



European Commission
Agriculture and Rural Development



Biofuels Sustainability scheme and GHG methodology: The EC legislative proposal

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Delegation of the European Commission to the U.S.



The European Union



27 Member States
490 million people



Farm Founda



Outline



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- 1- Biofuels, a crucial part of the EU Climate Action and Renewable Energy Package
 - **The mandate: 10% market share target for biofuels by 2020**
 - Addressing concerns: the Biofuels Sustainability scheme
- 2- Ensuring that Biofuels always make a positive contribution: the EC Approach to Carbon Life Cycle Analysis
 - Context and development
 - Default values and parameters
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 - Other methodological choices
- 3- Enforcing the sustainability criteria
- 4- Conclusion



Climate Change and Renewable Energy Package



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- ▶ Centrepiece: Decision on 20% reduction in CO₂ emissions (30% if the US, China, and India make similar commitments) with 1990 as base year; Directive on cap-and-trade program ETS
- ▶ Communication on 20% increase in energy efficiency;
- ▶ Communication on Carbon capture and storage;
- ▶ Renewable Energy Directive (solar, wind, hydro-electric, biomass): legally binding target of 20% for the share of RE in EU energy consumption by 2020 (8.5% in 2005).





Climate Change and Renewable Energy Package



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- ▶ Biofuels:
 - Art. 3.3: Legally binding minimum target of 10% for all MS by 2020 (1% in 2005)
 - Art. 4: National Action Plans on how to achieve targets (no later than 30 March 2010)

- ▶ No interim binding target
- ▶ All fuel stations should be obliged to sell (Art. 18):
 - ▶ A 7% biodiesel blend by the end of 2010
 - ▶ A 10% biodiesel blend by the end of 2014





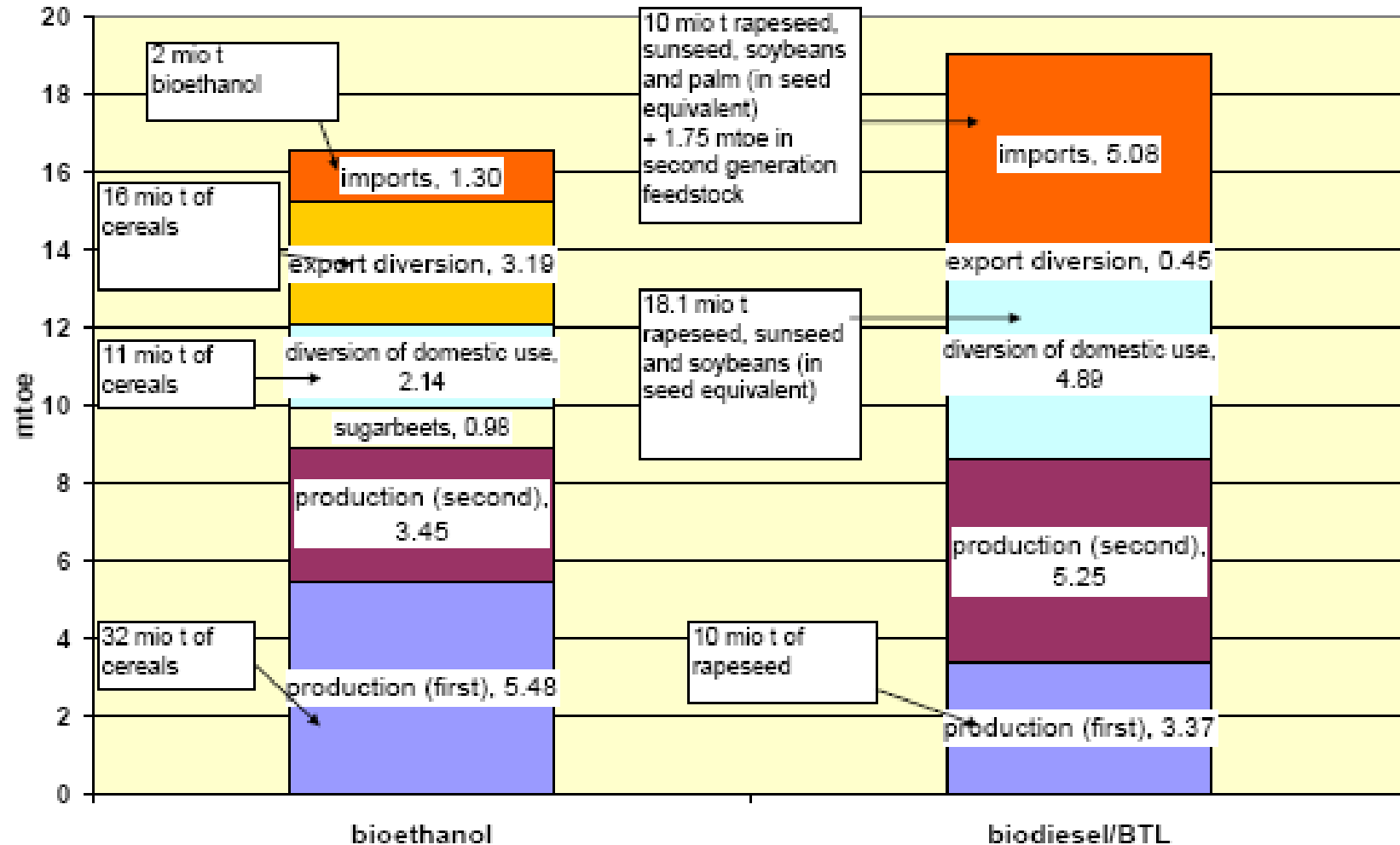
Sources of feedstock for biofuels production in 2020



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(5.3b gallons)

(5.7b gallons)





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Biofuels: the Sustainability criteria



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The EU Directive (Art.15) establishes **4 sustainability criteria** TO AVOID:

- “Bad” performing biofuels in terms of GHG savings
 - at least 35% (including GHG effect of land-use changes) relative to their fossil fuel equivalent to count towards the 10% target
- **Use of Land of high biodiversity value in January 2008** (ex: Forest untouched by man, protected areas, highly bio diverse grasslands)
- land use changes leading to **loss of soil carbon stocks** (forests, wetlands)
- **Diversification** of Feedstocks



Scope of the sustainability scheme



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Sustainability Criteria apply to:

- **Biofuels** (liquid and gaseous fuels derived from biomass and used in transport)
- Other **bioliquids** (liquid fuels used in heating and electricity)

By 2010, the Commission will report on extension to solid biomass



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Context



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1- Proposed Renewable Energy Directive (RED):

Biofuels used to meet renewable energy targets must save emissions of at least 35% compared to petrol/ diesel

2- Proposed Fuel Quality Directive (FQD):

Fuel suppliers must reduce unit GHG emissions by 1% a year from 2010

GHG methodology currently being examined by Council and Parliament. Timetable not clear. Could be resolved as early as June or as late as December 2008



GHG saving overview



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GHG = CO₂, N₂O, CH₄

Min. saving of 35%, compared to fossil fuel

Lifecycle analysis: from cultivation to final use

The directive sets:

- Default values
- Method for calculating GHG saving

Biofuel producers can choose to:

- use default values; or
- provide actual values, if so wished

Land use change, is part of the Lifecycle analysis



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Formulae to calculate the GHG impact (art 17)



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- ▶ **Default values** (Annex VII) – subject to review in the future. For instance:
 - ▶ Sugar beet ethanol 35%
 - ▶ EU-produced corn ethanol 49%
 - ▶ Sugar cane ethanol 74%

 - ▶ Rapeseed biodiesel 36%
 - ▶ Palm oil biodiesel with no methane emissions 51%

- ▶ **Actual costs/ savings** in the production pathway (including from processing, transportation and distribution)
- ▶ **Mix** of actual costs/ saving and default values
- ▶ Timeframe for comparison: 20 years
- ▶ Default values can be updated through “Comitology”

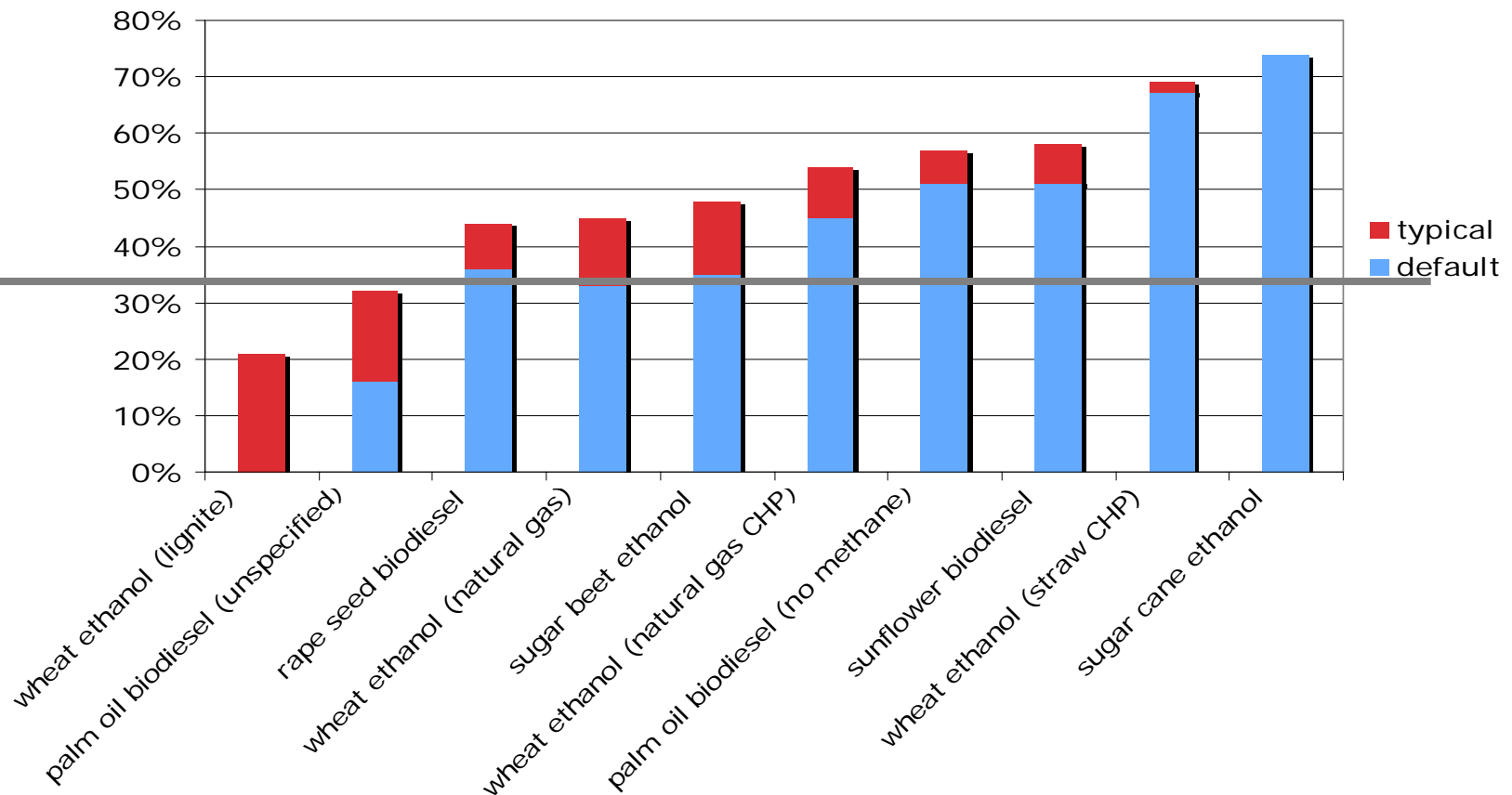


Formulae to calculate the GHG impact (art 17)



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Greenhouse gas savings from important first generation biofuels (lifecycle basis)



Farm Foundation – Washington DC - 8 April 2008

Source: proposed renewable energy directive (data from JEC Consortium)



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Treatment of co-products



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Allocation rather than substitution :

- Substitution is more appropriate for policy analysis than for regulatory purposes
- Substitution cannot be used for petrol and diesel, or other fuels produced in refineries
- Substitution requires arguable hypotheses about the substituted product
- Avoid perverse incentive to maximise co-product production

Allocation by Energy rather than Mass or Economic value:

- Mass: results are much more generous than other methods
- Economic value: creates undesirable uncertainty for investors
- Energy: results are comparable to those of substitution (depending on use of co-product)



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Other methodological choices



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- Fossil fuels and the fossil fuel comparator
- Agricultural crop residues not counted
- Cogeneration and electricity



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Enforcement of sustainability criteria



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Only sustainable biofuels can be:

- Counted against the EU target
- Considered eligible for financial support
- Counted for the national biofuel obligation

Simplicity: only one scheme for the whole EU

- MS must apply the criteria set in the Directive
- MS cannot go further



Enforcement of sustainability criteria



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- Criteria apply to each consignment
- Tracking consignments and evidence
- MS have primary responsibility for verification

“Certification schemes”

- Accreditation of “certification schemes” by the Commission (recognized as consistent with Directive)
- International agreements
- MS must accept the evidence of these schemes



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Conclusion



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- **Renewable energy: a key element of a sustainable future**
 - Significant reduction of GHG emissions
 - New opportunities for Energy security, rural economies

- **Concerns about environmental risks and market imbalances must be taken seriously, but**
 - The 10% minimum target can be achieved without unmanageable tensions between food, feed and energy markets
 - Opportunities for International trade, but Production pathways and land use with undesirable consequences will be discouraged



Conclusion



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Review of the directive - **Member States reporting on:**

- Developments in the use and availability of biomass resources for energy purposes
- Price and land use effects of biomass use
- Impacts of biofuel production on biodiversity, water resources, water quality and soil quality

Review of the directive - **Commission reporting on:**

- Environmental benefits and costs of different biofuels
- Impact of increased demand on sustainability
- Impact on the food security in developing countries
- Impact on biomass-using sectors

... and, if appropriate, proposes corrective action





Staying informed



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EC President Barroso – Building a global low carbon economy:

http://ec.europa.eu/commission_barroso/president/focus/energy-package-2008/index_en.htm

DG Energy and Transport web site:

http://europa.eu.int/comm/energy/index_en.html

Factsheet - Biofuels in the european union: an agricultural perspective

http://ec.europa.eu/agriculture/publi/fact/biofuel/2007_en.pdf

DG Agriculture and Rural Development

http://ec.europa.eu/agriculture/biomass/biofuel/index_en.htm

Thank you for your attention !
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