

CASE STUDY: COSAN

Introduction

Based in Brazil, COSAN is the world's second largest producer and largest exporter of ethanol. The company is also one of the largest producers and exporters of sugar. In August 2006, COSAN held an initial public offering, raising over \$1 billion. The IPO, along with additional shares, have allowed it to continue to acquire new processing facilities and plantations. The annual ethanol capacity of COSAN is nearly 1.3 billion liters, about 8.2% of the total Brazilian production. The bulk of COSAN's ethanol production is consumed domestically, due to both high internal demand and restrictive export markets. COSAN currently exports about 23% of its ethanol production, primarily to export and import companies, which distribute products in the US, Japan, and Europe. For the 06/07-crop year, COSAN had net revenue of R\$3.6 billion and employed 35,000 people directly.

Theme

COSAN demonstrates the potential for ethanol as a realistic replacement for gasoline. In Brazil, favorable government policies have encouraged sugarcane based ethanol production and the adoption of flex-fuel technology. High gas prices, concern over global warming, and a global boom in sugar production has led to the explosion of the Brazilian biofuel market. However, concern for the safety of workers, commodity price risk, and import tariffs imposed by the US and the EU may limit its potential. While COSAN is making strides to enter the international market, its overall success will depend on further trade liberalization and access to markets as well as sustained demand for ethanol over other fuels.

Internal Factors

COSAN is the Brazil's largest ethanol producer (second largest in the world), and the world's largest ethanol exporter. It is also one of the top three global sugar producers, and the second largest exporter.

COSAN can trace its roots back to a single mill that began operating in 1936. For 50 years it confined its production to the single plant, before embarking on a new strategy of expansion and acquisition. It currently operates 17 mills, two refineries, two port facilities used for exports, and several warehouses. COSAN uses the waste product from sugarcane production to fuel its plants, and is exploring more widespread electricity generation from the by-products.

According to its annual report:

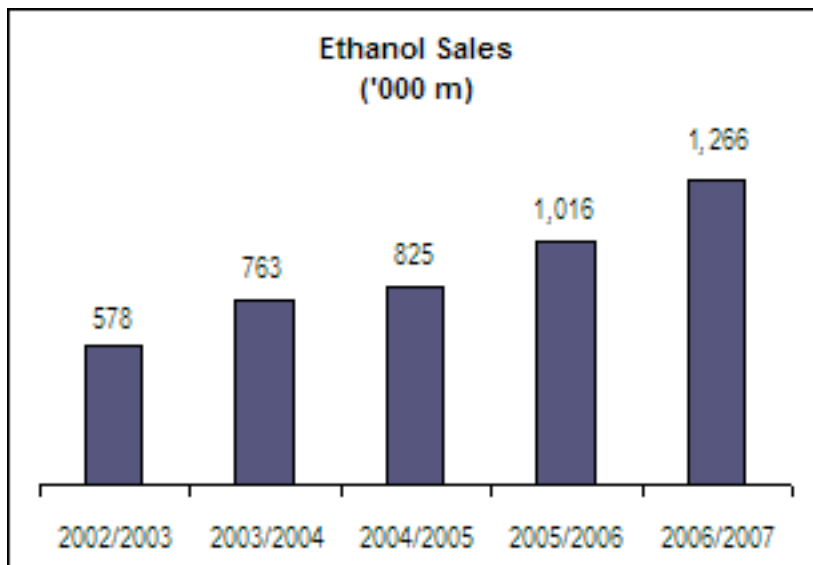
COSAN is focused on achieving sustained growth, keeping costs competitive and building on competitive strengths in order to maintain its leadership in the international and Brazilian sugar and ethanol markets. The Principal components of this strategy are to:

- Expand its presence in the international sugar and ethanol markets
- Take advantage of the broader use of ethanol as a fuel
- Pursue selected growth opportunities in sugarcane by-products

On August 14, 2007, COSAN had an Initial Public Offering, raising about \$1 billion. Although this was about half of what the company had originally anticipated, it has been able to use the cash raised through the IPO and additional shares sold to fund its expansion efforts. COSAN currently controls about 10% of Brazil's sugar and ethanol market, and is looking to further expand. The sugar industry in Brazil is still highly fragmented, with more than 320 sugar mills and 100 company groups. Additional acquisitions are highly dependent on the price of sugar worldwide. COSAN has made few acquisitions since April 2006 due to rising sugar prices, which pushed up the cost of buying mills. However, the recent steady decline in sugar prices has made acquisitions more attractive, according to the CFO Paulo Diniz.

Advantages:

Because of its sugar and ethanol processing capabilities, the company can switch between products to meet market demand. The company expects to crush 45% of the 2007/08 crop into ethanol, up from 35% during the previous year.



Ethanol Sales in Liters

COSAN also can take advantage of co-generation at its sugar processing plants, using the bagasse resulting from the grinding process to fuel boilers used to generate steam. Energy produced is used to fuel the processing plants, with excess sold to the grid. In 2006, COSAN sold more than 32.5 thousand MWh.

Additional advantages, outlined in the company's investor relations report, include:

- Strategically located manufacturing facilities
- Leadership in the domestic and export sugar and ethanol markets.
- Experience in acquiring and integrating companies

Disadvantages:

Recent reports have linked lung disease to the grueling fieldwork done by the sugar cane harvesters. Although COSAN owns some of the fields, the majority of the sugar cane is purchased from independent growers, whose health and safety conditions are harder to verify. COSAN does drop cane suppliers that do not fix unsafe labor conditions, and has signed an agreement with the government ensuring that the plantations that supply its mills comply with Brazilian labor codes.

Additionally, ethanol production produces harmful emissions, and plantation owners usually burn their fields just before harvest to allow for easier access to the cane, which also sends up clouds of pollutants thought to increase asthma and respiratory disease.

In addition to these issues, net sales in the third quarter of 2006 were 29% lower than the same quarter the previous year. This was caused primarily by the depressed global sugar market and corrections in ethanol prices. As production is anticipated to keep rising, the prices are not expected to soon recover.

External Factors

Advantages

Brazil's support for biofuels

Although Brazil has long been one of the largest sugarcane producers in the world, large-scale ethanol production only began in 1975, when the government launched the Brazilian National Alcohol Program (PROALCOOL) to combat both the high price of imported oil and the declining world price for sugar.

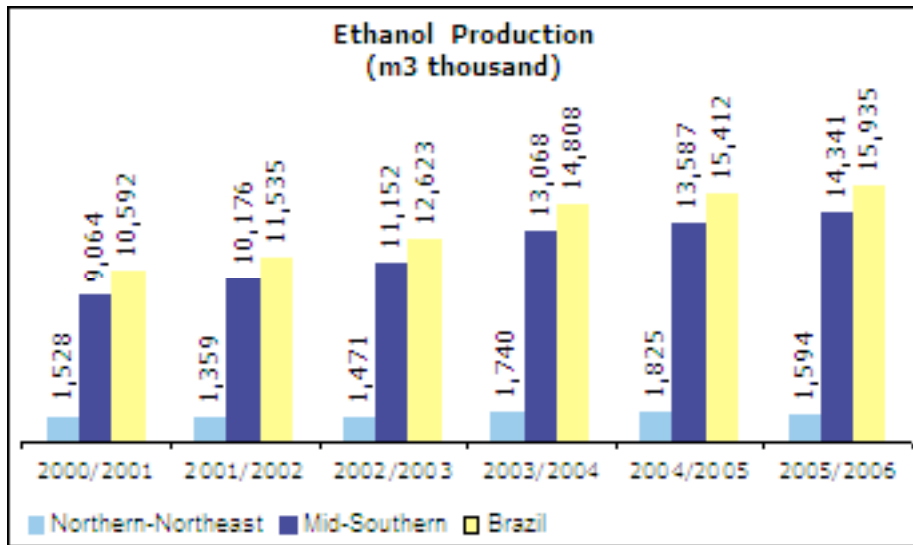
To promote ethanol, the government offered credit guarantees and low-interest loans for the construction of new refineries, purchased ethanol at favorable prices, and set gasoline prices higher to give ethanol a competitive advantage. In addition, Petrobras, the state-owned oil company, began investing in infrastructure for the distribution of ethanol. Brazil also mandated that all gas sold in the country contain at least 20% blended ethanol, and convinced automakers to produce cars that ran on 100% ethanol. As a result of these efforts, ethanol production increased more than 500% between 1975 and 1979.

With the decline in oil prices in the mid 1980s and the recovery of the global sugar market, ethanol production in Brazil stagnated. However, ethanol still provided a significant percentage of Brazil's fuel needs, and with oil prices once again rising, ethanol has become competitive with

regular gasoline, even without subsidies and price controls. Brazil's production costs for ethanol are the lowest in the world. Industry estimates the average cost to be at \$.80 per gallon, compared to between \$1.30 and \$1.90 in the US. In 2006, ethanol provided about 40% of all the transportation fuels in Brazil, a significantly higher figure than any other nation.

Growing Season

Another of Brazil's advantages is that it has two distinct crop periods. The northern-northeast region of the country harvests its crop between November and April, while the mid-southern region harvests during May-October. Thus, the country experiences greater crop balance and less fluctuation in supply.



Disadvantages:

Market Risk

The drop in world sugar prices over the last 18 months has impacted COSAN's profitability. Since World Trade Organization rules cut sugar exports from the European Union, Brazil and other countries around the world increased production to fill the gap. A production surplus caused the commodity price to decline, making it an unattractive market for investors. To manage the loss, COSAN is increasing the efficiency in its refineries, which allows it to be self-sufficient in energy use and sell up to two-thirds of the electricity produced back to the grid.

Trade Risk

COSAN's growth has also been limited by barriers to entry in developed markets, including subsidies, tariffs, and lack of retail distribution.

Tariffs on ethanol imports in the US and EU have significantly hampered COSAN's ability to market its product in the developed world. Although petroleum products like gasoline face no

tariffs, ethanol is subject to a 54-cent per gallon tariff in the US and 19 euro cent per liter (about 72 euro cents per gallon) in the EU.

Liberalization will likely only come into force as part of an overall agreement in the Doha round of trade talks, which would open up new export opportunities for developing countries, but have repeatedly stalled since their inception in 2001.

In December, Brazil accused the US and the EU of hiding a “biased and protectionist” agenda under the guise of environmental protection. The US and EU had offered to make green goods and services exempt from trade tariffs to increase the use of climate-friendly technologies such as solar panels and wind turbines. The list did not include ethanol and other biofuels.

Conclusion

The increasing demand for flex-fuel cars globally will also increase demand for ethanol. Brazil alone will add more than two million flex-fuel vehicles every year, fueling local demand for ethanol. Therefore, COSAN’s domestic market for ethanol will remain strong for the foreseeable future.

International prospects are less certain, however. COSAN expects that its ethanol exports will increase in the future. However, expansion of ethanol exports depends on factors outside of COSAN’s control, including trade liberalization, the establishment of new distribution systems, and the economic, political, and social conditions in its main export markets.

The US and Brazil recently signed a memorandum of understanding (March 9, 2007) to advance research and development of new technology and stimulate investment in other countries. The memorandum is the first step in opening up the US market directly to Brazilian biofuels, but a complete elimination of the tariff faces strong opposition in Congress. Brazil wants the WTO to fast-track tariff reduction on biofuels, and initiated a case against the US on the basis of its agricultural subsidies and import tariff on ethanol.

According to CFO Diniz, COSAN is seeking to become the first global renewable energy firm by investing in ethanol plants outside of Brazil. To achieve this, the firm is considering investing in an ethanol dehydration plant in the Caribbean or Mexico. Although the cost to dehydrate and re-export ethanol to the US is around \$.30 per gallon, these regions are exempt from a \$.54 gallon tariff on foreign ethanol imports through the Caribbean Basin Initiative and NAFTA, respectively. Adding a distillery that uses local cane to produce electricity could further reduce costs.

Finally, despite tariffs and other regulations, COSAN currently benefits from requirements in the U.S. and elsewhere that a certain percentage of ethanol be added to gasoline, and from the historically high gasoline prices that have increased international demand for flex fuel vehicles and blending requirements. However, lower gasoline prices or an increase in demand for natural gas and other fuels as an alternative to ethanol may lower demand for ethanol.

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