

Remarks Prepared for Delivery

Environmental Protection Agency's Renewable Fuel Standard's Public Hearing
Joel Velasco – Brazilian Sugarcane Industry Association (UNICA)
Washington - June 9, 2009

Thank you for the opportunity to speak at this public hearing. My name is Joel Velasco and I represent the Brazilian Sugarcane Industry Association (UNICA).

I'd like to make some brief but substantive comments that will be further detailed in our written comments in the coming weeks.

But first let me add to the chorus of praise for Environmental Protection Agency (EPA). The Agency's staff should be congratulated for its *trailblazing work* in this Proposed Rule, which *took too long to be released* for public comment — not the fault of the EPA staff but of some special interests who preferred uncertainty and delays over peer-reviews and technological progress. So, let's improve on this Proposed Rule but *not let it slip by another year. The future of renewable energy will be in jeopardy if we can't get this rule in place by years end.*

Now also, before making substantive comment, let me tell you a bit about my organization's role in our sugarcane industry.

I. Sugarcane Industry in Brazil

UNICA is the leading trade association for the sugarcane industry in Brazil, representing nearly *two-thirds of all sugarcane* production and processing in the country. Our 127 member companies are the top producers of sugar, ethanol, renewable electricity and other sugarcane co-products in Brazil's South-Central region, thousands of miles away from the Amazon rainforest.

Last year, Brazil produced well over 30 million tons of sugar, about 7 billion gallons of ethanol, and about 16,000 GWh of electricity. That's a record, not just in food but also energy production.

Thanks to our innovative use of ethanol in transportation and biomass for cogeneration, *sugarcane is now the #1 source of renewable energy in Brazil*, representing 16% of the country's total energy.

Gasoline is the alternative fuel in Brazil and we just used 1% of Brazil's arable land to achieve this remarkable accomplishment. Since the late 1970s, sugarcane ethanol has led to a *net reduction in greenhouse gases of about 600 million tons of CO_{2eq}*. taking into consideration direct and indirect land use changes according to a soon-to-be-published and peer-reviewed analysis.

Our industry is expanding existing production of renewable plastics and, with the help of innovative companies here in the United States, we will soon be offering bio-based hydrocarbons like cane-diesel or -gasoline that can replace carbon-intensive fossil fuels.

Now, I'd like to turn to our initial, substantive comments and recommendations. I note, however, that we are still reviewing the thousands of pages in the docket and, consequently, expect to have more comments in the days and weeks ahead.

II. Life Cycle Analysis

The EPA's Notice of Proposed Rulemaking unequivocally states, "ethanol from sugarcane is one of the few currently commercial pathways that have the potential to meet the requirements for advanced biofuel in the near term [...] and the only such pathway that was subjected to lifecycle analysis to date."

Though under EPA's modeling sugarcane ethanol has the lowest carbon footprint of any available renewable fuel measured to date, we believe significant corrections are needed to bring the analysis up to date — today, not tomorrow.

Any review of the investments flows in second generation biofuels makes clear that sugarcane – or energy cane as some like to call it now – is a preferred feedstock. But if we can't measure the lifecycle performance of sugarcane ethanol today, what's to say the calculations will be accurate when new pathways – like sugarcane diesel or jet fuel – become available to consumers?

Today's sugarcane ethanol has a verifiable reduction in greenhouse gases of 90% compared with yesterday's gasoline. As the International Energy Agency and the OECD clearly stated in separate reports recently, sugarcane biofuel's greenhouse gas savings surpasses 100% in many cases already.

While we do not have time to get into the details in this abbreviated forum, let me highlight some of the many errors that we have seen, not just at EPA, but more troubling, with the California Air Resources Board's Low Carbon Fuel Standard (LCFS).

Basic errors were made in the lifecycle analysis that failed to capture the process of making sugarcane ethanol in Brazil. *First*, the default values for cane straw yield appears to be based on Hawaiian, not Brazilian, sugarcane varieties. *Second*, the carbon intensity of Brazilian chemical inputs is significantly lower than the GREET model assumes, in large part due to the lower carbon intensity of Brazil's electricity production (80% hydro). And, *third*, as we mentioned in our comments to CARB, we even noted that the trucks used in sugarcane mills are far more efficient than assumed – they think we use small trucks, when sugarcane transport uses something akin to a train.

Perhaps more troubling is that the *Proposed Rule ignores the improved low carbon industry practices in Brazil*. And, while the staff has indicated that it will try look at these issues prior to the Final Rule, I am compelled to state the facts here.

First, at least half of our mills are using mechanical harvesting and we'll be reaching 100% by 2014. *Second*, there have been restrictions and now a mandatory end to ages-old practice of pre-harvest field burning. *Third*, as we bring more biomass from the field to the mill, we're increasing the cogeneration efficiency of our power generation. We're going from producing 20 kWh to over 100 kWh per ton of cane. That means we're not just replacing gasoline with our ethanol but also natural gas and coal with our electricity cogeneration. That's carbon savings that you can believe in, not in 2022 but today.

In short, *we're concerned that static lifecycle analysis does not capture the basic aspects of sugarcane production, especially those carbon-mitigating practices* that my organization has been encouraging to our membership for many years in Brazil.

What am I to say in Brazil to a sugarcane producer who invested millions of dollars to upgrade their facilities to reduce emissions if we let the current, erroneous analysis stand?

Just meeting the mandated threshold of advanced biofuels is not enough for use. We don't just want to replace fossil fuels, *we want to replace fossil fuels with something better*.

III. Land Use Calculations

Now, let turn to everyone's favorite topic: *land use changes*. We have two days set aside for this topic – and I'm far from a technical expert on this issue – but a few things need to be stated in this forum today.

First, we believe the science used to determine indirect impacts is quite limited, highly uncertain and open to misuse.

On a personal note, having grown up in the boondocks of Brazil, I'm particularly amazed at how folks who have never stepped foot in the Cerrado or the Amazon claim to be experts on agricultural land dynamics by virtue of their newfound prowess in spreadsheets.

Seriously, if the EPA (and this goes to CARB as well) is determined to push forward with indirect land use calculations – as it appears likely to do – *we firmly request that the best available data and latest research be used before rushing to conclusions*.

If you want to project indirect land use changes in the future, you better *start by accurately representing the dynamics of agriculture today*. We are confident that a

thorough and scientific analysis will conclude that *indirect land use change from sugarcane cultivation in Brazil is marginal at best*. And, I should say, we don't have to limit indirect effects to a country's borders.

In fact, using the same, limited economic model that California Air Resources Board used – the GTAP model – we showed that what was once thought to be a penalty can actually be a credit. Don't believe me? Review our comments to ARB, available on our website, www.unica.com.br.

And, more relevant to the RFS rulemaking, we are certain that as the FASOM/FAPRI model that EPA is using is updated with realistic, accurate data, the results will be similar, again not just for "domestic" indirect effects but "international."

Now, *second*, if you can remember one thing about this land use debate and Brazil, it is this. The data is clear: *cattle is intensifying and freeing up land to agriculture in Brazil and likely other developing countries*. This is very important. Cattle herds occupy half of Brazil's arable land. One head of cattle per 2.5 acres. Nearly 200 million head of cattle!

As a cattle has been intensifying, however, more land is available to agriculture. Economic models that fail to capture that critical dynamic are not representing reality. Consider this scenario: a 2% improvement in cattle productivity would allow for a doubling of sugarcane ethanol production without any of the customary yield improvements without any indirect land use effect.

And though my time is short, two final points:

First, EPA has a lot of work to ensure that it is using *reasonably accurate carbon stock data*. Picking carbon stock data for a continent and projecting that on a single farm may be fine for some who claim to be doing academic work, but does not pass the scrutiny of modern science, particularly when there is plenty of peer-reviewed carbon stock data for Brazil.

Second, the overwhelming scientific evidence is clear that many crops – particularly sugarcane – *uptake significant amounts of carbon above and below ground*. In other words, carbon emissions factors for sugarcane represent a significant net carbon update when it replaces pasture and other grasslands.

IV. Conclusion

Let me put this as clearly as possible. *Not all ethanol is made from corn, not all advanced biofuels is cellulosic*. Sugarcane ethanol has a verifiable reduction in greenhouse gases of 90% compared to yesterday's gasoline. Sugarcane biofuels will easily meet the RFS's definition of Advanced Renewable Fuel, not just in 2022 but today.