



## **Ethanol at the crossroads**

**By Marcos Jank**

The year 2012 will go down in history as a turning point for the Brazilian sugarcane industry. Decisions and attitudes that prevail now will be crucial for the results, or consequences, that we will see as we move forward.

The point of departure is clear for the business community, governments and consumers: the industry needs to return to an accelerated growth rate of around 9% per year, as had been the case up until the 2008 global financial crisis, which affected more than a third of the industry. Subsequent productivity losses resulting from severe weather problems, marked increases in production costs and the loss of competitiveness in the domestic ethanol market are factors that explain the reduced supply and today's ethanol prices for consumers, which are not always competitive.

To catch up with demand, which continues to rise rapidly, UNICA estimates that it will be necessary to more than double Brazilian sugarcane production by 2020, moving from the current production level of 555 million to 1.2 billion tons per year. It's an ambitious target that will bring with it significant repercussions for the entire production chain.

New mills feature the latest technology and are established fully mechanized and equipped with high efficiency boilers, ready to co-generate bioelectricity. UNICA estimates that 11,000 tractors, planters and harvesters will have to be acquired, along with 10,000 new trucks. 350,000 new jobs will be created directly and 700,000 indirectly, with up to 25,000 workers trained each year. One-third of these workers will be in upgraded field activities like mechanized harvesting, as it gradually replaces and eventually eliminates manual cane cutting.

Technological advances that could become viable in coming years will allow for not only traditional ethanol production from sugarcane juice, but also cellulosic ethanol to be produced from the sugarcane straw and bagasse, the fibrous material left after stalks of sugarcane are crushed to extract the juice. The transformation of cellulose into simple sugars for the production of second-generation ethanol will push average production from the current 7,000 to 12,000 or more liters per hectare.

With the projected expansion, sugarcane industry revenues are expected to rise sharply from the current US\$48 billion to some US\$90 billion per year. Exports, already an important component of the Brazilian trade surplus, will increase from US\$15 billion to US\$26 billion, while the reduction in CO<sub>2</sub> emissions because of ethanol use in vehicles plus bioelectricity, already at 46 million tons per year, will reach an estimated 112 million tons annually by 2020. Reduced emissions bring significant gains for public health, with fewer hospitalizations and deaths from respiratory and cardiovascular diseases.

This new leap, the greatest in the history of the Brazilian sugarcane industry, will require investments of about US\$85 billion and the construction of 120 greenfields by 2020. But success will depend in large measure on stable and consistent public policies that make the recovery of domestic market competition possible, among other aspects. This aspect has been lost largely because of the tax relief granted to



gasoline prices by the federal government in recent years, while the tax load on ethanol remained unchanged.

Since 2002, the average tax burden on gasoline has dropped from 47% to 35% of the price at the pump. This practice allows Petrobras to raise prices at refinery level without affecting consumer prices, creating artificial price stability. Increases in world prices for a barrel of oil are not taken into consideration, leading to significant losses for Petrobras that have been discussed in detail in recent reports in major media outlets.

While taxes on gasoline have been cut, the average tax load on ethanol has not changed from 31%. The 4% difference in tax burden between gasoline and ethanol prices at the pump actually disappears when the energy content of ethanol, about 30% below that of gasoline, is considered. Considering the amount of tax paid per kilometre driven, ethanol users are actually collecting more tax than gasoline users in most of Brazil, the exception being the state of São Paulo, where the ICMS on ethanol - the tax on goods and services collected in every state at varying levels - is half of that collected in most other states.

It's important to highlight that the sugarcane industry does not advocate for an increase in gasoline prices at the pump. Rather, the industry calls for policies that recognize the many benefits of biofuels as is the case throughout the world, including significant reductions in the tax burden on ethanol, along the lines of what has already been done for gasoline. In addition, measures that incentivize greenfields and bioelectricity expansion would be of great importance. Financing from the National Social and Economic Development Bank (BNDES) for crop renewal and ethanol storage, announced in late 2011, is a positive step that requires important complements.

The sugarcane industry is ready to make the necessary investments to expand sugarcane production, reduce costs and maintain its role at the center of the world's most successful large-scale project to replace fossil fuels with renewable fuels. In coming months, the federal government and the cane industry will determine whether the story to be told about Brazilian ethanol in the future will be one of a continuing Brazilian success story, praised worldwide as an example worth following, or the story of a fantastic opportunity that was squandered.

*Article published originally in Portuguese, in the March edition of the Brazilian [magazine Opiniões](#).*

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