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**MEETING WITH ETHANOL EUROPE RENEWABLES LTD**  
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# 1. STEERING BRIEF

## 1.1 Scene setter

You are meeting with representatives of Ethanol Europe Renewables Limited:

- Eric Sievers, CEO of Ethanol Europe Renewables Limited
- Mark Turley, President of Ethanol Europe Renewables Limited
- Brian Hartnett – Partner, Squire Sanders law firm
- Alessandro Nucara – Senior associate, Squire Sanders law firm

Ethanol Europe Renewables Limited is an Irish-based company investing in bio-ethanol. In April 2012, they completed the first such plant – Pannonia Ethanol.

Pannonia Ethanol is a corn-based plant located in Dunafoldvar, Hungary using technology from the US company Fagen. Pannonia Ethanol will use 575 ktons of corn to produce up to 240 million litres of bioethanol fuel and 175 ktons of Dried Distillers Grains and Solubles (DDGS - a high protein animal feed) annually.

The total costs of the project are estimated at USD 214M. The project benefited from a USD 60M loan guarantee of the US Overseas Private Investment Corporation (OPIC).

The project special purpose vehicle (SPV) Pannonia Ethanol Zrt is partially owned by Fagen Inc. Fagen acted as developer and engineering, procurement and construction contractor for the project. Pannonia Ethanol Zrt owns and operates the plant after the commissioning. The plant is providing employment to about 80 people.

Pannonia Ethanol is claiming that it will produce some of the "cleanest" ethanol in the EU with a 58% reduction in Greenhouse gas (GHG) emissions when compared to fossil fuels, exceeding the reductions required for sustainable ethanol under the Renewable Energy Directive.

The current RES Directive requires GHG saving from the use of biofuels to be at least 35% if these biofuels are to be accounted for the RES Directive targets or if they are to receive grants.

With effect from 1 January 2017, the GHG savings should be at least 50 % for current installations. From 1 January 2018 that GHG saving shall be at least 60 % for biofuels and bioliquids produced in installations in which production started on or after 1 January 2017.

The typical GHG saving from corn ethanol produced in EU is 56 %, 49 % is the default value.

The proposal for an amended RES Directive will raise the GHG saving required for installations built after 1 July 2012 to 60%. Furthermore, it will limit (to 5% of the 2020 levels or roughly the current consumption level) the contribution that conventional biofuels form food crops (with a risk of ILUC emissions) make towards attainment of the targets in the Renewable Energy Directive.

Ethanol Europe wants to build a series of ethanol plants in Europe and has already announced its second project. Construction was set to begin on an ethanol plant of the same size in Mohacs, Hungary, in June 2012.

The proposal for an amended RES Directive has thus a direct bearing on these plans.

## **1.2 Objectives**

- To explain how FP7 and Horizon 2020 support renewable energies, and, in particular the bio-ethanol sector
- To explain the current policy, both demand and supply side, regarding biofuels

## **1.3 Line to take**

- The European Commission intends to provide a policy framework that supports biofuels only if they lead to substantial greenhouse gas savings when ILUC related emissions are included and are not produced from crops used for food and feed. This is why there is a need to amend the RES Directive.
- However, the Commission will put in place provisions to safeguard existing investments.

## **2. SPEAKING POINTS**

### **2.1. How FP7 and Horizon 2020 fund renewable energies, and, in particular the bio-ethanol sector**

- More than 50% of the overall funding for non-nuclear energy in FP7 goes for renewable energy. 14,5% of this overall funding or €250M in the period 2007-2012 was dedicated for supporting bioenergy research. At least half of the bioenergy projects funded under the Energy Theme incorporate advanced biofuels.
- Renewable energy will be high on the agenda in Horizon 2020 too, even if the Commission has not proposed a definite share for funding to renewables in the €5.8 billion for the Secure, clean and efficient energy societal challenge.
- We shouldn't forget the €4.2 billion proposed to support the Food security, sustainable agriculture, marine research and the Bio-economy societal challenge, which has direct bearing on bioenergy and bioethanol.
- In the area of bioenergy, the Commission is directing the support to advanced biofuels derived from non-food crops. The reason for this is that such technologies will permit avoiding competition with food, as well as avoiding negative environmental and social impacts, both within the EU and in third countries.
- As a result of such efforts, the EU has today a leading position in many "second-generation" technologies, some of which are close to the market. To accelerate their deployment, the EC is now engaged with interested Member States and industry into a European Industrial Bioenergy Initiative (EIBI), which focuses on demonstration and first-of-a-kind projects.

## **2.2. Impact of the draft renewable energy proposal on the future of European bio-ethanol**

- You have certainly heard that the European Commission is preparing a revision of the Renewable Energy Directive. In the current draft text, it is proposed to limit the production of first generation biofuels while putting even more effort for the development of the new industrial processes for production of advanced biofuels from non-food crops, agricultural/forest residues and municipal bio-waste. This might have direct implications for your future projects. Companies should take full opportunity of these developments. The successful commercial deployment of advanced biofuels will profit from and be based on the experience and infrastructure of the first-generation bioethanol industry. Companies would need to look at the plants in their entirety, to adopt a biorefinery approach, where all parts of the plants are used to their full, and in this way maximise the economic, environmental and social benefits of the introduction of the biofuels.
- The clear demand-side signal that would be sent through this proposal in favour of low-ILUC biofuels will complement and reinforce the supply-side measures that have been implemented for many years to develop such technologies. These include the mentioned before Framework Programme research and demonstration activities, and the partnerships with Member States and industry, such as the European Industrial Bioenergy Initiative (EIBI) and the proposed PPP "Bio-Based for Growth" that is currently under discussion. These advanced technologies would certainly benefit from the market pull that would result from the application of this proposal in order to achieve full maturity and commercial deployment.
- While encouraging a gradual shift towards low-ILUC fuels, the proposal also aims at protecting existing investments until 2020. However, the Commission is of the view that in the period after 2020 biofuels should only be subsidised if they lead to substantial greenhouse gas savings (when ILUC

related emissions are included) and are not produced from crops used for food and feed.

- The Commission wants to build a more competitive low-carbon economy that makes efficient, sustainable use of resources, while protecting the environment, reducing emissions and capitalising on Europe's leadership in developing new green technologies. Research and Innovation are instrumental for solving these challenges. Biofuels and notably bioethanol have a key role to play in achieving our 2020 and 2050 targets. The European Commission will ensure that these will not be at the expense of the environment or the developing countries. We are counting on all stakeholders to strongly support the transformation of the EU industrial and energy system into a low-carbon energy system and on their involvement in implementing the EIBI and the other relevant initiatives in the context of the bioeconomy.

### **3. DEFENSIVE POINTS**

**The proposed 'ILUC amendment' to the RES Directive is detrimental to the existing installations and will reduce the market opportunities for the EU farmers**

The Commission has been studying the possible effect of EU biofuels policy on indirect land use change (ILUC). Although, it is not possible to conclude on the exact ILUC factor of a ton of biofuels produced because of inherent uncertainties of the models estimating these emissions, the Commission concluded that a precautionary approach should be undertaken. This is why, the Commission is preparing a proposal which is going to limit the ILUC impact of the EU biofuels policy. Whereas the Commission is planning to safeguard the market of existing installations, the Commission is of the view that in the period after 2020 biofuels should only be subsidised if they lead to substantial greenhouse gas savings (when ILUC related emissions are included) and are not produced from crops used for food and feed.

*For more detailed information, please see first point of the Background information*



## 4. BACKGROUND INFO

### Commonly used terms:

*First generation biofuels:* biofuels produced using "food or feed" biomass feedstock (sugar, starch and oil bearing crops or animal fats)

*Second generation biofuels:* biofuels produced using "non-food/feed" biomass feedstock (cellulose, hemicellulose or lignin)

*Advanced biofuels:* [used in the EIBI context] high-energy liquid transportation biofuels based on advanced technologies derived from: low nutrient input/high per acre yield crops; agricultural or forestry waste; or other sustainable biomass feedstocks including algae.

### 4.1. EU legislation with impact on biofuels

- **The RES Directive** requires by 2020:
  - 20% overall share of renewable energy in final energy consumption;
  - 10% share for renewable energy in the transport sector
- The **Fuel Quality Directive** requires 6% reduction in greenhouse gas intensity of the actual EU fuel mix used in transport by 2020.
  - In a revision of the **Energy Tax Directive**, the European Commission proposes to base the taxation of fuels on energy content and CO<sub>2</sub> emissions. Biofuels will be exempt from the CO<sub>2</sub> component so long as they fulfil the sustainability requirement of the RES Directive.
- **Proposal for a Directive** to amend the RES Directive and the Fuel Quality Directive (in ISC at the moment) to **address the issue of ILUC**.

If biofuel feedstock is produced on land directly converted from another status, this is considered in the sustainability criteria. However, if it is instead cultivated on existing agricultural land, it may then displace other crop production some of which ultimately may lead to conversion of land into agricultural land. This can lead indirectly to land use change. This indirect effect manifests itself through a change in demand for agricultural commodities, and their substitutes, in global markets.

Indirect land-use change (ILUC) emissions cannot be observed or measured at the micro-level, but are estimated through macro-economic modelling at the global scale that aims at replicating international trade flows and land use related decisions. In its report from December 2010, the Commission outlines the key results of the analytical work carried out. This acknowledges the existence of ILUC as well as various deficiencies and uncertainties associated with the modelling.

It should be noted that in first generation processes a valuable by-product is also produced – an animal feed protein of around 1/3 of the original mass. This animal feed would otherwise be taken from agricultural land. This is taken into consideration in the ILUC modelling used in the Impact Assessment and feedstocks are given land saving credits in the proposal.

Scientific work indicates that ILUC related emissions can vary substantially between feedstocks and can negate some or all of the greenhouse gas savings of individual biofuels relative to the fossil fuels they replace. The aim of the current proposal for a Directive to amend the RES and Fuel Quality Directives is to start the transition to biofuels that deliver

substantial greenhouse gas savings when also estimated indirect land-use change emissions are taken into account.

The current proposal will:

- limit (to 5% of the 2020 levels or roughly the current consumption level) the contribution that conventional biofuels from food crops (with a risk of ILUC emissions) make towards attainment of the targets in the Renewable Energy Directive;
- encourage a greater market penetration of advanced (low-ILUC) biofuels by allowing such fuels to contribute more to the targets in the Renewable Energy Directive than conventional biofuels (counting twice the lignocellulosic biofuels and four times biofuels from wastes and residues);
- improve the efficiency of biofuel production processes (reducing associated emissions) by raising the greenhouse gas saving threshold for new installations to 60% with immediate effect (from 35% in the current directive) in order to improve the overall greenhouse gas balance of the biofuels and bioliquids consumed in the EU as well as discouraging further investments in installations with low greenhouse gas performance;
- protect existing investments until 2020. But they still need to show at least 50% GHG saving as of 2018.

However, DG Energy and DG Climate Action are of the view that in the period after 2020 biofuels should only be subsidised if they lead to substantial greenhouse gas savings (when ILUC considerations are included) and are not produced from crops used for food and feed.

Impact on the biofuels market

As 1<sup>st</sup> generation biofuels typically have higher emissions due to the emission from intensive crop cultivation in comparison to 2<sup>nd</sup> generation biofuels, this ILUC legislation can be expected to accelerate the shift towards advanced, low-impact biofuels. This advanced biofuels will build on the experience and infrastructure of first generation biofuels. This legislation will also drive the development and deployment of new transport technologies competing with the common combustion engines in vehicles. Speed of technological progress in the two systems will determine what role agriculture and forestry will play in the future in supplying feedstocks for biofuels.

Reaction of the lobbies

Not surprisingly the lobbies, the European Ethanol Association ePURE, the European Biodiesel Board (EBB), COPA-COGECA, and others are already complaining about the new (leaked) proposal because it will effectively reduce their market opportunities. They are pleading for longer transition phase – the proposed 2020 is deemed too early. (see Annex)

State of play

The proposal for a new Directive is still in ISC. Whereas there is an agreement of the need to amend the Directive and account for ILUC, DG AGRI, DG ENTR and DG TRADE have reservations about the current proposal. The contentious issues are: the double and quadruple counting – whether needed and for what fuels; a desire to encourage material use over fuel use which is not in the proposal, the need to further safeguard existing installations, and in particular those for biodiesel, and the potential impacts of the changes on imports from certain countries (Argentina, Malaysia, Indonesia and US) who might challenge the new Directive in WTO. Nevertheless, DG CLIMA and DG ENER are hoping to reach a consensus and adopt a draft legislative proposal in the middle of October 2012.

## **4.2. Public-private partnerships**

### **The European Industrial Bioenergy Initiative (EIBI)**

In the EU, the main RTD&D challenges and objectives have been expressed in the EIBI Implementation Plan:

1. To enable commercial availability of advanced bioenergy at large scale by 2020, aiming at production costs allowing competitiveness with fossil fuels, and advanced biofuels covering up to 4 % of EU transportation energy needs by 2020.
2. To strengthen EU technology leadership for renewable transport fuels, serving the fastest growing area of transport fuels in the world.

The underlying idea is that there are in the EU several technologies that have been proven at pilot or demonstration scale, which could achieve commercial maturity within the next years through a series of demonstration & first-of-its-kind projects. Emphasis is put on this kind of projects.

Medium and long term R&D is also considered important, both in support of the above mentioned projects, and to develop future biofuel technologies. This R&D will be supported by MS and the EC mainly through joint programming activities (EERA and other, to be further developed under Horizon 2020).

Finally, ensuring sustainable and affordable biomass supply is also considered a key challenge. R&D in areas such as crop improvement, biomass harvesting and logistics, biomass potential assessment, etc. is sought through a better coordination of relevant R&D programmes. These aspects are investigated in cooperation with Directorate E.

The technology roadmap estimates € billion RTD&D investment needs to achieve the above objectives.

### **PPP Bio-based industries**

The potential PPP for bio-based industries is mentioned in the Bio-economy Communication and in the Commission proposal for Horizon 2020. It is currently under discussion with the industrial stakeholders. This partnership would primarily aim at developing competitive and sustainable bio-based industries in Europe by improving the technological base across the whole value chain, from crop development to consumer uptake of bio-based products. Sustainability in this context is to be understood as environmentally, economically and socially beneficial compared to conventional industrial product and process alternatives. The initiative will primarily focus on the use of second-, or third-generation biomass, meaning non-food crops, agricultural/forest residues and municipal bio-waste.

A group of industries have gathered around this initiative supported by a number of European technology platforms and European sector associations. The industry group delivered their vision document on 31 May 2012. The group is currently preparing the Strategic Research and Innovation Agenda, the advance draft of which is due end of September 2012.

A number of EIBI stakeholders are participating in this exercise. The extent to which demonstration and flagship plants such as thought by the EIBI (see previous section) can be coherently incorporated in this Strategic Research and Innovation Agenda is currently being examined. In any case, both activities will be implemented in a coherent and coordinated way.

### 4.3. R&D support on Bioenergy in the EU and other countries

#### FP7 and bioenergy

The Commission gives high priority to research into second generation biofuels, bio-products, industrial biotechnology, the biorefinery-concept, and production of new and improved high-yield biomass while avoiding negative impacts on biodiversity. In the 7th Framework Programme, biofuels are a key priority for research. They are supported by four Themes: "Food, agriculture, fisheries and biotechnology", "Transport", "Energy" and "Environment".

The Energy Theme is focus is on:

- Developing 2<sup>nd</sup> generation biofuels with better environmental and energy performance (e.g. algae and lignocellulosic ethanol).

The Energy Theme has spent or earmarked around €250M FP7 funds for bioenergy R&D&D in the period 2007-2012 (14.5% of all non-nuclear energy budget). This gives an average of €41M / year (similar to investment in FP6). The biggest share of this support was for research on second generation biofuels, followed by biorefineries. About 50% of this funding is targeting in one way or another bioethanol.

Energy Theme projects with focus on ethanol:

[HYPE](#) - High efficiency consolidated bioprocess technology for lignocellulose ethanol

[SUPRA-BIO](#) - Sustainable products from economic processing of biomass in highly integrated biorefineries

[BIOCORE](#) - Biocommodity refinery: ethanol is one of the end products

DEMA: Direct Ethanol from MicroAlgae (in negotiation)

[PROETHANOL2G](#) - Integration of Biology and Engineering into an Economical and Energy-Efficient 2G Bioethanol Biorefinery

[SUNLIBB](#) - Sustainable Liquid Biofuels from Biomass Biorefining

[BABETHANOL](#): New feedstock and innovative transformation process for a more sustainable development and production of lignocellulosic ethanol

[CANE BIOFUEL](#) - Conversion of sugar cane biomass into ethanol

[NILE](#): New Improvements for Ligno-cellulosic Ethanol (FP6)

The following CSAs also support bioethanol: BIOREF-INTEG, BioTop and BiofuelsTP

[BIOLYFE](#) - Second generation BIOethanol process: demonstration scale for the step of Lignocellulosic hYdrolysis and Fermentation (ENER)

[FIBRETOH](#) - Bioethanol from paper fibres separated from solid waste, MSW (ENER)

[KACELLE](#) - Demonstrating Industrial Scale Second Generation Bioethanol Production - KAlundborg CELLulosic Ethanol plant (ENER)

[LED](#) - Lignocellulosic Ethanol Demonstration (ENER)

[SUNLIQUID](#): sunliquid® large scale demonstration plant for the production of cellulosic ethanol (€19.3M) (ENER)

[COMETHA](#): 80,000 ton/y precommercial industrial scale demonstration plant on second generation lignocellulosic ethanol (€17.9M) (ENER)

The Food, Agriculture, Fisheries and Biotechnology Theme is focused on:

- Improving current and developing new biomasses (including crops) for biofuel and bio-products;
- Application of industrial biotechnologies for sustainable production of second-generation biofuels and bio-products;
- Fully develop and incorporate life cycle analysis in biofuels and bio-based production practices; and

- Cutting edge bio-based technologies for biofuels and bio-products.

From the perspective of the Environment Theme, research is clearly needed to reduce the impact of biofuels on biodiversity and to achieve a thorough understanding of their environmental costs of production and use.

#### Joint Call Biorefinery

2009: Energy –KBBE- NMP – Environment. 3 collaborative projects and 1 CSA. EU contribution of 52 million Euro. The number of industrial partners at nearly 50% of the consortia. They look at the use of biomass of different sorts for 2<sup>nd</sup> generation biofuel (including aviation fuel), and the production of a range of chemicals, including polymers, oils and speciality molecules.

#### **Other countries and bioenergy research**

In 2009 the **US** invested ca. €895M public funding on Bioenergy, of which 738 on liquid biofuels. This represents an explosion with respect to previous years (six-fold increase with respect to 2008). This high investment level was maintained in 2010 (ca. 600 M€).

In 2009, **Japan** invested ca. €52M (around 88% public) public funding on Bioenergy, comparable to FR or UK, of which only €1M on liquid biofuels. This represents an explosion with respect to previous years (four-fold increase compared to 2008). This high investment level was maintained in 2010.

In 2009 **Korea** invested ~€5.7M in biomass research (mostly public), a level comparable to CZ or CH. However in 2010 Korea created the Advanced Biomass R&D Center (ABC), a consortium of universities, institutes and industry funded by the Government with an investment of more than \$200M over nine years (i.e. a yearly investment comparable to DK or FI). Research will focus on lignocellulosic feedstock and algae. A strong cooperation strategy is set, involving mainly the US.

For Europe, the main interest could be to achieve a balanced cooperation with US in this domain, which so far has proved difficult to put in place.

#### 4.4. EU biofuels market

The development of an emerging European biofuel industry in the last years has been most remarkable. Biodiesel production has grown from 55.000 tons in 1992 to 9,5 million tons in 2010. Bio-ethanol expansion has also been very significant from 47.500 tons produced in 1993 to 4,3 million tons in 2010.

	Consumption	Production	Prospects 2020
Biofuels	~10 (2008)	~8,8 (2008)	29,6
	~12 (2009)	~10 (2009)	
	13,5 (2011)		
Bioelectricity	8,5 (2010)		20
Heat & cool	50 (2005)		90

The EU is the World's main biodiesel producer (57% of total), but only 3<sup>rd</sup> ethanol producer (5% of total, after US and Brazil).

About 80% of EC consumption of biofuels is biodiesel, and 20% is ethanol.

In 2009, about 9% of the biofuels consumed were "second-generation" as defined in the Renewable Energy Directive (mainly biodiesel from waste oils).

The main EU biofuel producing countries (of both ethanol and diesel) are DE, FR, ES.

Estimated biofuels share in EU transport fuel consumption was ~4,5% in 2011.

Net imports in 2008 were around 15%, but since then they have decreased. 2/3 of these imports are biodiesel, mainly from Argentina (50%), and 1/3 is ethanol, mainly from Brazil (40%).

#### EU Bioenergy industry – comparison with competitors

##### *1G ethanol*

Ethanol is produced in the **EU** mainly from cereals, but also sugar beet and corn. Production costs are higher in the EU than in the US and BR. Some of the main European producers are Abengoa (ES), Tereos (FR), CropEnergies (DE).

The **US** is the World's first producer (~60%) and consumer of ethanol. It is produced mainly from corn (production cost ~30 c\$ per liter). It depends on subsidies and is socially/ environmentally contested. Some large players are Archer Daniels, Aventine, Cargill, VeraSun and Abengoa.

**Brazil** is the 2<sup>nd</sup> ethanol producer (30%), mainly from sugar cane. Brazilian ethanol is the only biofuel industry in the World that is environmentally and economically sustainable, at 0,22 \$ per litre and 5-6 times more energy efficient than corn. Brazil enjoys a large potential for growth and a flexible business model, able to switch from sugar to ethanol depending on market conditions, with electricity excess being sold to the grid. Independent mills associated in UNICA produce about 60% of the bioethanol. EU, Japan and the US are investing massively in this industry (e.g. Shell).

## ***Biodiesel***

The EU is the World first biodiesel producer. It is produced from oilseeds such as rapeseed or soya, palm oil, which are often imported. Residual oils are also used. Some relevant industrial actors include ADM, Cargill, Diester, Acciona.

## ***2G biofuels***

There are two primary ways of producing biofuels from lignocellulosic feedstock - biochemical and thermochemical conversion.

Biochemical conversion typically employs pre-treatment to accelerate the hydrolysis process, which separates the lignin, hemicellulose and cellulose. Once these ingredients are separated, the cellulose fractions can be fermented into alcohols.

In the thermochemical conversion, the carbon-based materials can be heated at high temperatures in the absence (pyrolysis) or presence of oxygen, air and/or steam (gasification), which leads to a combustible gas (syngas) and a solid char. The syngas can be fermented or chemically synthesized into a range of fuels, including ethanol, synthetic diesel or jet fuel.

There is no industrial 2G sector, as no commercial plant exists yet in the World. In the EU such technologies are being developed by industries from other sectors such as pulp & paper, oil & gas, chemistry, etc.

2G technology leadership and comparative advantage (notably with the US) depends on the specific technology value chain:

### ***Thermochemical***

The EU has traditionally been leader in technologies like gasification, BtL or pyrolysis. However in the last years this advantage has been reduced, thanks to an increase of the investment in the US. This has encouraged a transfer of EU technology towards the US, and an increased collaboration of EU actors with US R&D institutions.

Thermochemical technologies are being developed mainly in Northern Europe (Germany, NL, UK and Scandinavia) by actors such as Chemrec, UPM, Lurgi or CHOREN (now bankrupt).

### ***Biochemical***

The EU has some of the leading technology providers (notably Novozymes) and 2G ethanol producers (Abengoa, Chemtex, Inbicon). However, the US is more technologically advanced in the biochemical pathways (biotechnology, genetically improved plants, technology closer to the market). In addition, many of the above mentioned European companies have subsidiaries in the US and are transferring technology there, attracted by market conditions and subsidies.

Lignocellulosic technologies are being developed mainly in Southern Europe and Denmark.

### ***Algae***

Algae R&D&D is being done by many countries including notably Japan, Korea, India, China, Australia, the US and the EU. The US seems to have a predominant position in algae research, thanks to *inter alia* larger investment, and cooperation agreements with other countries and regions. Several big demonstration sites have been built in the last years.

Within the EU, broadly speaking, Northern countries are focusing R&D on macroalgae, and Southern countries on microalgae. Europe has some relevant academic actors (e.g. U. Firenze, U. Almería) and some active industrial actors (e.g. Repsol, Abengoa, AlgoSources, Diester). Spain and Israel (U. Ben Gurion) are particularly active.

It should be noted that algae research does not only (or mainly) target biofuel. Other end products (food, feed, chemicals, farmaceuticals, etc.) are usually sought.

Algal biofuels are far from being competitive and are not likely to become competitive in the short run.

#### *Long-term technologies*

Although the state-of-art is not well studied, the US seems to have some advance in fields like sugar catalytic processing (e.g. Virent's *Bioforming* process) or artificial photosynthesis.

Gas (CO, CO<sub>2</sub>) fermentation is being explored both in the EU (e.g. INEOS) and in the US (e.g. Lanzatech). The state-of-art is unclear.



#### 4.5. CVs

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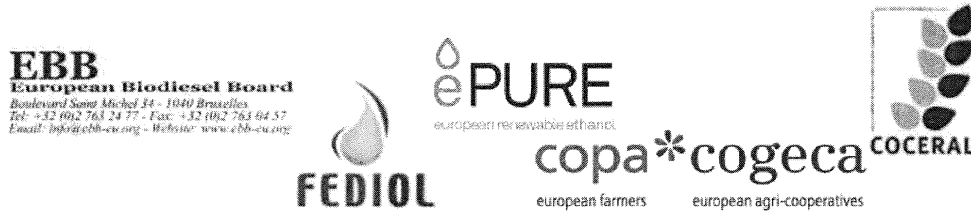
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## 5. Annex

### 5.1. Reaction of the lobbies to the draft amendment to the RES Directive



#### Irresponsible U-turn on biofuels policy kills sustainable growth and jobs

The EU biofuel industry, the sectors part of the value chain as well as the agricultural Community are shocked by the leaked draft proposal on how to address ILUC. The draft indicates that the Commission is preparing for a complete u-turn on its biofuels policies, including a 5% cap on biofuels from food and feed crop, ILUC factors under the FQD and a mathematical accountancy trick to achieve the 10% target on paper only. No more than 3 years after the EU's commitment to reducing GHG emissions, enhancing energy independence and to create sustainable growth and jobs the Commission effectively wipes out a nascent industry that arose as a response to the European climate and energy policy. The same industry that made considerable efforts to comply with the most stringent global sustainability criteria imposed upon it as a result of the biofuel policy.

The Commission's draft proposal is a masterpiece of irresponsible policy making. Until today the majority of the member states did not yet properly implement the Renewable Energy Directive and the Fuel Quality Directive and the Commission itself so far failed to provide clarity with respect to the definition and interpretation of some crucial elements of the Directives (highly biodiverse grasslands, Article 7a, validation of sustainability schemes by the European Commission). Without any proper assessment of the impact of the current policy the Commission prepares to sacrifice a thriving and functioning industry on the basis of inconclusive science and disproportionate environmental precaution.

The European Biofuels industry has made investments that amount to 14 billion Euro and is estimated to provide direct jobs to 100.000 European citizens. ILUC factors included in the FQD would cause the immediate death of the overall EU biodiesel and biofuels sector (including the whole production chain – from agriculture to first transformation) and result in many thousands of layoffs at a period of economic downturn. In the ethanol sector alone investment decisions close to one billion euro have been made recently and constructions are currently ongoing. Any change in policy must safeguard these investments done in good faith and therefore the proposed grandfather clause is insufficient. The European biofuels industry shows that even in times of crisis sustainable growth is possible. The draft proposal destroys any prospect of cost-efficiently greening the transport sector now and in the future.

Yet, the current draft proposal based on ungrounded and unverified econometrical modeling on ILUC would largely destroy current investments and question the economic viability of a European based industry. We deeply regret that economic modeling does not have a thorough knowledge of the industry. Assumptions present alarming loopholes, deeply impacting results and potential long-term decisions. Of particular worry, the IFPRI study presents a large number of shortcomings with respect to land use and availability as well as use and volume of co-products (animal feed).

This is why, the draft proposal fails to provide effective solutions to the problem of land use management in 3<sup>rd</sup> countries and is nothing more than window dressing: The idea to cap conventional biofuels at 5% means in some member states a dramatic downscaling of existing levels of biofuels utilization whilst the confirmation of double counting incentive for wastes and residues without considering the imperative need for EU-wide harmonization of definitions is a further example of failing to consider the experience gained with the current RED system so far. The proposal fails to acknowledge that the biofuel industry is providing substantial volumes of highly nutritional animal feed as a co-product of biofuel production. The introduction of ILUC factors under the FQD excludes certain biofuels from the market and puts the GHG reduction target into question. The quadruple counting for non-land using biofuels is nothing more than an accountancy trick and will neither help these new technologies to come to the market nor will it reduce GHG emissions from transport.