

# RED amendment: What does it mean for biomethane?

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Development of Biomethane in Europe  
Legislation, Injection and Trade

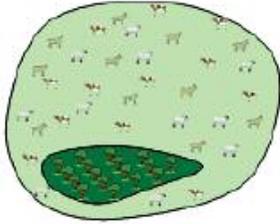
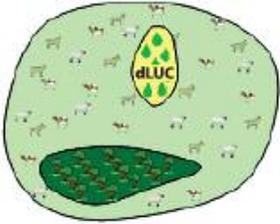
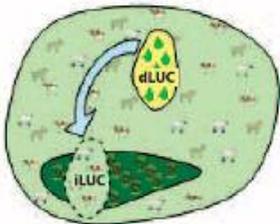
Paris, 5 March 2013



# Content

- iLUC – definition and EU legislation
- Existing biofuel Directives
- Biomethane's contribution to the EU targets
- Commission's new iLUC - proposal
- Consequences of the proposal
- Next steps

# What is indirect land use change (iLUC)?

	<p>Before introduction of the bioenergy production the land base is a mixture of grazing and forest land.</p>
	<p>The introduction of the bioenergy production on grazing land is direct land use change (dLUC) and may cause a loss of soil organic carbon (i.e. an emission). If the bioenergy production is introduced on forest land, then the dLUC may be large because there is also a loss of forest biomass (including litter and dead wood). If the production is introduced on existing cropland then the dLUC will be smaller.</p>
	<p>Macro-economic pressures cause an increase in the value of grazing animals (i.e. meat). This creates an incentive for a land owner (not necessarily the owner of the land that was converted to bioenergy production) to convert a portion of the forest land to grazing land. This is indirect land use change (iLUC) and causes a loss of forest carbon stocks (including litter, dead wood and soil) which is an emission.</p> <p>The iLUC may occur instantaneously with the introduction of the bioenergy production or may be delayed by some period of time. If the bioenergy production was introduced on cropland, then both grazing land and forest land may be converted to replace the lost crop production.</p> <p>There need not be a one-to-one relationship between the pasture/cropland area converted to bioenergy and the area converted to new pasture/cropland. This relationship depends on the relative productivity of the old vs. new pasture/cropland and to what extent the macro-economic pressure induces increased productivity.</p>

# Legislative background on EU level



- In 2009 the EU set binding 2020 targets for transport fuels (RE share and GHG intensity) to fight climate change and to replace fossil fuels in the transport sector
- The Commission was asked on the same occasion to review the possible impact of iLUC on GHG savings and, if necessary, propose ways to mitigate it

# Existing biofuel Directives

- ✓ Renewable Energy Directive (RED): Share of renewable energy in all forms of transport in 2020 at least 10 % in each EU member state
- ✓ Fuel Quality Directive (FQD): GHG intensity of transport fuels reduced at least by 6 % by 2020 in each EU member state
- ✓ Minimum GHG savings (both directives) for accounting 35 % compared to fossil fuels
  - 50% from 2017
  - 60% for new installations from 2018
  - default values and calculation method for actual values included (Annex V)

# Existing biofuel Directives

## Article 19 (1) RED

- 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

## Default GHG savings compared with fossil petrol/diesel

- *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 (CH<sub>4</sub> capture at mill) 56%*
- *Sugar beet ethanol 52%*
- *Sugar cane ethanol 71%*

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# Existing biofuel Directives

**Land Use Change component still to be added to calculation of GHG Impact** (to be included in both Directives)

On 17 October 2012, the Commission published a proposal to limit global land conversion for biofuel production. All crop-based biofuels will get a factor:

- cereals and other starch rich crops: 12 gCO<sub>2</sub>eq/MJ
- oil crops: 55 gCO<sub>2</sub>eq/MJ
- sugars: 13 gCO<sub>2</sub>eq/MJ

# Biomethane's contribution to the EU targets

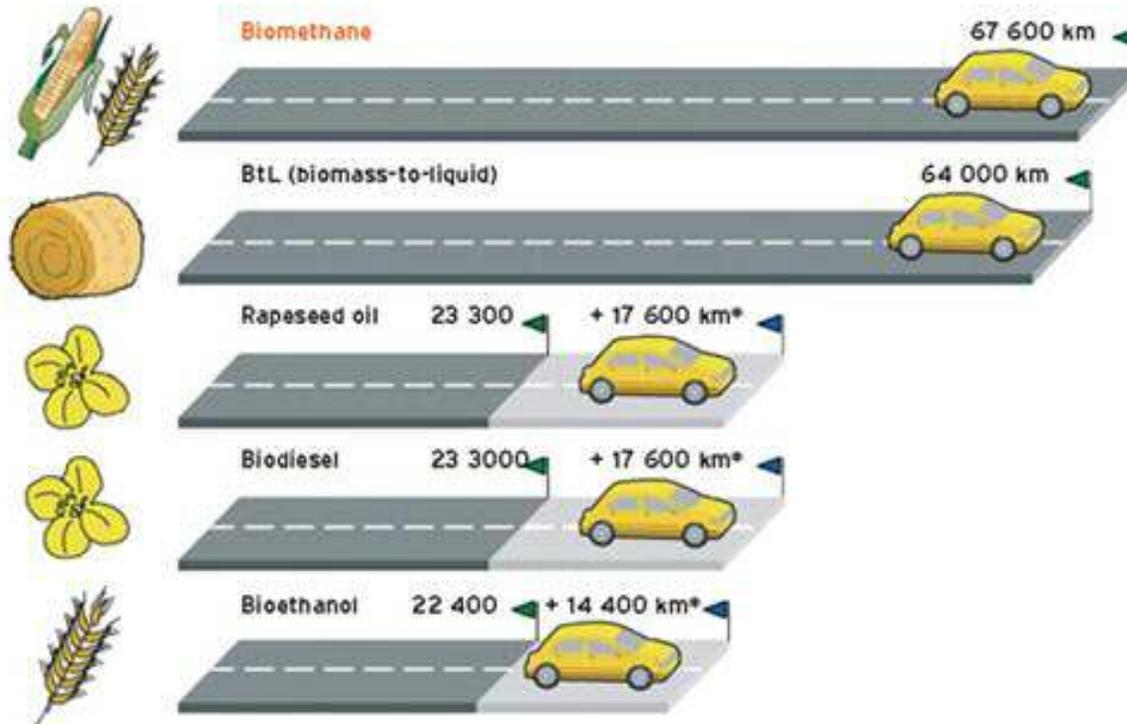


- ✓ Biomethane as a renewable fuel can replace/be blended with fossil natural gas in transport and in this way contribute to the GHG intensity reduction and to the share of RE in the transport sector
- ✓ Default GHG savings of biomethane compared with fossil petrol/diesel: **73%-82%** (depending on the feedstock)
  - ✓ Ethanol: 52-71%,
  - ✓ biodiesel: 19-56%
  - ✓ But: default values will be soon revised

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# Biomethane is efficient

Distance a car can travel with biofuels from 1 hectare of cropland.



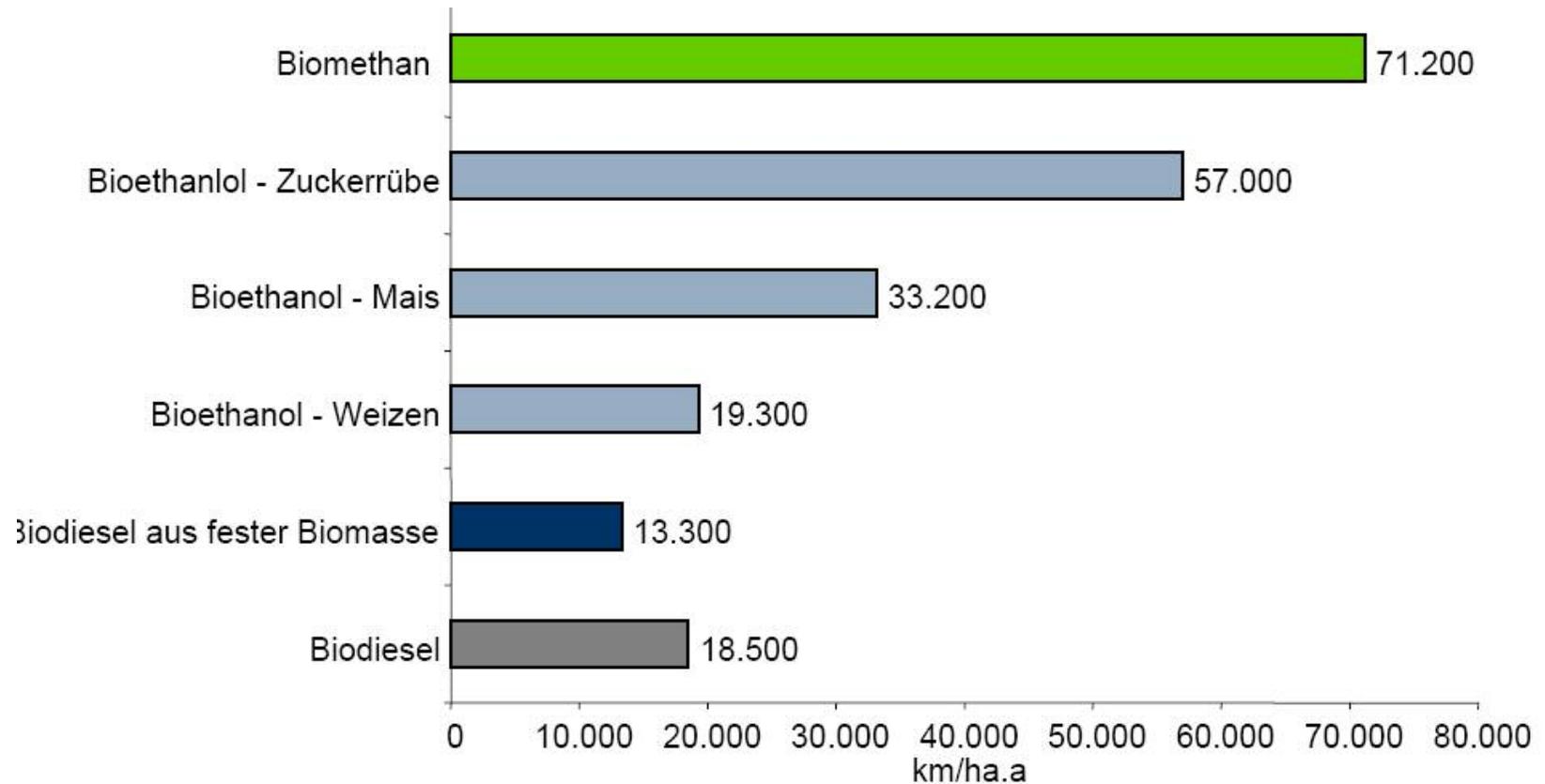
Assumed fuel efficiency:  
Gasoline-engine 7.4 l per 100 km;  
Diesel-engine 6.1 l per 100 km

\* Biomethane from by-products (Colza cake, distillers' grain, straw)

Source: Fachagentur Nachwachsende Rohstoffe e.V. (FNR)

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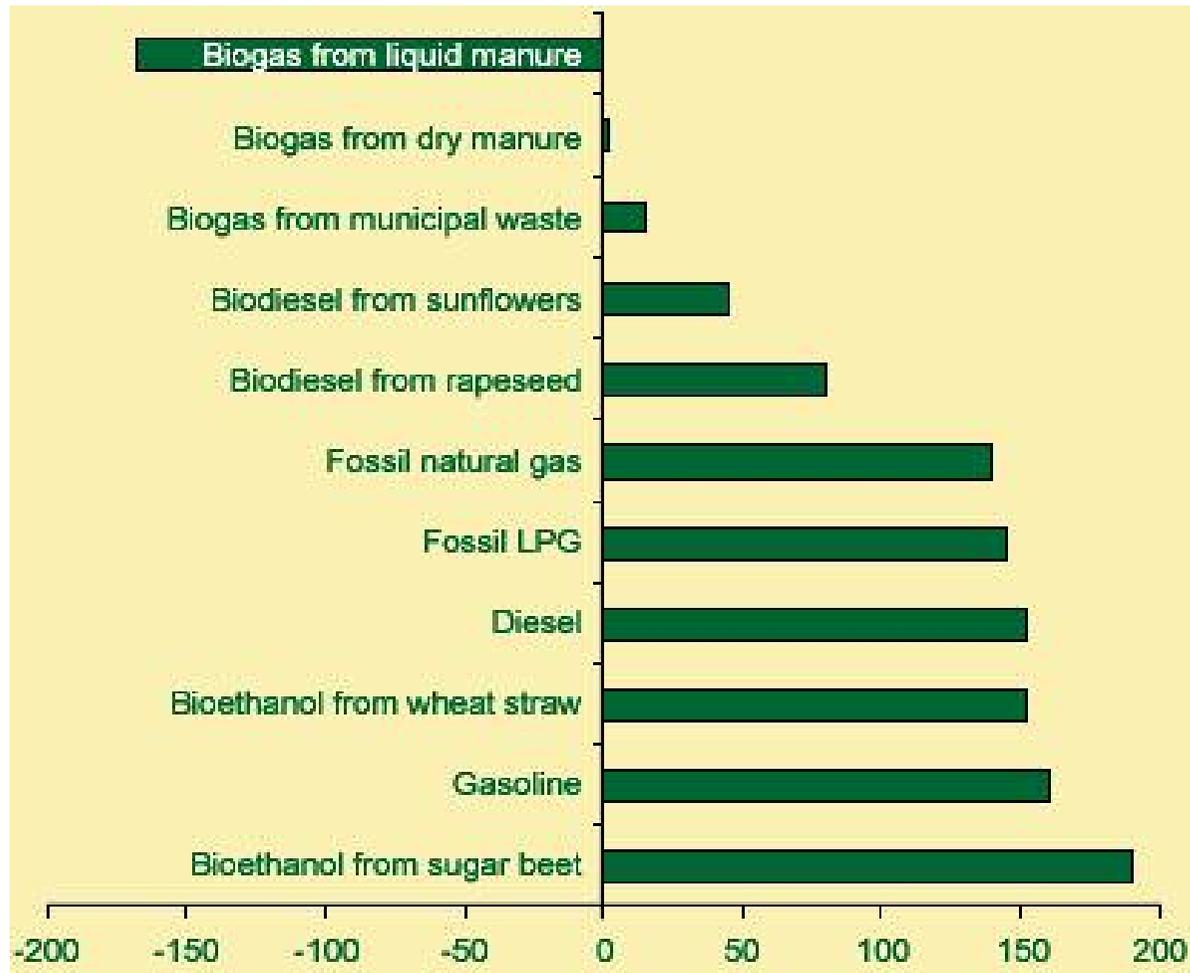
# Biomethane is efficient



Österreichische Energieagentur, Vorstudie für einen nationalen Biomasseaktionsplan für Österreich

5 March 2013

# Biomethane is a low in GHG emissions



Emissions: Grammes of CO2 equivalent per km

Source: Organic power

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# Commission's new ILUC - proposal



The proposal from 17 October 2012 amends Directives 98/70/EC (FQD) and 2009/28/EC (RED)

- ✓ Unsure modeling results (different studies, different results)
- ✓ EC commissioner: "Final text is an imperfect compromise proposal" – neither NGOs nor industry are happy
- ✓ Unsure future policies – detrimental to investments:
  - Commission review in 2017 on iLUC science – iLUC factors may become mandatory – now only a reporting matter
  - Commission may (almost freely) change the methodology for iLUC calculation and the feedstocks that count multiple times towards the target

Main amendments – RED	2009/28/EC	2012 amendments
<b>Target (Article 3)</b>	The share of RE in transport at least 10% by 2020	The same 10% target but thereof only 5% from crop-based fuels
<b>Multiple counting (Article 21 in 2009; Article 3 in 2012)</b>	Fuels from waste/residues/cellulosic material double counted towards the target	Fuels from waste / residues quadruple counted; from cellulosic material double counted towards the target
<b>iLUC factors (Article 19 in 2009; Article 22 in 2012)</b>	Requests the EC to review the impact of possible iLUC	MS to report to the EC every two years on the estimates for iLUC emissions set out in Annex VIII
<b>Sustainability criteria (GHG savings from the use of biofuels) (Article 17)</b>	Existing installations: at least 35% until 1 Jan 2017 and after that 50%; new installations (operation start after 1/1/2017): 60% from 1 Jan 2018	Existing installations: 35% until 31 Dec 2017 and after that 50%; new installations (operation start after 1/7/2014): immediate 60% savings
<b>Subsidies for biofuels (Recital 6)</b>	Encourages to support all decentralised RE technologies	Only advanced biofuels should be supported post 2020

Main amendments – FQD <i>(Differences to RED in italic)</i>	98/70/EC	2012 amendments
<b>Target (Article 7a)</b>	<i>6% reduction in the greenhouse gas intensity of transport fuels by 2020</i>	<i>No changes</i>
<b>Multiple counting</b>	<i>No multiple counting</i>	<i>No multiple counting</i>
<b>iLUC factors (Article 7a)</b>	<i>Requests the EC to develop a concrete methodology to minimise iLUC emissions</i>	<i>Fuel suppliers to report yearly to a national authority on the estimates for iLUC emissions set out in Annex V</i>
<b>Sustainability criteria (GHG savings from the use of biofuels) (Article 7b)</b>	Existing installations: at least 35% until 1 Jan 2017 and after that 50%; new installations (operation start after 1/1/2017): 60% from 1 Jan 2018	Existing installations: 35% until 31 Dec 2017 and after that 50%; new installations (operation start after 1/7/2014): immediate 60% savings
<b>Subsidies for biofuels</b>	<i>No mention</i>	<i>No mention</i>

# Consequences of the RED amendment proposal

✓ **Can the RED and especially the FQD targets be reached without crop-based biofuels?**

→6% reduction in GHG intensity of transport fuels while the amount of fossil fuels increases??

✓ **Effect on the biogas sector:**

- Only biomethane used in transport – the iLUC factors may however be extended to the whole biomass sector (sustainability criteria for solid and gaseous biomass)
- Double standards for biomethane: transport vs. other uses
- Most of biomethane produced from “advanced” feedstocks: a competitive advantage over conventional biofuels?

# Next steps

- ✓ **ILUC debates have started within the Council and the European Parliament – long legislative process expected within and between the EU institutions**
- ✓ A first orientation debate of the Energy Council on the topic took place end of February

## **Just a few snap shots of the debate:**

- Member States are strongly divided in their opinions.
- Most of the states have a very critical view on the Commission's proposal, only France was rather positive
- the 5% cap does not make difference between the fuels with different GHG emissions (SE, UK, BE, AT)
- Yes for the cap: DK, DE, FR, FI, AT, SE (only for biodiesel)
- No for the cap: UK, BE, PL, CZ, SK

# Next steps

- ✓ **EBA will look after the interests of the biogas industry in EU-Brussels**
  - Position paper
  - Meetings with EU officials
  - Common actions with other associations

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Thank you for your attention!

