

## CASE STUDY: UNICA

### **Introduction**

Unica, which stands for the São Paulo Sugar Cane Agroindustry Union, represents the sugar cane, sugar, and alcohol business areas in the state of São Paulo, Brazil. Unica was created in 1997 and is the successor to several sectorial organizations in São Paulo. The union's president is Marcos Jank.

In addition to serving as a representative for producers, Unica compiles statistics on the Brazilian sugar cane, sugar, and alcohol markets, and advocates for open foreign markets for sugar and alcohol. Unica's members are responsible for over 60% of Brazilian production of these goods. More than 100 production units are Unica associates, including traditional sugar exporting groups.

### **Theme**

Unica's success, particularly with regards to ethanol production in international markets, relies on its ability to effectively address environmental concerns about biofuel production and to break down protectionist trade barriers in nations such as the US.

### **Internal Factors**

Two countries – Brazil and the US – are the world's largest fuel-ethanol producers and consumers, and currently represent 85% of demand. Brazil is the international leader in sugarcane, sugar, and ethanol production—industries that have been bolstered by recent high fossil fuel costs and rising demand worldwide:

Sugar-cane	387 million tons	#1 in world
Sugar	26.6 million tons	#1 in world
Ethanol	15.4 billion liters	#1 in world
Energy	9.7 terawatts/h	3% of the electric power generated in Brazil

Source: Unica, 2004-5.

Brazil exported about 3.9 billion liters of ethanol in 2006, but it consumed more than three times that domestically. Exports are not expected to grow much in the near term compared with domestic consumption. Still, the exportation of Brazilian ethanol to the U.S. reached a total of US\$ 1 billion in 2006, an increase of 1020% over 2005 (US\$ 98 million).<sup>1</sup> Overall, however, fuel-ethanol consumption is very small, representing only about 2.5% of current gasoline consumption worldwide (Unica, 2004).

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<sup>1</sup> Lovins, A.B. (2005). *Winning the Oil Endgame*, p. 105.

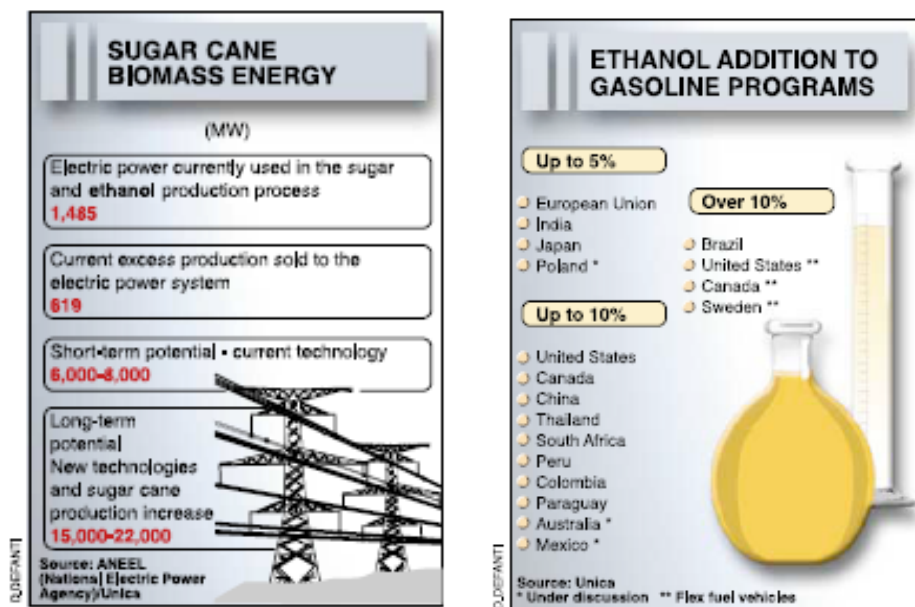
Within Brazil, the state of São Paulo produces 60% of all the sugar and is responsible for 70% of Brazilian exports. São Paulo also generates 61% of the Brazilian alcohol production, which has produced savings in foreign currency for the last 22 years, representing an average of 1.8 billion US dollars per year. In order to generate electricity from sugar cane, the producers from São Paulo employ about 400,000 people – 40% of rural employment in the state. São Paulo also benefits from the lowest sugar production cost in the world.

Unica’s activities are guided by the following principles:

- Improvement of the sugar cane agribusiness self-management system in a free market
- Care for the ethanol and sugar industries’ competitive conditions
- Expansion of the free market for sugar and struggle against protectionist barriers
- Dissemination of fuel ethanol production and use worldwide aiming to turn the product into an environmental commodity.
- Support to production diversification in sugar cane producing countries through the inclusion of ethanol in the production cycle.

### External Factors

The Brazilian ethanol market has been characterized by strong growth in recent years, driven in part by international requirements and incentives to use ethanol for transportation purposes.



Unica's ethanol production has also been helped by three important incentives provided by the Brazilian government: 1) guaranteed purchases by the state-owned oil company Petrobras, 2) low-interest loans for agro-industrial ethanol firms, and 3) fixed gasoline and ethanol prices where hydrous ethanol sold for 59% of the government-set gasoline price at the pump. In recent years, the Brazilian untaxed retail price of ethanol has been lower than that of gasoline per gallon.

### *Environmental Concerns*

Despite the impressive growth of the ethanol market, recent studies have cast doubt on the environmental benefits produced by biofuels including sugarcane-based ethanol. These studies highlight environmental risks including the conversion of different ecosystems into farmland and the potential negative impacts of production processes, which lead to soil depletion, emissions, and water use and contamination. Some studies also argue that biofuel production can displace crops of pasture from current agricultural lands, indirectly causing emissions release via conversion of native habitat to cropland elsewhere.

A February 2008 study conducted by The Nature Conservancy and the University of Minnesota, entitled 'Land Clearing and the Biofuel Carbon Debt,' argues that converting rainforests, peatlands, savannas, or grasslands to produce food-based biofuels in Brazil, Southeast Asia, and the United States creates a 'biofuel carbon debt' by releasing 17 to 420 times more carbon dioxide than the annual greenhouse gas reductions these biofuels provide by displacing fossil fuels.

In response to these types of studies, Unica President and CEO Marcos Jank, counters that misleading and incomplete information often surfaces when Brazilian ethanol, produced from sugarcane, is lumped together with less efficient biofuels produced from non-sustainable sources. "Biofuels can be produced from various feedstocks, and they are not all the same," Jank says, emphasizing that ethanol from sugarcane produced in Brazil is widely recognized as the most efficient in terms of reduced greenhouse gas emissions, improved energy balance, and lower production costs. He points to a report entitled "Sustainable Biofuels: Prospects and Challenges," released by Britain's Royal Society in January 2008, which concludes that each biofuel must be evaluated on its own merits.<sup>2</sup>

Unica disputes that ethanol production leads to increased greenhouse gas emissions. Instead, the union claims that the renewable energy contained in ethanol is 8.3 times greater than the fossil energy that is used to produce it and that the result is a 13 percent cut in emissions of greenhouse gases from Brazil's entire energy sector. In fact, Unica argues that the replacement of gasoline with ethanol has prevented emissions of 27.5 million tons of carbon dioxide in Brazil (2003).

Brazil's ethanol industry also insists that biofuel production does not threaten food supply, but rather food price increases are caused by currency fluctuations, increased

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<sup>2</sup> <http://www.reuters.com/article/pressRelease/idUS223945+16-Jan-2008+PRN20080116>

demand in India and China, the climate change phenomenon, and higher gasoline prices. Furthermore, it argues that biofuels are typically not grown on rainforest land or land used to grow food.

### *Trade Barriers*

Aside from environmental concerns, trade barriers, particularly within the US, have prevented Unica from reaching its full potential in international markets. The United States currently imposes a 54-cent import tariff on Brazilian ethanol, and other key consumers such as Japan and the European Union impose similar tariffs.

Participating in Reuters Global Biofuel Summit, Eduardo Pereira de Carvalho, former president of Unica, referred to the lack of cooperation between the United States and Brazil, lamenting that "we are the world's two biggest producers of ethanol and we aren't working together. Instead, it never ceases to amaze me, we are still considering the shift from oil to renewables through a 19th Century protectionist model."<sup>3</sup>

In order to facilitate international harmonization of fuel-ethanol policies, which would enable the product to actually become an energy commodity and be as easily traded as gasoline or diesel, Unica argues that three principles need to be adopted in a coordinated effort:

1. All fuel-ethanol import prohibition or limitation because of flat quotas should be substituted by agreements which would allow imports under more flexible but clear conditions;
2. High fuel-ethanol import tariffs should be substituted by lower tariffs than those adopted for fossil fuels import given the low-pollution and renewability qualities of the product;
3. Subsidies should be progressively phased-out in order to promote production efficiency and fair market competitiveness.

Thus far, Unica has not been able to overcome the powerful corn lobby in the US, which advocates for domestically produced corn-based ethanol over foreign imports.

### **Conclusion**

Despite environmental and trade obstacles, Unica's production is likely to continue to remain strong, with Unica estimating that domestic ethanol demand will likely triple in six to seven years. Unica cites that the production cost for the more effective mills in the Center-South region is competitive with the cost of gasoline without additives produced from oil at US\$ 25/barrel. As flex-fuel engines, which use ethanol, gain in popularity, the demand for ethanol in Brazil will grow accordingly. In fact, sales of new cars and

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<sup>3</sup> <http://www.reuters.com/article/GlobalBiofuel07/idUSN1733381720070118>

other lightweight vehicles equipped with flex-fuel engines already represent 80 percent of Brazil's domestic market.

The Brazilian government continues to show strong support for its biofuel industries, and Unica in turn, has acted cooperatively to ensure that environmentally responsible policies are instituted. In June 2007, Unica signed an agreement with the state government in which mills were required to ban sugar cane burning in the state by 2017, well before 2031 target mandated by a state law. Investment in ethanol is also thriving; Unica estimates that \$15 billion is currently being invested in cane milling capacity in Brazil.

While prospects for domestic growth are promising, Unica must continue to improve its technological efficiency and its ability to address international concerns about the environmental effects of ethanol production. In addition, until it is successful in breaking down trade barriers, particularly in the US, Unica will fail to fully penetrate the international market.

### **Sources**

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