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# The Brazilian sugarcane ethanol industry's approach to certification

By Emmanuel Desplechin

## Introduction

With over 45% of its energy originating from renewable sources, Brazil has achieved one of the cleanest energy matrixes in the world. The increasing use of sugarcane-derived products such as fuel ethanol and bioelectricity has led sugarcane to score first among sources of renewable energy and second overall (16%), behind oil and ahead of hydroelectricity.

Thirty-five years after the launch of the 'ProAlcool' programme, petrol has become the alternative fuel in road transport for light vehicles, since over half of the country's gasoline needs has been displaced by fuel ethanol, consumed in a blend with gasoline or pure, in FlexFuel Vehicles. The increased use of sugarcane ethanol has been accompanied by various measures originating from the industry's own initiative, government regulations and collaboration with stakeholders, in order to move the sector towards increased sustainable production. Although these initiatives have not been triggered by the interest in sugarcane ethanol from exports markets, they will assist the sector to prove compliance and certify its production against the recently adopted sustainability requirements from the Renewable Energy Sources Directive (hereafter RED).

## EU requirements

Approved in late 2008, the EU RED sets as its objective an increase in the share of renewable energy use to 20% by 2020, including a minimum 10% share for renewables in the transport sector. This 10% target is expected to be mostly fulfilled by an increase in the use of biofuels. To count towards the target and be eligible for Member States financial support, the legislation sets out sustainability criteria that biofuels will have to meet to ensure they deliver real environmental benefits.

The first requirement to comply with is the so-called 'efficiency threshold', whereby biofuels must provide at least a 35% reduction in greenhouse gas emissions compared to fossil fuels. The requirement rises to 50% and 60% for new installations as of 2017. Under the EU legislation, sugarcane ethanol achieves a default savings of 71%. Although the Brazilian industry and scientific community believe that the EU figure is not an accurate reflection of the potential savings from sugarcane ethanol, the default value serves to confirm compliance with this first requirement, allowing the industry the possibility to demonstrate that even greater emission cuts can be achieved.

In terms of land use restrictions, EU legislation requires crops for biofuels not to be grown, after January of 2008, on land with high biodiverse value or with significant carbon stock. Lands with high biodiverse value include forests, areas designated for nature protection purposes, areas for the protection of rare, threatened or endangered ecosystems and species and highly biodiverse grasslands. These requirements will be complied with by the Brazilian industry, provided clarity is given by the EU on what lies behind some of these yet undefined concepts.

**Brazil's own initiatives for environmental sustainability**

Constant dialogue between the Brazilian authorities, at both federal and state levels, the industry and other interested parties, is reflected in a number of initiatives and programmes already in place in Brazil. In September of 2009, the Brazilian government released its AgroEcological Zoning for Sugarcane to ensure that no sugarcane will be planted in the country's most sensitive biomas – the Amazon, the Pantanal and the Upper Paraguayan Basin. The new legislation also prohibits expanding cane fields through deforestation of native vegetation such as grasslands, a condition that covers the EU requirements for land use restriction, independent of the outcome for the 'grasslands' consultation.

Figure 1 - The AgroEcological Zoning for Sugarcane **forbids expansion** in the most sensitive biomes - Amazon, Pantanal and Upper Paraguayan Basin – or through deforestation of **native vegetation** (e.g. Cerrados)

Source: MAPA

Another important initiative is the Green Protocol in the State of São Paulo, the top sugarcane producing state in Brazil, accounting for 60% of the country's cane production. The Protocol, signed between the São Paulo State government and the Brazilian Sugarcane Industry Association, anticipates the elimination of sugarcane burning by 2014 in areas where mechanization is possible and provides for the protection of riverside woods. It also calls for measures to reduce emissions, the adoption of technical plans for soil conservation and water resources. Already over 50% of the cane harvest is mechanized in the state, thanks largely to the Green Protocol.

Thirdly, the EU legislation also requires reporting by economic operators on measures taken to preserve soil, air and water. The industry has long been active in the development of measures to preserve these resources. For instance, the semi-perennial nature of sugarcane already allows for low levels of soil loss, while mechanization ensures increased soil conservation and retention, with part of the straw that was once wasted by burning now being left on the field as organic matter.

**Going beyond legislative requirements**

With respect to social criteria, for reasons inherent of international trade rules, EU requirements are not mandatory, as the Commission will report on the status of ratification of specific ILO conventions. The Brazilian industry has engaged in several initiatives aimed at improving social sustainability long before the EU considered sustainability criteria. For instance, the UNICA-FERAESP Protocol signed in February of 2006 aims to enhance working conditions for sugarcane sector workers, and evaluate and recommend best practices for the following: gradual elimination by 2011 of the practice of outsourcing in the manual cane harvest, improvement in the transport system for rural workers and transparency in labor assessment and production payment systems.

The National Commitment of Brasília, signed in 2009, is the result of a groundbreaking three-party dialogue involving the sugarcane industry, trade unions and the federal government. It was designed to improve working practices beyond what current legislation already calls for. The industry itself has also introduced several programmes designed to enhance working conditions for sugarcane sector workers. One example is the "RenovAção" programme, the largest retraining program of sugarcane sector workers in the world, which will retrain manual cane cutters displaced by the total mechanization of the sugarcane harvest, expected to be completed by 2014.

**Proving compliance and certification**

To prove compliance with EU sustainability criteria, the European Union may celebrate bilateral and/or multilateral agreements, as well as accredit voluntary certification systems, provided they are in conformity with the verification standards and procedures set forth by the Directive. These must be accepted by all countries comprising the European Union, for the purpose of avoiding disproportionate administrative and financial costs, as well as promoting their compatibility with the rules of the World Trade Organization (WTO).

However, the current scenario the biofuels industry is faced with, characterized by multiple attempts to develop certification methods for different types of biofuels, is counterproductive and ends up discouraging investments. The possibility that many of these certifications may foster the implementation of trade barriers is a cause for concern, especially against developing countries such as Brazil – the world's second largest producer and top exporter of ethanol.

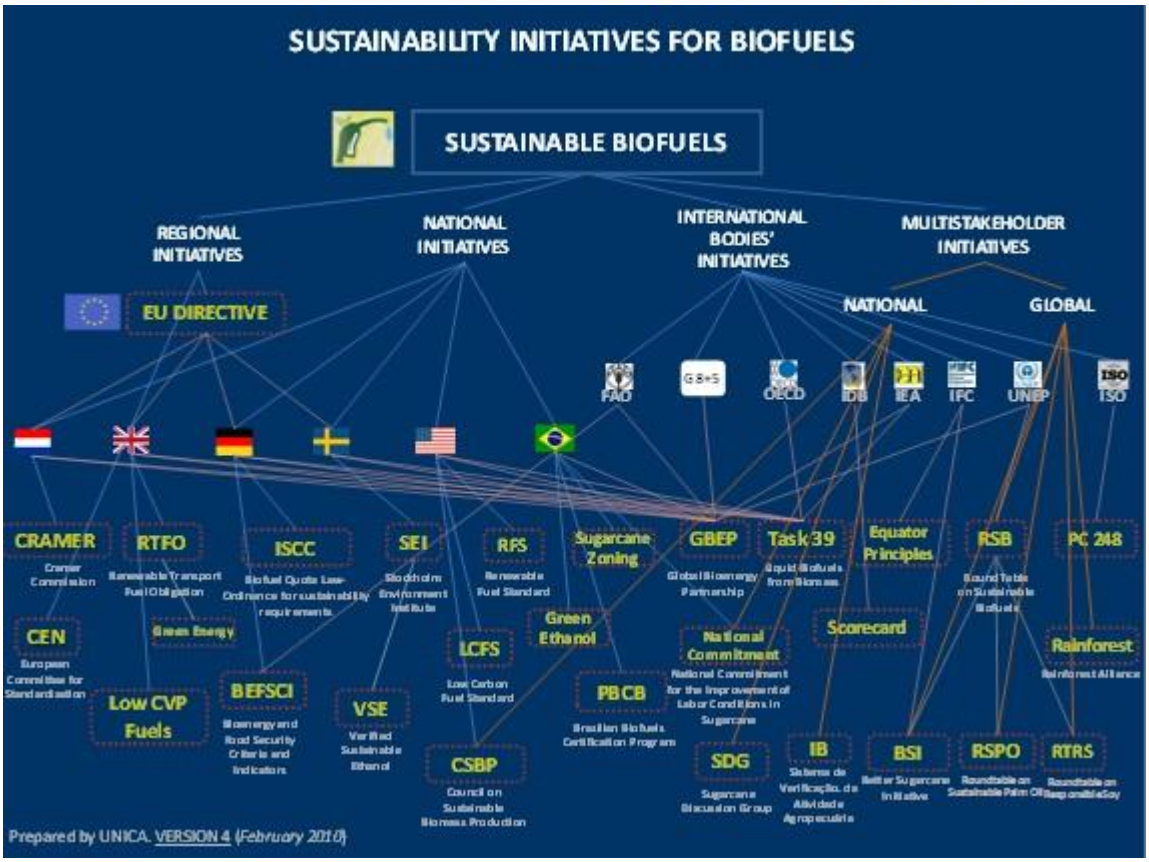


**Figure 2- proliferation of sustainability initiatives and corresponding certification schemes**

Faced with the proliferation of sustainability initiatives, some clarity is needed. Similarly, the delay by the European Union in defining these rules negatively affects the process of creating or adapting certification schemes aiming at complying with EU sustainability criteria.

In this myriad of sustainability initiatives and schemes, the Brazilian industry is actively involved in a crop specific scheme, the Better Sugarcane Initiative (BSI), which will enable the sugarcane industry to certify both its sugar and ethanol production. BSI members include sugar and ethanol producers, buyers and end-users, as well as civil society, represented by environmental and social NGOs. It's goal is to promote the sustainable production of sugarcane and its products by establishing principles and criteria which can be applied worldwide, developed by the contributions of different parties interested in the process. The BSI's current standard is organized around five principles, associated criteria and measurable indicators. It covers GHG savings, land use requirements and will soon be concluded with practical implementation elements (Chain of Custody), once these are decided at EU level. The road will then be paved for BSI to seek official recognition towards the EU requirements – while going well beyond what the requirements will call for.

**Conclusion**

Voluntary certification systems can be established through processes involving several interested parties (multi-stakeholder process) or through bilateral business-to-business negotiations. In both cases, standards are agreed upon by participants, as well as through a verification and monitoring system, which must be developed to meet intended objectives. In the case of de facto mandatory certifications, these are incorporated into legislation and compliance becomes a pre-condition for market access.

A major portion of these systems is still being developed and the practical implications, as well as required structures and inherent costs, are therefore still largely unknown. Certifications schemes are an important tool to not only guarantee certain characteristics of the product, but also differentiate between products. As is the case with the Better Sugarcane Initiative, such efforts should be aimed at fostering best practices and seeking continuous improvement, which in the end should favour the use of the certified product.

*Published originally in the February 2010 edition of Sugar Industry / Zuckerindustrie magazine.*

*Chief Representative of UNICA in the European Union*