



European Commission

JRC - Institute for Energy and Transport

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Sustainability criteria for biofuels

GHG saving of at least 35%

- 50% from 2017
- 60% for new installations from 2018
- default values and calculation method for actual values included (Annex V)

No raw material from converted land with:

- high biodiversity value
Primary forest, protected areas, biodiverse grassland
- high carbon stock
Forests, peatland, wetlands



The New Renewables Directive

- Calculation of GHG Impact

Article 19 (1)

Defines the method for calculation, using the methodology given in Annex V.C. Typical and default values for GHG emissions for "cultivation", "transport" and "processing" steps are given in Annex V.D & E

Here, the clear difference between the GHGs for biofuels produced from energy crops and those produced from wastes/residues are clearly seen





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Some GHG Savings in the RED

- Default GHG savings compared with fossil petrol/diesel (Annex V.A)

Biogas from municipal organic waste* 73%

Biogas from wet manure* 81%

Biogas from dry manure* 82%

Rapeseed biodiesel 38%

Palm oil biodiesel (process not specified) 19%

Palm oil biodiesel (CH₄ capture at mill) 56%

Sugar beet ethanol 52%

Sugar cane ethanol 71%

(* in the form of compressed biomethane compatible with natural gas)



Revision of Default Values for Biofuels

Proposals made in 2012 (with Impact Assessment)

revision of default values for existing
pathways
amendment of biogas pathways
including use of energy crops





The Added Benefit of Waste

- **Advanced generation biofuels are biofuels produced from ligno-cellulosic biomass and waste - these fuels count double to 2020 national renewable transport fuels target.**





Still to Come for Cultivated Crops !!!

Land Use Change component still to be added to calculation of GHG Impact (*Article 19 (6)*)

On 17 October 2012, the Commission published a proposal to limit global land conversion for biofuel production, and raise the climate benefits of biofuels used in the EU. The use of food-based biofuels to meet the 10% renewable energy target of the Renewable Energy Directive will be limited to 5%.

* COM(2012)595 final

http://ec.europa.eu/energy/renewables/biofuels/land_use_change_en.htm



Additional Proposed Changes to RED

From COM(2012)595 final:

Article 3 (4)

- (d) the share of energy from biofuels produced from cereal and other starch rich crops, sugars and oil crops shall be no more than 5%, the estimated share at the end of 2011, of the final consumption of energy in transport in 2020.
- (i) biofuels produced from feedstocks listed in Part A of Annex IX (e.g. algae, mixed MSW, but not separated household waste) shall be considered to be four times their energy content;
- (ii) biofuels produced from feedstocks listed in Part B of Annex IX (e.g. used cooking oil, animal fats, non-food cellulosic material) shall be considered to be twice their energy content;





Market Support

- **European Standards for Biomethane - CEN/TC408**

DG ENER mandate to CEN* to formulate new standards supporting the exploitation of biomethane.

Specific targeted standards:

- composition of biogas for injection into natural gas pipelines (in compliance with new H-gas standard under preparation (2014))
- fuel quality standard for biomethane use in transport applications

Expected drafting completed by the end of 2013

* The European Standards Organisation



CEN/TC408

Organisation

Expert Groups (EG) (2011 - 2013)

1. Measurement and tracing of the biogenic content of methane in gas grids
2. Characteristics of biomethane for use as a fuel for vehicle engines
3. Characteristics of biomethane for injection into natural gas grids

Enquiry period March 27 - August 27, 2014





Other Relevant Legislation

Waste Framework Directive (WFD) 2008/98/EC (22.11.2008) - with impacts on treatment of biowaste and digestate/compost

End-of-waste criteria for "Biodegradable Waste Subject to Biological Treatment", Technical Working Group operational since March 2011 (3rd draft report in August 2012) <http://susproc.jrc.ec.europa.eu/activities/waste/index.html>

New Industrial Emissions Directive (IED) 2010/75/EU (24.11.2010) - "recast" IPPC directive and now the guiding directive for BREFs





Relevant References and Contact Details

Energy and Climate Change website:

http://ec.europa.eu/energy/strategies/2008/2008_01_climate_change_en.htm

Bioenergy and Sustainability

http://ec.europa.eu/energy/renewables/bioenergy/sustainability_criteria_en.htm

Europa – Biomass/Biogas/Biofuels:

http://ec.europa.eu/energy/res/sectors/bioenergy_en.htm

Waste Framework Directive:

<http://eur-lex.europa.eu/JOHtml.do?uri=OJ:L:2008:312:SOM:EN:HTML>

Industrial Emissions/BREFS: <http://eippcb.jrc.es/reference/>

- **Contact Point for Waste and Biomass Related Activities at JRC-Institute for Energy:** <http://ie.jrc.ec.europa.eu/>

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