

# BRAZIL - Brazil Aims to Dominate World Ethanol Market

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*IPS - Brazil is working towards producing enough ethanol to substitute 10 percent of the gasoline consumed worldwide within 18 years. That would mean increasing its current production of 17.3 billion litres a year by a factor of 12, without sacrificing forests, protected areas or food cultivation.*

The government called on a group of experts to study the possibilities and impacts of a sharp increase in fuel alcohol production from sugarcane.

The group led by the Interdisciplinary Group for Energy Planning of Campinas University, and coordinated by physicist Rogério Cerqueira Leite, concluded that Brazil could produce 205 billion litres of ethanol by 2025. A comparable volume will be produced by the rest of the world, predict experts.

By then, the global demand for gasoline will reach 1.7 trillion litres a year, with a 48-percent increase predicted over two decades. In addition to 10 percent of that volume, Brazil will have to produce ethanol for its growing internal market. The country already has 2.6 million vehicles that run on this fuel alcohol, with the addition of two-thirds of the new cars manufactured here, which total more than two million a year.

Increased ethanol production is essential. The experts' report says there will be a 40-percent hike in output per hectare of sugarcane through a new technology based on hydrolysis. The United States and Brazil agreed to cooperate in developing this approach during the Mar. 8-9 visit by President George W. Bush in Sao Paulo.

Potentially, hydrolysis, which can take advantage of any cellulose material, could double productivity, but the goal was set at 40 percent based on known technologies and because part of the sugarcane waste (pulp and straw) is used in generating electricity, not ethanol, explained Carlos Rossell, a researcher with the group.

This technology involves some complicated challenges, such as breaking down very tough plant structures, which will require a great deal of effort to make it viable on an industrial scale, Rossell told Tierramérica.

U.S. and European scientists are farther along in this research and benefit from much bigger investments, but Brazil has the advantage of the immediate availability of the sugarcane, ready to be processed. The others will have to go into the fields to bring in the stalks and other bio-material, mostly from maize, with additional costs, he said.

For the same reason, the expertise that can come from the United States, whose ethanol production is based on corn, doesn't resolve the Brazilian problem. The raw materials are different, the researcher said.

Brazil and the United States, the world's two leading producers of biofuels, agreed also to cooperate in developing an international market for these products, despite being in opposite situations.

Brazil is preparing to turn its 32-year experience with fuel alcohol into massive exports, while the United States will have to rely on massive imports of ethanol inputs to achieve its goal of cutting gasoline

consumption 20 percent by 2017.

For now, the United States produces a little more ethanol than Brazil does, but production costs are 40 percent higher, according to industry leaders in Brazil. The U.S. tariff barrier of 54 cents on the dollar per gallon (3.8 litres) did not prevent the northern giant from importing 1.6 billion litres of Brazilian fuel alcohol last year, when increased demand drove up maize prices.

In addition to destabilising the international market, increasing maize prices and soybean prices (the former's replacement for animal feed), U.S. ethanol is hardly environmentally efficient.

Each unit of energy used in U.S. ethanol production generates just 1.3 to 1.8 units of renewable energy, while sugarcane reaches a minimum of 8.3 units. As such, U.S.-produced ethanol does little to curb emissions that cause climate change, which, along with high-priced petroleum are the main reasons biofuels are being promoted.

In Brazil, ethanol also faces limitations. Peasant farmer movements and many social activists condemn the growth of agro-energy that hurts food production. Environmentalists fear further expansion of the farm frontier into Amazon forests, especially as land prices increase.

Fuel alcohol production has "negative environmental, social and economic impacts for the communities," it generates few jobs, and "consumes a lot of natural resources — each litre of ethanol requires 30 litres of water," criticises Temístocles Marcelos, environmental policy director at the labour union CUT. In the southern city of Ribeirao Preto, capital of sugar and alcohol production, today there are more prisoners than rural workers, he told Tierramérica.

The experts' study, however, points to the creation of five million new jobs if the ambitious production plan is implemented.

The Brazilian experience is of concern "because of poor management," Délcio Rodrigues, energy specialist with the environmental group Vitae Civilis, told Tierramérica. "The government doesn't take action to contain the damages from monoculture, local governments authorise inappropriate projects out of short-term interests, and official agencies are not capacitated to regulate the sector."

In Sao Paulo state, home to more than half of Brazil's ethanol production, 60 percent of the sugarcane fields are burned in order to facilitate cutting, polluting the air and causing a number of illnesses. The sugarcane industrialists are also accused of subjecting their workers to unhealthy and exhausting work conditions, which, according to reports, have also led to death.

Labour relations comply with the laws, and the trade unions operate freely, Fernando Moreira Ribeiro, secretary-general of the Sao Paulo Sugarcane Industry Association, told Tierramérica.

The burns are also legal, and are to be abolished by 2020, he said. The solution would be accelerated if cellulose ethanol production were further advanced, because it uses sugarcane leaves.

Furthermore, ethanol benefits all of humanity by reducing carbon dioxide emissions. Its incorporation into Brazil's national energy matrix and its international marketing — which should be unrelated to that of petroleum — "depends only on political will," said Ribeiro.

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