



# **Latest on Bioenergy in the EU Emissions Trading System and in the CDM**

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# Outline

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- 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 <sup>(1)</sup>,

Having regard to the opinion of the European Economic and Social Committee <sup>(2)</sup>,

Having regard to the opinion of the Committee of the Regions <sup>(3)</sup>,

Acting in accordance with the procedure laid down in Article 251 of the Treaty <sup>(4)</sup>,

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 <sup>(6)</sup>, 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 <sup>(7)</sup>, 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

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- Covers 15 to 20 000 installations in the EU 25
- First period 2005-2007, second 2008-2012
- First period: only CO<sub>2</sub>
- 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
<p><i>Energy activities</i></p> <p>Combustion installations with a rated thermal input exceeding 20 MW (except hazardous or municipal waste installations)</p> <p>Mineral oil refineries</p> <p>Coke ovens</p>	<p>Carbon dioxide</p> <p>Carbon dioxide</p> <p>Carbon dioxide</p>
<p><i>Production and processing of ferrous metals</i></p> <p>Metal ore (including sulphide ore) roasting or sintering installations</p> <p>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</p>	<p>Carbon dioxide</p> <p>Carbon dioxide</p>
<p><i>Mineral industry</i></p> <p>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</p> <p>Installations for the manufacture of glass including glass fibre with a melting capacity exceeding 20 tonnes per day</p> <p>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<sup>3</sup> and with a setting density per kiln exceeding 300 kg/m<sup>3</sup></p>	<p>Carbon dioxide</p> <p>Carbon dioxide</p> <p>Carbon dioxide</p>
<p><i>Other activities</i></p> <p>Industrial plants for the production of</p> <p>(a) pulp from timber or other fibrous materials</p> <p>(b) paper and board with a production capacity exceeding 20 tonnes per day</p>	<p>Carbon dioxide</p> <p>Carbon dioxide</p>

**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

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- 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?

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## ■ 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
- If project is in “non-Kyoto” country: not eligible
- Domestic (same country as installation that uses the offset) projects: currently not foreseen.
  - ➔ Double counting concerns

# What about carbon sequestration?

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

# It is noteworthy that ...

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- 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?

# Other EU policies that support bioenergy

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- Directive for “renewable electricity”
  - Quantitative targets for each EU member states
  - Fixed feed-in tariffs or auctioning of “right to add-on payments on power price”
  - Green certificates trading
  - Seems to trigger many biomass projects, up to 100 MW
  - Biomass market issues become relevant
- Directive for liquid biofuels
  - 2% by 2005; 5,75% by 2010
  - Various models for incentives at national level
- Directives on cogeneration, buildings, renewable heating and cooling

# Comparison: McCain Lieberman Bill

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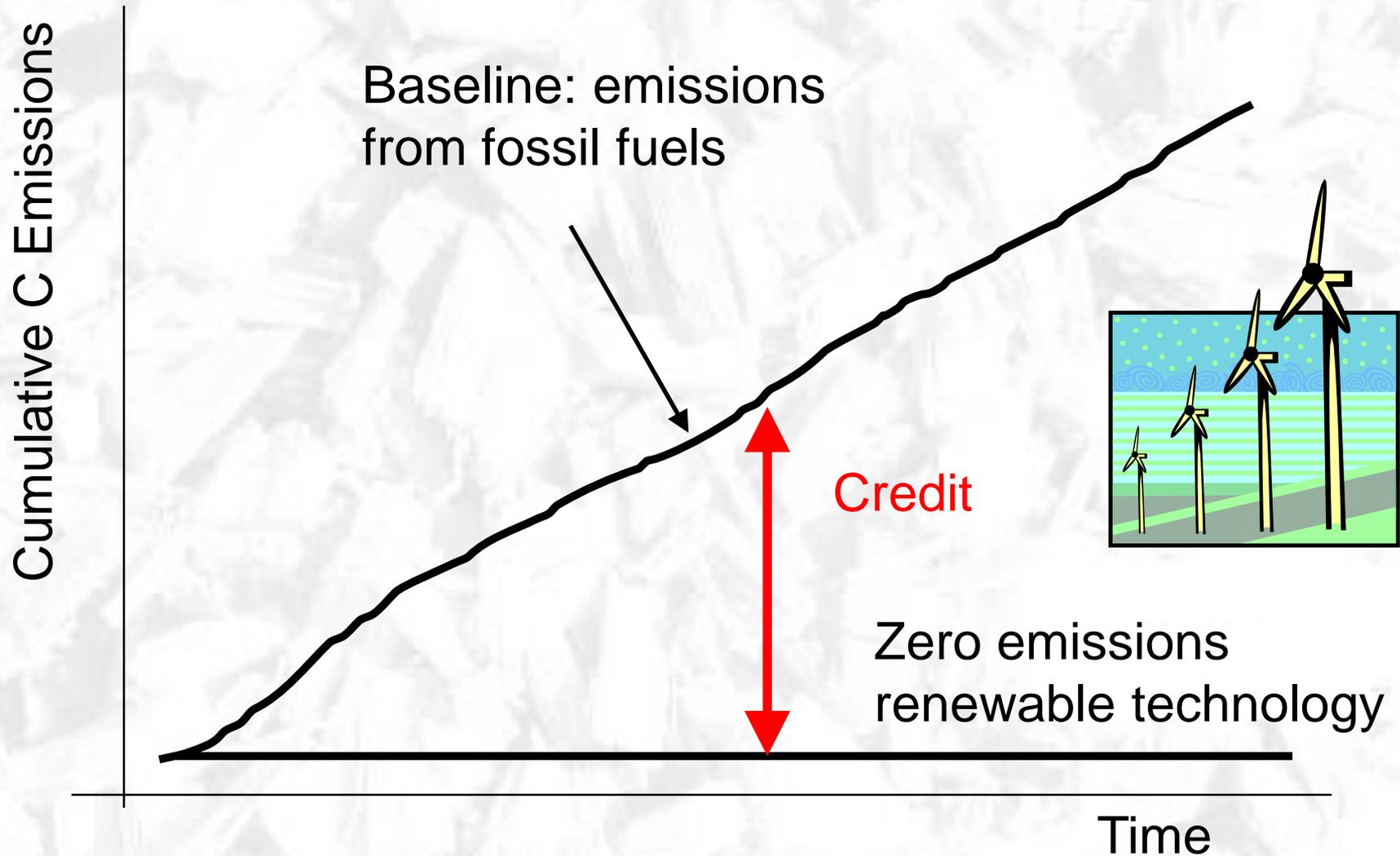
- Covers all installations > 10 000 tons CO<sub>2</sub> / year
- Covers transportation sector (via refineries and petroleum importers)
- Allows project offsets including reductions by sources not covered by the trading program, including
  - **Afforestation, reforestation**
  - **Agricultural and conservation practices**
  - **Forest preservation**
- Double counting a constraint on domestic bioenergy projects

# Bioenergy and “sinks” in the CDM

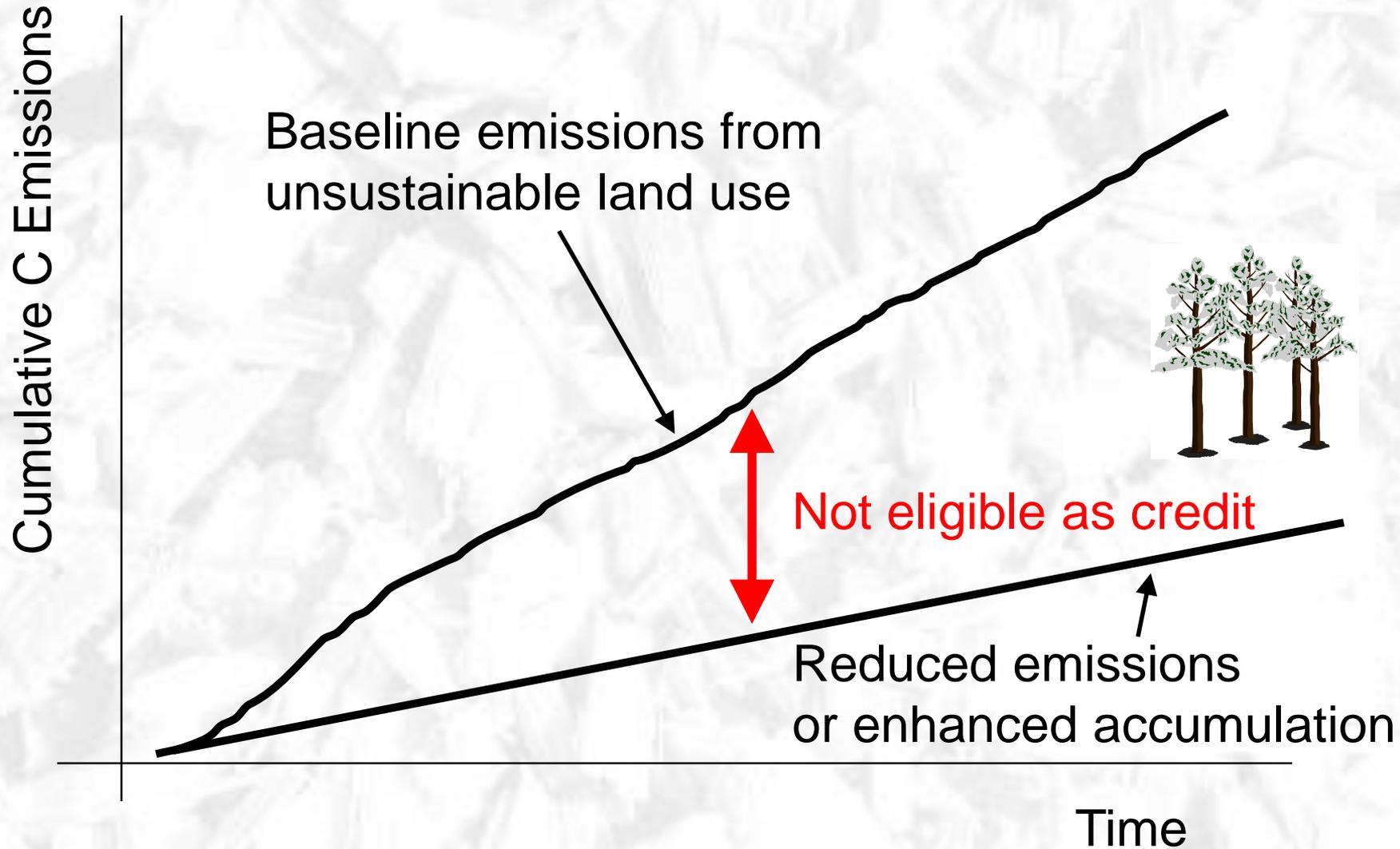
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- Afforestation and reforestation are “in”
- Also included:
  - Biomass energy projects that displace the use of fossil fuel
- Many developing countries do not have
  - Big opportunities for fossil-fuel reductions
- Most do have either:
  - High LULUCF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

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- 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<sub>2</sub> greenhouse gases are reduced
  - landfill gas recovery
  - Methane recovery through enhanced animal waste management

# Bioenergy projects that are not eligible

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- 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

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- Prices currently around 13 € per ton CO<sub>2</sub>
- Trading is slow, but to pick up once NAPs agreed
- Start in 2005, independent of Kyoto Protocol status
- Entry into force 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.