BRAZILIAN SUGARCANE INDUSTRY ASSOCIATION

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Brussels, 31 July 2009

To: European Commission
M. Piotr Tulej, Head of Unit ENV C5
M. Hans van Steen, Head of Unit TREN D1

Re: Pre-consultation on Policy Options to Address Indirect Land Use Change - Comments by the Brazilian Sugarcane Industry Association

Following the stakeholders' consultation organised jointly by European Commission's Directorate General Environment and Transport & Energy in Brussels on 16 July 2009, the Brazilian Sugarcane Industry Association (UNICA) is pleased to submit comments to the European Commission on the different policy options that are considered to address the issue of indirect land use change (ILUC).

This letter is structured as follows: introductory remarks on UNICA and the ILUC debate (I); comments on policy elements A and B addressing the general and global issue of ILUC (II); comments on biofuels-specific proposed options C to G (III); and recommendations (IV).

I- Introduction to UNICA and ILUC

UNICA is the leading trade association for the sugarcane industry in Brazil, representing approximately 60% of all sugarcane production and processing in the country. Our member companies are the top producers of sugar, ethanol, renewable electricity and other sugarcane co-products in Brazil's South-Central region, the heart of the sugarcane industry.

Brazil is the world's largest sugarcane-producing country with over half a billion metric tonnes of cane harvested yearly. In 2008, Brazil produced over 31 million tonnes of sugar and about 27 billion litres of ethanol. Thanks to the mandatory blend of 20 to 25% of ethanol in petrol and to the use of flex-fuel vehicles – which can run on ethanol, petrol or any mix of the two, and which already represent 34% of the light fleet – most of the fuel ethanol produced in Brazil is absorbed by the domestic market. The surplus, around 15%, is destined to exports markets: last year Brazil exported 1.473 billion litres of ethanol to the European Union and 2.835 billion litres to the United States (1.519 billion litres were shipped directly to the United States and 1.316 billion litres went through the Caribbean)[1]. In addition, the mills generate their own power from the sugarcane biomass and export the electricity surplus. Sugarcane mills produced approximately 16,000 GWh last year, which represents 3% of the country's annual electricity demand.

Thanks to our innovative use of ethanol in transportation and biomass for cogeneration, sugarcane is now the number one source of renewable energy in Brazil, representing 16% of the country's total energy needs according to official government data[2]. Our industry is expanding existing production of renewable plastics and will soon be offering bio-based hydrocarbons such as diesel or petrol from sugarcane that can replace carbon-intensive fossil fuels.

[1] For detailed data on exports, see the Brazilian Secretary of State for External Trade (SECEX). Note that Brazilian ethanol exports include all ethanol independent of end use, whether for fuel, industrial purposes or beverages.
[2] See Brazilian Energy Ministry's National Energy Balance, 2009

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ILUC is now in the public debate and being introduced in major regulatory initiatives, amongst which are the Low Carbon Fuel Standard[3] in California and the U.S. Environmental Protection Authority (EPA) rules for the implementation of the Renewable Fuel Standard.[4] The European Union Renewable Energy Sources (RES) and Fuel Quality Directives,[5] in their common part related to sustainability criteria for biofuels and bioliquids, ask the European Commission to submit a report by the end of 2010 reviewing the impacts of ILUC on greenhouse gas emissions (GHG) in relation to all production pathways and addressing ways to minimise these impacts.

In the absence of a sound and globally accepted scientific methodology to assess potential emissions caused by ILUC, what are the best regulatory responses to tackle a phenomenon whose magnitude and importance is unknown? UNICA provides below comments on the different policy options presented by the European Commission in the framework of the pre-consultation.

II- Comments on policy elements addressing the general issue of ILUC (Options A and B)

UNICA welcomes the global approach taken by the European Commission on ILUC which is conceived as a global problem that requires global solutions, and not as a phenomenon limited to biofuels and specific countries. The fact is that today 99% of the world arable land in production is used for agriculture, while biofuels only occupies 1% of that land and by 2030 that figure is expected to reach 2% according to the International Energy Agency. It would therefore make little sense to address ILUC by only biofuels-related policies; if the objective of the European Commission is to limit or avoid CO_2 emissions in general, the ILUC global picture must indeed be considered.

Extend to other commodities and countries the restrictions on land use change that will be imposed on biofuels consumed in the EU (Option A)

The sustainability scheme restricts the land from which raw materials for biofuels are taken. Under this approach, the Community would work with relevant partners on the extension of these restrictions to other commodities/consuming countries. Methods for doing this could include:

- *Encouraging other administrations to adopt the same restrictions;*
- *Encouraging industries to apply the same restrictions on a voluntary basis;*
- *Requiring goods sold in the EU to be labelled in respect of their compliance with these requirements.*

Theoretically, extending land use restrictions to other commodities and countries would allow addressing the general and global issue of indirect land use change, because someone's ILUC is always someone else's direct land use change. However, we fear that this option is not realistic and hardly implementable in the medium to long term, and has a set of crucial limits:

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[3] See California's Low Carbon Fuel Standard Program, as proposed by the state's Air Ressources Board, available online at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm

[4] Environmental Protection Agency's proposed rules to implement the new Renewable Fuels Standard: http://edocket.access.gpo.gov/2009/pdf/E9-10978.pdf

[5] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. Official Journal L 140 of 5 June 2009, page 16

Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC Official Journal L 140 of 5 June 2009, page 88

- It is unclear what the competence of the European Union is to rule on other commodities' use of land in other countries as appears a question of land use sovereignty. Conditioning the access to the European Union market to the respect of "no-go" areas might constitute a violation of the World Trade Organisation rules;
- In addition, demand for commodities cannot be isolated as would inevitably be the case if this option was implemented. Producers of other agricultural commodities may well respect these requirements when exporting to the EU market, but the EU cannot force them to respect the same rules when exporting to other markets. As a result, the global ILUC problem would not be tackled but only transferred;
- Finally, the envisaged labelling of all commodities would be extremely burdensome and costly. One should keep in mind that such option would result in higher food costs as certification / labelling has a cost that would be passed onto consumers.

International agreements on protecting carbon-rich habitats (Option B)

The implementation of multilateral agreements on protecting carbon-rich habitats such as tropical rain forests in countries that are threatened by land use changes and resulting large GHG releases could limit indirect land use change emissions.

(The Commission has proposed in its Communication on deforestation to work in the international negotiations on climate change towards the development of a Global Forest Carbon Mechanism, a financial mechanism through which developing countries would be rewarded for emissions reductions achieved by taking action to reduce deforestation and forest degradation.)

Fostering international agreements to protect carbon-rich habitats needs to be pursued, as this option is the only one that allows reaching the primary objective of the legislations: to limit/avoid CO_2 global emissions from any source, in any country. This option should be promoted as it will address the right source of emissions resulting from land-use change in its global dimension, without putting an unnecessary burden on the biofuels industry.

Although this option sounds ambitious, its feasibility is supported by recent developments:

- Some countries have already shown firm commitments to that end. This is the case of the Brazilian government which announced during the 14th Conference of the Parties in Poznan in December 2008 the National Plan for Climate Change, which includes the adoption of national targets for the elimination of illegal deforestation;
- The private sector also has engaged in the protection of land of high carbon stocks (e.g. moratorium on the purchase of soybeans in newly deforested parts of the Amazon rainforest);
- The timeline to propose such policy appears to be ideal as it might be given a push by the forthcoming UNFCC talks in Copenhagen at the end of 2009.

III- Biofuels specifics policy options (Options C to G)

For biofuels specific policy options, it is assumed in the Commission's working document that, based on '*the analytical work, incl. modelling and retrospective analysis, a satisfactory understanding has been reached on the level of ILUC emissions and how these vary by biofuel (e.g. by type, feedstock, location)'.* This assumption is highly hazardous for a science field which is relatively recent and still immature. Current science state of play relies on highly sensitive assumptions and the scientific community is extremely divided about this question, as proves the letter written by 111 Ph.D. scientists to CARB where it says *"we are only in the very early stages of assessing and understanding the indirect, market mediated effects of different fuels. Indirect effects have never been enforced against any product in the world"*[6]. Because the possible measures contained in the biofuels specific options rely greatly on the modelling being performed by the Commission, a few preliminary comments on modelling appear indispensable.

- Role of models:
  - Computable General Equilibrium models are usually designed to compare alternative scenarios and economic results, mostly in terms of welfare changes. In this way, they are suitable to address economic impacts from exogenous changes in some simplified artificial economy, built as a "lab" for simulations;
  - General and partial equilibrium models can well give indications of change from simulated scenarios, identify the best and worst cases and ranking of the results, give an idea about the magnitude or relative scale of the impacts and track or explain the economic reasons leading to the results. Models provide orientations, but they are not conceived to pick-up a single number to integrate in legislation.
- Limits of equilibrium models:
  - Partial equilibrium models provides with aggregated data on land allocation in determined conditions at national level, but not the actual resulting land use change;
  - Because they take given world economic conditions, equilibrium models cannot integrate changing environment, shifts in policies, increased productivities, use of degraded, marginal or idle lands, etc. in definitive, the drivers for agriculture expansion/dynamics in different countries;
  - In addition, for these models to run properly, accurate data are needed. In some cases, these data are simply not available, and often are being replaced in the models by macrodata, thus adding to the uncertain outcome;
  - Small bias in input parameters lead to large errors, and the more complex the model is, the less accurate the results are. The modelling performed in California by the Air Board in the framework of the LCFS clearly demonstrates how different assumptions provide for a complete different outcome. With different, more sensible assumptions taken by UNICA and Brazilian experts, the ILUC results for Brazilian sugarcane varied from + 25.3 gCO2e/MJ to - 10.7 gCO2e/MJ[7].

These limits explain why modellers themselves avoid putting too much weigh or credence on precise numbers. This has to be taken into account for policy options which include numbers issued from these exercises, be they for the definition of an adequate GHG 'cushion' (options C and D) or others, including the factor approach (G). If a satisfactory understanding is not reached, it is clearly impossible to deal with these options. This is why UNICA calls on the European Union to follow the example of the US in

[6] Letter by 111 Ph.D scientists, 2 March 2009; http://www.arb.ca.gov/lists/lcfs-general-ws/28-phd_lcfs_mar09.pdf

[7] UNICA Comments on California's Low Carbon Fuel Standard, 16 April 2009: http://www.arb.ca.gov/lists/lcfs09/129-unica_comments_to_carb_on_sugarcane_ethanol.pdf

disclosing not only the results of the different modelling exercises but also the full set of assumptions and data for public scrutiny and comments.

The 'cushion approach' (Options C & D)

Do nothing (Option C)
The existing minimum required level of greenhouse gas savings - 35%, rising in 2017 to 60% for new installations and 50% for existing installations – is considered, under this approach, to be enough to provide an adequate "cushion" against the estimated adverse side-effects from indirect land use change.)

Increase the minimum required level of greenhouse gas savings (Option D)
Under this approach, the conclusion would be that the cushion provided by the existing minimum requirements is not adequate and needs – in the light of the estimated adverse side-effects from indirect land use change - to be increased.

During the negotiation towards the adoption of the RES Directive, UNICA favoured the idea of increasing the greenhouse gas efficiency threshold to more ambitious levels to be consistent with the ambitious objectives of the legislation, i.e. reducing GHG emissions from the transport sector. Because some biofuels already achieve higher GHG emissions reductions while others have room to improve, it would appear feasible to secure a sufficient threshold to offset any potential GHG emissions arising from ILUC.

However, there may be limits in a policy that simply wishes to address ILUC with numbers by raising the threshold:

- The definition of the adequate threshold would rely on the modelling exercises being ran, with the corresponding uncertainties above mentioned, and would be open to arbitrary political interpretation;
- It would not differentiate between biofuels and to the extent each pathway is accountable for emissions resulting from ILUC. In that respect, the 'cushion' approach proves as limited as the 'blanket penalty' approach;
- Such an approach only defines culpabilities but can in no way be integrated as better management practices to seek reducing the ILUC impact from a producer's perspective;

Opting for the cushion approach is to recognise that we do not know how to measure ILUC. Coupled with the already existing difficulties identified in the calculation of GHG emissions from biofuels (lack of transparency, limited take into account of co-products, etc.), this option shows far more limits than potential benefits for reducing substantially global GHG emissions. Using precautionary approach of the kind is limited for biofuels which are forecasted to represent only up to 2% of the arable land by 2030.

Extend the use of bonuses (Option E)

The existing sustainability scheme provides a bonus of 29 gCO_{2eq}/MJ (equivalent to a 35% saving) in calculating the greenhouse gas impact attributed to biofuels from land that is severely degraded or heavily contaminated.
Under this approach, this bonus could be increased; it could be extended to biofuels that do not come from land; and it could be extended to biofuels from idle land.

We currently lack a definition of 'degraded land' under the Directives. Extending the use of bonuses to other types of lands would add to the existing uncertainties on favoured areas, and contains clear risks:

- Extending a GHG bonus to other types of land such as idle or marginal land would require further definition and mapping exercise to identify them, with the consequent burden to prove that the land falls within the scope;
- We would need a clear definition of idle or marginal land if the latter was to be included. These lands may have a high stock of carbon, and a bonus might be a perverse incentive to encourage GHG emissions;
- Encouraging the use of marginal or idle land is not automatically indirect effects free, as these lands can be in use. If we consider effects on food production, some idle land might be used for that purpose (16 million ha of agricultural land is not used in Brazil);
- With the progressive extension of bonuses, we could end up discriminating against land use in third countries to the benefits of former set aside lands in the European Union.

Additional sustainability requirements for biofuels from crops/areas whose production is liable to lead to a high level of damaging land use change (Option F)

An assessment would be made – on the basis of analytical work (see above) – of the countries, crops or crop/location combinations where increases in demand for agricultural commodities systematically lead to damaging land use change, whether this change occurs domestically or globally.
In order to count as fulfilling the sustainability criteria, these biofuels would need to meet additional requirements. They would, for instance, have to provide evidence that their production practices did not lead to the damage in question (for example, because they converted degraded land – or because of the introduction of verifiable measures, at national level or otherwise, to control damaging land use change or increase agricultural yields)

The F option discriminates between biofuels and, because of the uncertainties contained in the modelling exercises, it is unclear how crops and/or areas deemed to be liable to a high level of damaging land use change would be identified from a scientific point of view. Requiring additional sustainability criteria would suppose an additional administrative burden for the industry and the idea that some biofuels are 'guilty before proven innocent' is not giving the right signal that the European Union is serious about biofuels, and that investments should be encouraged in the area.

The examples of additional requirements given by the European Commission do not answer the concerns derived from this policy option:

- Proving the use of degraded land: the use of degraded land for biofuels production is already encouraged in the Directives by a bonus equivalent to 35% of GHG savings;
- Other provisions such as proving that measures were taken to improve land imply other problems such as how to ensure that we do not discriminate leaders/ front runners who have already achieved significant yields increase in previous years;
- Requiring national measures are taken to control damaging land use change would inevitably raise question from international trade rules perspectives.

The compatibility with international trade rules of an option which would discriminate between biofuels and imposes different sustainability requirements on biofuels coming from different areas is extremely questionable. It may also stifle economic development in countries that have potential or are already significant producers and protect production in developed countries where damage on land use has already happened.

Include an ILUC factor in GHG calculations for biofuels (Option G)

An additional factor e_{iluc} would be included in the formula for calculating lifecycle greenhouse gas emissions from biofuels. This would be derived from analytical work (see above).
If the analysis suggests that there is no variation in indirect land use change emissions between different biofuels, then for those biofuels to which indirect land use change is attributable e_{iluc} would be given a constant value.
If the analysis suggests that there is variation in indirect land use change emissions between different biofuels (for example according to type, feedstock or location of cultivation of raw material) then the value of e_{iluc} would be determined on the basis of classes or types or locations of biofuel as appropriate.
For biofuels not giving rise to indirect land use change – for example this could be imagined for biofuels not requiring land – the value of e_{iluc} would be zero.

Variants

- *This approach could be combined with a reduction in the minimum required greenhouse gas saving (on the grounds that part of the reason for a threshold above zero is to deal with uncertainties in the greenhouse gas calculation, and introducing an indirect land use change factor reduces those uncertainties)*
- *Biofuel producers could be allowed to offset the indirect land use change emissions attributed to them by providing evidence of emissions saved in other parts of the primary sector (perhaps only in the same region)*
- *The factor could be weighted by yields of biofuel per hectare*

As previously evoked, UNICA believes that science is not yet able to quantify the level of indirect land use change and their impacts on GHG emissions from biofuels. Similar exercises (CARB LCFS, EPA) have shown crucial limits in the quantification of the factor, because modelling tools are incomplete and drivers of land use change and agricultural expansion for the world as a whole are largely unknown.

The GHG expert advisory and working groups of the Roundtable on Sustainable Biofuels[8] recognises that indirect impacts are extremely difficult to measure because:

- Many farms products are substitutes for each other and thus changes in one market might be manifested in another one;
- Agricultural products are traded globally and thus diversion of food to the fuel market in one country might lead to a land use change on the other side of the planet;
- Causality of land use change is difficult to measure because it requires aggregating farmer behaviour in response to many different signals.

According to the RSB groups, investigation of these drivers requires a full range of methods from the natural and social sciences, including climatology, soil sciences, ecology, environmental science, hydrology, geography, information systems, computer science, anthropology, sociology, economics, and political science.

The introduction of any penalty, based on current available methodology, would not reduce ILUC but simply disqualify all existing biofuels production performed on arable land. Attributing a single constant value ('blanket penalty') to all biofuels would not make any sense, and there would be a need to differentiate by production pathways. Finally, as for the cushion approach, a penalty would not allow producers to minimise ILUC by implementing best management practices. It would also be extremely uncertain for policy regulators to insert a precautionary penalty in the legislation when actual results of the predictive models will only be known in a few years time.

[8] RSB Expert Advisory Group and Working Group on GHGs - Background Paper –3 June 2008.

The Commission's policy options document provides with variants of the penalty option, including reducing in parallel the minimum GHG savings threshold. This would send the wrong signal that the EU is serious about reducing GHG emissions in the transport sector, and to the industry and investors, who would see that less than 12 months after the adoption of the Directives, the regulatory framework on which business decisions are taken would already be amended. There is a need for stability for the industry, not constantly evolving legislation on the basis of unproven science.

IV- Recommendations

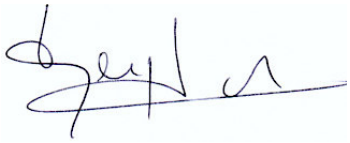
A global issue such as ILUC can only be tackled by global policies. UNICA therefore recommends that regulators collaborate at global level to design and implement consistent policies to fight deforestation and protect high carbon stock areas (Option B).

In addition, UNICA also calls on the European Union to recognise the efforts made in some countries, such as Brazil, to establish sound land use management practices and encourage the use of land which is both available and suitable for crops for biofuels without displacing other crops (e.g. degraded lands, provided the definition captures the different elements for a land to qualify as degraded and is measurable). The Brazilian agro-ecological mapping aims at managing sugarcane land expansion and ensuring respect of sensitive areas at the same time. Such land use planning exercises should be encouraged as allows the industry to identify lands suitable for biofuels feedstock and minimise the risks of indirect adverse effects, not limited to emissions.

Finally, despite the limits of equilibrium models when intended to be translated into legislation, developing science is of crucial importance to understand the extent of the ILUC question, and cooperation between scientists, including with those from producing third countries should be encouraged. **UNICA calls on the European Commission to follow the example set by the US authorities who disclosed all the information used in the modelling exercises and submit it to public scrutiny. During the autumn 2009 consultation, the evaluation process must be complete and transparent:** complete by making sure that all the assumptions and data included in the different modelling exercises are known by stakeholders, and transparent insofar comments from stakeholders should be taken into due consideration to seek improvement/refining in the exercises. The end results of the modelling exercises should also be peer-reviewed.

We remain at the European Commission's disposal to answer any question you might have.

Sincerely,



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