

# Global Bioenergy Partnership

*Working together to promote bioenergy for sustainable development*

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## **RECENT EU AND US PROPOSALS IN THE FIELD OF BIOFUELS: THE CRITICAL ASPECTS OF SUSTAINABILITY**

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**EU**

# A JOINT ANALYSIS OF

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- NEW DIRECTIVE ON THE PROMOTION OF THE USE OF **RENEWABLE ENERGY SOURCES** (PART TRANSPORTATION) amending Directive 2003/30/EC
- NEW DIRECTIVE ON THE SPECIFICATIONS OF **FUEL** amending Directive 98/70/EC

# RED DIRECTIVE [COM(2008)0019]

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The directive establishes:

- mandatory national target to 2020 for the use of energy from renewable sources (20% compared to the total final energy consumption),
- a specific target for the transport sector (10% of energy consumed in the transport sector);
- sustainability criteria that biofuels must meet in order to be considered to achieve the national objectives and to qualify for financial support.

# RES DIRECTIVE - TRANSPORT

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## Target 10%

In order to help Member States to fulfill the requirement of 10% in 2020, it is expected that:

- to calculate the denominator (total amount of energy consumed in transport) are taken into account only petrol, diesel, biofuels used in road transport, and electricity;
- to calculate the numerator (amount of energy from renewable sources) are considered all types of renewable energy used in all forms of transport.

# RES DIRECTIVE - SUSTAINABILITY

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## GHG savings

Minimum threshold of savings in CO<sub>2</sub> emissions throughout the life cycle, compared to those caused by conventional fossil fuel corresponding reference, equal to:

- 35% entry into force of the Directive
- 50% from 1 January 2017. This second value will, however, be confirmed in 2014.

Moreover, after 2017 this threshold will be raised to 60% for biofuels produced on plants that will start production after 2017.

# RES DIRECTIVE - SUSTAINABILITY

$$\text{GHG saving} = (E_{\text{fossil}} - E_{\text{bio}}) / E_{\text{fossil}}$$

In the annexes to the Directive are set out:

- Factors of GHG saving of default for the various sectors of the biofuel known;
- Factors of default with respect to emissions from the individual stages of the life cycle of the biofuel (cultivation, production, transport and distribution);
- A formula for calculating the  $E_{\text{bio}}$  consisting of an algebraic sum of partial values corresponding to the various stages of production.

$$E = e_{\text{ec}} + e_{\text{l}} + e_{\text{p}} + e_{\text{td}} + e_{\text{u}} - e_{\text{sca}} - e_{\text{ccs}} - e_{\text{ccr}} - e_{\text{ee}}$$

# RES DIRECTIVE - SUSTAINABILITY

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## Protection of biodiversity and carbon pools

A criterion for exclusion exists in case of use of crops for biofuels from:

- land high biodiversity undisturbed forests, protected areas, grassland high biodiversity
- land reserves of high-carbon wetlands and large forest areas
- bog

This policy is valid only if these conditions were outstanding as at 1 January 2008, so the change of destination of the soil prior to that date do not lead to a relative exclusion of biofuel.

# FUEL DIRECTIVE

## Mandatory reductions:

- By 2020 the emissions per unit of energy ( $\text{CO}_2\text{eq} / \text{MJ}$ ) of fuel released for consumption must be reduced by 6% compared to the average value of emissions per unit of energy of fossil fuels sold in 2010

## Additional targets:

- 2% reduction in 2020 through the use of electric vehicles and / or innovative technologies such as CCS
- 2% to be achieved through flexible mechanisms (CDM).

# FUEL DIRECTIVE cont'd

- Biofuels used to achieve the target must meet the sustainability criteria adopted under the Directive on the promotion of renewables.
- The Commission will by 2014 a report on the feasibility of making such further mandatory targets. Blending of biofuels is considered as the only realistic measure that could lead to the achievement of the first target of -6% to 2020.

# FUEL DIRECTIVE cont'd

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To fulfill the target for reducing greenhouse gas emissions to 2020 have yet to be developed:

- methodology for calculating emissions from fossil fuels
- methodology for calculating the baseline (EU fossil fuels to 2010)
- methodology for calculating the contribution of electric vehicles.

These methodologies will be established within the Committee.

# COMMITTEES

The European Commission in both Directives will be assisted by an ad hoc committee on specific issues relating to sustainability.

The Committee will, inter alia:

- change the formula for calculating the  $E_{bio}$
- include additional sectors in the table with the default values in terms of GHG saving
- establishing criteria for determining the grassland within the scope of exclusion
- identify the minimum information that MS will require operators to demonstrate compliance with the sustainability criteria

# TIMELINE

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- MS to transpose the directive within renewable 18 months after publication of the Directive
- MS should comply with the directive on fuel quality by 31/12/2010

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**US**

# RECENT US PROPOSAL FOR THE RENEWABLE FUEL STANDARD PROGRAM

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- New specific volume standards for cellulosic biofuel, biodiesel, advanced biofuel and total renewable fuel
  - 2008: 5.4 Bgal to 9 Bgal
  - 2022: 36 Bgal
- Gasoline + Diesel. Not only road vehicles but also non-road (locomotive and marine engines)
- New definitions and criteria, including new GHG emission thresholds

# GHG REDUCTION THRESHOLDS

- Full lifecycle accounted (production, transport of the feedstock, land use change, production, distribution and blending of the renewable fuel.
- In order to qualify, renewable fuels must meet these minimum GHG reduction thresholds:

Renewable fuel	20%
Advanced biofuel	50%
Biomass-based diesel	50%
Cellulosic biofuel	60%

# DRAFT STANDARDS FOR 2010

- Once the RFS2 is implemented, EPA expects to conduct a notice-and-comment rulemaking process each year in order to determine the standard for the following year.
- Each standard represents the fraction of a refiner's or importer's gasoline and diesel volume which must be RF.
- Proposed standards for 2010:

Cellulosic biofuel	0.06%
Biomass-based diesel	0.71%
Advanced biofuel	0.59%
Renewable fuel	8.01%

# FOR FURTHER INFORMATION

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