrous materials	Carbon dioxide
(b) paper and board with a production capacity exceeding 20 tonnes per day	Carbon dioxide

Table 1: Categorisation of the criteria

	Mandatory (M)/ Optional (O)	Total level	Activity/ Sector	Installation level
(1) Kyoto commitments	(M)/(O)	+		
(2) Assessments of emissions development	(M)	+		
(3) Potential to reduce emissions	(M)/(O)	+	+	
(4) Consistency with other legislation	(M)/(O)	+	+	
(5) Non-discrimination between companies or sectors	(M)	+	+	+
(6) New entrants	(O)			+
(7) Early action	(O)			+
(8) Clean technology	(O)			+
(9) Involvement of the public	(M)			
(10) List of installations	(M)			+
(11) Competition from outside the Union	(O)		+	

Linking with JI and CDM projects

- Draft “Linking Directive”
- Agreement needed between the EU Parliament and the Council, target date May
- Controversial issues:
  - Cap on JI and CDM?
  - Double counting of emission reductions
  - Large-scale hydro, nuclear
  - “Carbon sinks”

What about bioenergy and carbon sequestration?

- Bioenergy:
  - If done by EU ETS participant, automatically included (if it reduces emissions from an “installation”).
  - JI and CDM projects: Pending decisions on linking, including the double counting issue
  - Domestic (same country) projects: currently not foreseen

What about bioenergy and carbon sequestration?

- Carbon Sequestration: afforestation, reforestation and cropland / grazing land management are most likely candidates.
  - Within ETS participant: not eligible
  - JI and CDM: Pending decisions on linking, inclusion of AR seems unlikely at the moment
  - Domestic (same country): Almost certainly not. Esp. if other domestic project types, and JI/CDM sinks, not eligible.

It is noteworthy that ...

- Projects eligible only if in other countries
- C sequestration projects not eligible
- Domestic bioenergy projects outside the ETS benefit only indirectly, depending on pricing changes of energy from fossil fuels
- There is an ongoing discussion about pricing in costs of EUAs into electricity prices (power producers vs. industry).
- Will there be free allocation of allowances in future?

How could tCERs or lCERs be brought into the ETS?

- COP9 decision provides for AR projects in the CDM to create either “temporary CERs” (tCERs) or “long-term CERs” (lCERs).
- lCERs nearly identical to CERs, *except* that they expire
  - if C stocks are released due to natural or anthropogenic effects,
  - or at the end of the crediting period (1x30 or up to 3x20 years).

How could tCERs or lCERs be brought into the ETS?

- lCERs could be converted into two parallel products:
  - an allowance (to be traded within ETS) and
  - a bond to cover the liability
- Bond could be “covered” e.g. by:
  - pool of projects (self-insurance)
  - insured by other means, including for replacement after the crediting period.
- Costs of potential non-permanence and restitution after expiration are internalised into EUA price

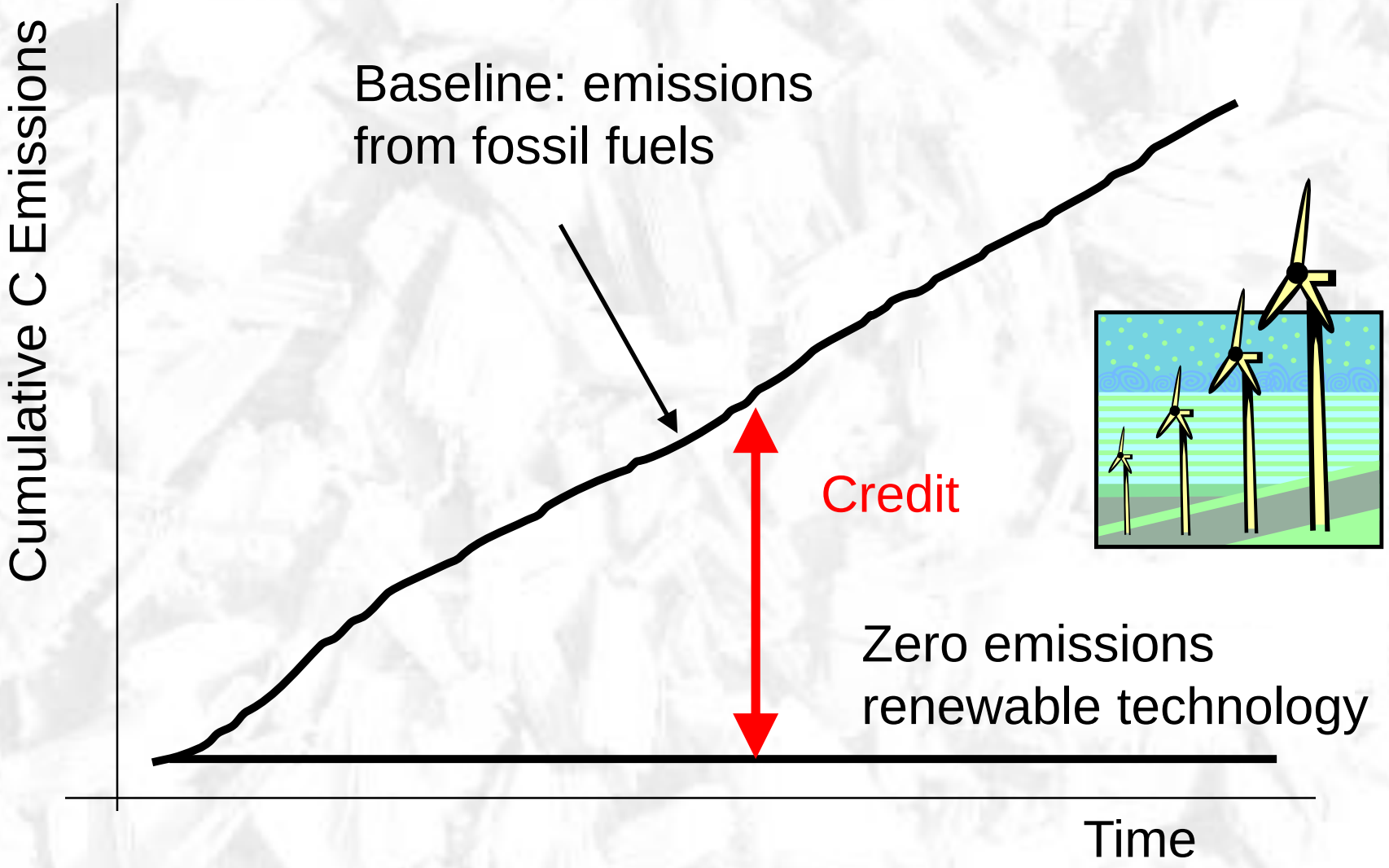
Comparison: McCain Lieberman Bill

- Covers all installations > 10 000 tons CO2 / year
- Covers transportation sector (via refineries and petroleum importers)
- Allows project offsets including reductions by sources not covered by the trading program, including
  - **Afforestation, reforestation**
  - **Agricultural and conservation practices**
  - **Forest preservation**

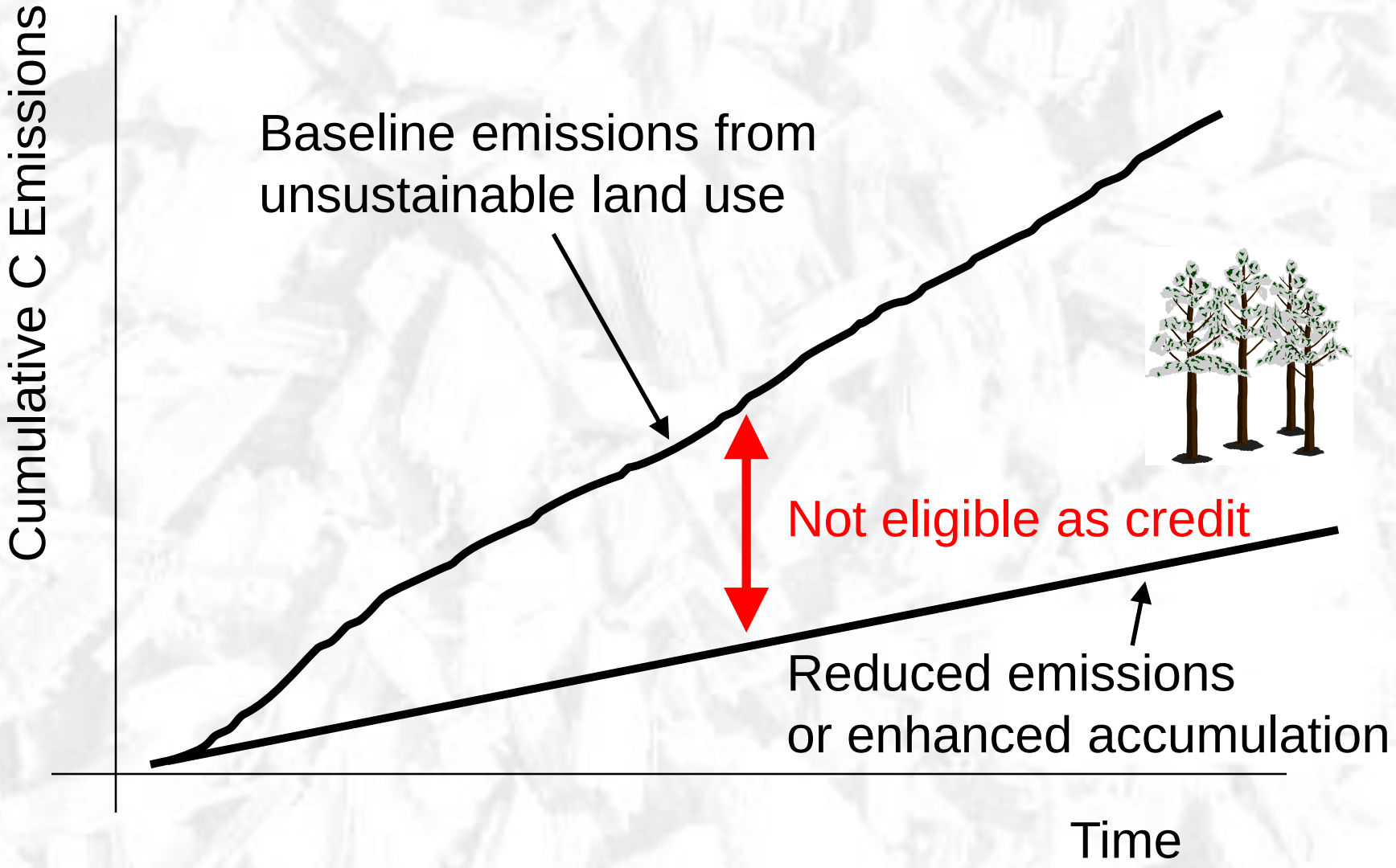
Bioenergy and “sinks” in the CDM

- Afforestation and reforestation are “in”
- Also included:
  - Biomass energy projects that displace the use of fossil fuel
- Many developing countries do not have
  - Big opportunities for fossil-fuel reductions
- Most do have either:
  - High LULUCF emissions
  - Big LULUCF opportunities
  - Large share of biomass in primary energy

Renewable energy in the CDM that replace fossil fuels



More efficient biomass energy



Bioenergy projects that are eligible

- Bioenergy displaces fossil fuel (most proposed CDM bioenergy projects)
  - Use of biomass residues (fuel switching, e.g. biomass residues)
  - Replacing coal, oil, natural gas, kerosene etc.
- Non-CO_2 greenhouse gases are reduced
  - landfill gas recovery
  - Methane recovery through enhanced animal waste management

Bioenergy projects that are not eligible

- Demand-side management in bioenergy systems
- Improvement of the efficiency of biomass production and conversion that leads to
  - Less consumption of fuelwood or other biomass fuels
  - (or the same amount of fuelwood used to provide energy to more users)
  - Less degradation of lands
  - Less deforestation
  - More build-up of carbon on the land
- Joint IEA Bioenergy / FAO submission to the CDM Executive Board (Meth. Panel)

ETS conclusions and outlook

- Prices currently around 13 € per ton CO2
- Trading is slow, but to pick up once NAPs agreed
- Start in 2005, independent of Kyoto Protocol status
- Ratification will influence post 2007 targets
- Bioenergy projects key for many installations, esp. in Finland, Sweden, Austria, Eastern Europe
- C sequestration projects most likely only from 2008
- Linking of JI and CDM mechanisms may “save” these even in absence of KP entry into force.