

## **Copersucar: A World Leader in Sugar and Ethanol**

Luís Pogetti looks out the window of his office located in the heart of São Paulo, Brazil, a city with 20 million people. He is executive president of the board of Copersucar, an ethanol and sugar company with 600 employees and almost US\$7.3 billion in sales. Luís notices the traffic jams across São Paulo and considers the amount of fuel being consumed. With almost 3.5 million new cars sold each year, there will be 50 million cars in Brazil by 2020.

Eighty-five percent of all new cars sold are flex-fuel<sup>1</sup>, which means that in 2020, 40 million cars will be capable of using ethanol or gasoline (or even both), depending on the consumer's choice based on economics and environmental issues. Copersucar, which currently creates 12 percent of the world's ethanol production, is the largest ethanol trader. In the future, how many of these cars will use ethanol, and how much ethanol will be needed? It's difficult to say, since ethanol consumption depends on the price of its major competitor, gasoline.

As Luís looks out at the traffic, so many questions run through his mind. Will ethanol be feasible as a worldwide commodity to be added to gasoline, increasing export opportunities? Will U.S. public policy allow the adoption of E15<sup>2</sup>, given the declining consumption of gas in the United States? Can E85<sup>3</sup> be a competitive, feasible alternative that breaks the blend wall? Will second-generation ethanol come to market using other biomass sources more competitive than sugarcane, Copersucar's basic source?

Copersucar is also the world's largest trader of sugar, a commodity that has worldwide consumption growth of 2 to 3 percent per year. Copersucar currently has an 11 percent market share, selling 7.8 million tons<sup>4</sup> and exporting 6.1 million tons in 2012.

---

<sup>1</sup> Flex-fuel cars in Brazil can use any mix of the E100 or gasoline (E25) sold in Brazilian gas stations.

<sup>2</sup> E15 contains 15 percent ethanol and 85 percent gasoline. This is generally the highest ratio of ethanol to gasoline that is possible to use in vehicles recommended by some auto manufacturers to run on E10 in the United States.

<sup>3</sup> E85, a mixture of 85 percent ethanol and 15 percent gasoline, is generally the highest ethanol fuel mixture found in the United States and several European countries, particularly in Sweden, as this blend is the standard fuel for flexible-fuel vehicles.

<sup>4</sup> 1 ton=2,000 pounds

---

This case study was prepared by Marcos Fava Neves, professor at the University of São Paulo, Brazil. The author would like to thank Copersucar and particularly Luís Roberto Pogetti, chairman, and Guilherme Patrus Mundim Pena, communications manager, for their assistance. The case is a basis for class discussion and represents the views of the author, not the university. No part of this publication may be reproduced or transmitted in any form without written permission from Purdue University.

Luís wonders what will happen to the sugar market by 2020. Will Asia continue to increase demand based on the consumption of industrialized products that use sugar? Will other countries be able to beat Brazil in sugar production costs and emerge as new world suppliers? How should he deal with the low prices and excess of sugar production of 2013-2014, given its effects on the cash flows and investment capacity of farmers and industries?

Copersucar's partner mills also produce energy (electricity) from biomass, and Brazil faces a growth in energy consumption of 5 to 7 percent per year. Energy from biomass at current prices and costs cannot compete with other energy sources in an institutional environment where the fact that biomass is a renewable and clean source is not valued in terms of taxes and prices. What will happen in the Brazilian energy context? How will regulations change by 2020? When it comes to electricity, should Copersucar act as a trading company for its partner mills?

Several other products are created from crushing sugarcane, and those are possible future investments. They include plastic (one-third of Coke's plastic bottles), diesel and jet fuel. What should Copersucar's role be in these developments and markets?

Luís sees many challenges when looking outside Copersucar at its major markets. But he faces challenges inside the organization, as well. How can he better manage an organization that has 24 groups of sugar mills as shareholders, owns 47 industrial units, was a cooperative until five years ago, but is now, after acquisitions in the United States and a subsidiary in Hong Kong, the world's largest trader of ethanol and sugar? How can he manage this complex organization to remain focused on creating, capturing and sharing value in logistics and commercialization?

## **Copersucar Business Model**

Copersucar is one of the world's most important and relevant organizations in the history of sugar production and trade. Established in 1959 by two other cooperatives, it initially focused on cane production, since sales were regulated by the government. The organization continued growing in the 1960s and 1970s and was also active in the creation of the Brazilian Ethanol Program (Proálcool), launched by the military government to reduce dependence on foreign oil.

Toward the end of the 1970s, Copersucar became a major supporter of the legendary Brazilian race car driver Emerson Fittipaldi (the 1972 and 1974 Formula One champion and the 1989 and 1993 Indianapolis 500 winner). Fittipaldi wanted to have a Formula One team, and Copersucar made it possible (Exhibit 1). Although the Fittipaldi/Copersucar team competed in 104 Grand Prix all over the world, they weren't able to beat Ferrari, Lotus, McLaren and other European teams.

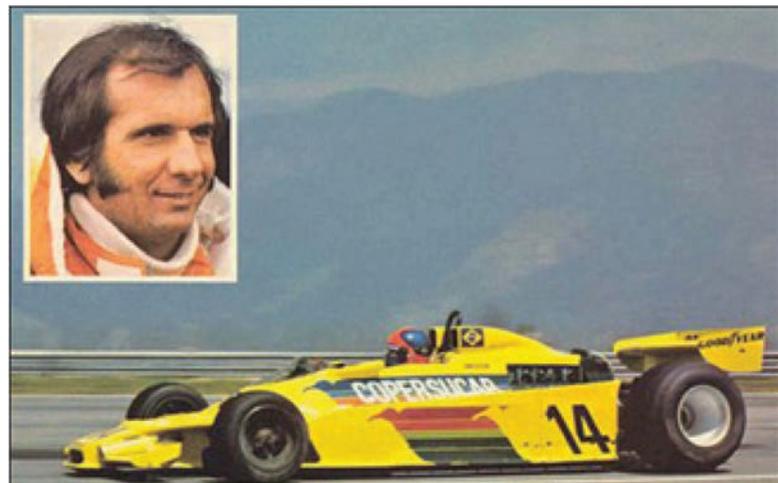
Through the 1980s and 1990s, most of Copersucar's growth took place as a normal cooperative, but in 2006, the company made a major change. They disinvested from some industrial and retail operations (mostly coffee and sugar, where Copersucar had the brand União, the leader in Brazilian retailing) and focused on logistics and chain coordination as a real trading company. This new strategy resulted in some challenges for the company's traditional cooperative model, such as management capacity and investment flexibility.

In 2008, the cooperative members created Copersucar S.A. to gain the flexibility to operate in national and international markets and to grow with new commercial strategies. In addition to cost reduction, the company also targeted world leadership in sugar and ethanol trade without losing the principles of the cooperative system.

As the company states: “The capacity to integrate all chain participants, from producers to the final clients using the company’s logistic capacity and partnership with its partner mills is the biggest differential of this business model.”

Within this new model, all 24 partner groups with their 47 industrial units are suppliers of Copersucar and also shareholders who sit at the executive board.

The board has 11 positions, including eight people from partner mills, two from independent sources, and Luís, the president. In general, it is a conservative board, consistent with the traditional profile of sugar producers.



**Exhibit 1.** In the 1970s, Copersucar sponsored Emerson Fittipaldi’s Formula One team.

This model respects each unit’s individuality in management and decisions, but makes Copersucar the unique buyer of its products, consolidating as a large sugar and ethanol originator. The model is difficult to replicate because of the partner mills’ long-term supply contracts, which guarantee origination. Investments are guaranteed by future production and storage flexibility. It also represents advantages over other consolidation movements since it involves lower capital needs, growing organically as origination increases.

### **Mission, Vision and Values**

**Mission:** Copersucar strives to create value by the vertical coordination of the sugar and ethanol chain in a sustainable way based on:

- Logistic capacity
- Differentiated trading operations: scale, relevance and reliability; decision making in physical and future markets; risk management; ability to arbitrage between products, channels and selling
- Operational excellence

**Vision:** To be the leader in the global supply of sugar and ethanol, with a share of 30 percent of the Brazilian production of sugarcane via:

- Having a significant presence in key global markets
- Supporting the client's success
- Being recognized as a global player
- Focusing on value creation

**Values:**

- Integrity: Transparent conduct in relation to business; observing good corporate governance practices in daily activities and relationships between employees, customers and shareholders.
- Respect: Conducts business with a commitment to respect people, society and the environment.
- Value creation: Establishes lasting business relationships, creating value for customers, shareholders, employees and partners.
- Operational excellence: Invests in continuous improvement of management, logistics and commercialization processes of sugar and ethanol.
- Sustainability: Creates value for shareholders and society, manages risk and seeks economic, social and environment development for current and future generations.

Before coming back to the Copersucar's business model, it is important to understand the basics of the sugarcane chain.

## **A Snapshot of the Sugarcane Chain**

“Sugarcane is the world's leading feedstock for energy production.”  
John Melo, CEO, Amyris<sup>5</sup>

Sugarcane originated in Asia. It is a perennial grass, a plant of the genus *Sacharum* and from the same family (Poaceae) as corn, wheat, sorghum and rice. It is the world's largest crop in production volume (approaching almost two billion tons), cultivated in about 25 million hectares<sup>6</sup> in more than 90 countries. The plant is the major sugar supplier to the world via the accumulation of sucrose in its nodes. It is a C4 plant, probably known as the most efficient photosynthesizer<sup>7</sup>. It is a plant of the tropics and subtropics since it doesn't tolerate low temperatures, and it has an economic cycle of six years. It is planted and harvested for the first time after 1.5 years, then harvested five more times (once each year). Production declines with each harvest, which compensates for the cost of replanting after five to six years.

---

<sup>5</sup> Speech at the Ethanol Summit, São Paulo, Brazil; Feb. 5, 2009

<sup>6</sup> 1 hectare= 2.47 acres

<sup>7</sup> The sugar beet is the second most important sugar producer, mostly in temperate areas.

Using FAO<sup>8</sup> data from 2011, Brazil leads world production with 734 million tons (30 percent of world production), followed by India (342), China (115), Thailand (95), Pakistan (55), Mexico (50), the Philippines (34), the United States (26), Australia (25) and Argentina (25). The world's average production is of 70 tons/hectare, and sugarcane can potentially yield up to 280 tons/hectare or even more.

One ton of sugar can produce about 70 to 80 liters of ethanol or about 140 kg<sup>9</sup> of sugar. Eighty-five percent of Brazilian production takes place in the South Central region of the country, where harvest starts in April and ends in November. The other 15 percent is produced in the North-Northeastern region, where harvest lasts from September until March.

Besides producing sugar and ethanol, the remnants from production (bagasse, a fibrous matter that remains after sugarcane is crushed to extract their juice) are used as biomass in boiler systems, supplying energy to the mill while the surplus is sold to the network. One ton of bagasse can produce up to 300 kilowatt hours of electricity.

The sugarcane chain consists of many links: the input suppliers; the producers of sugarcane; processors of sugar, ethanol and derivative products; distributors and traders; and final consumers; as well as service providers for research, technical assistance and finance; transportation; commercialization and exports. These links and activities build a network around the mills (Exhibit 2).

Probably the most complex operation is the supply of sugarcane, which accounts for almost 70 percent of the mill's production cost. Mills have different forms of governance: long-term contracts, vertical integration and the spot market. A trend toward contractual relations can be observed. Mills were originally built and operated by farming families and are now owned by oil companies, trading companies and others who tend to exit agricultural activities since agriculture is not part of their core business.

Looking at the chain, the food industry and others who use sugar, along with the fuel distribution systems, come after the mills. It is easy to see Copersucar positioned in the network, since it is a sugar and ethanol trader.

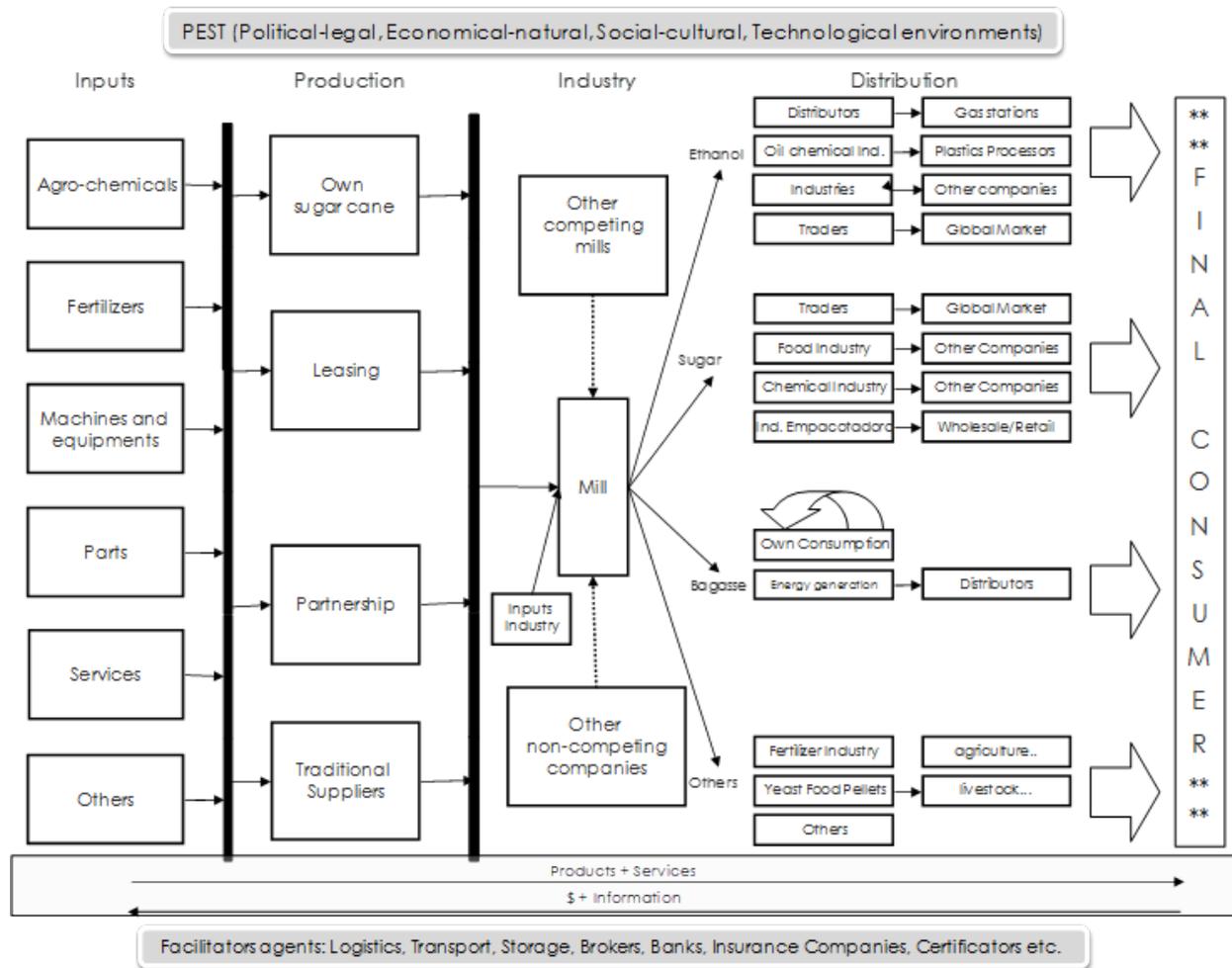
Previously, sugarcane was burned before being harvested, a practice that created several environmental problems. But now, the majority of cane production is harvested by combines and no longer burned, which creates more biomass. When considering production, cane ethanol emissions are about 10 to 15 percent of total gasoline emissions.

Sugarcane is the most efficient plant that produces ethanol, generating 9.3 times the amount of energy consumed during production.

---

<sup>8</sup> Food and Agriculture Organization of the United Nations

<sup>9</sup> 1kg= 2.20462 pounds



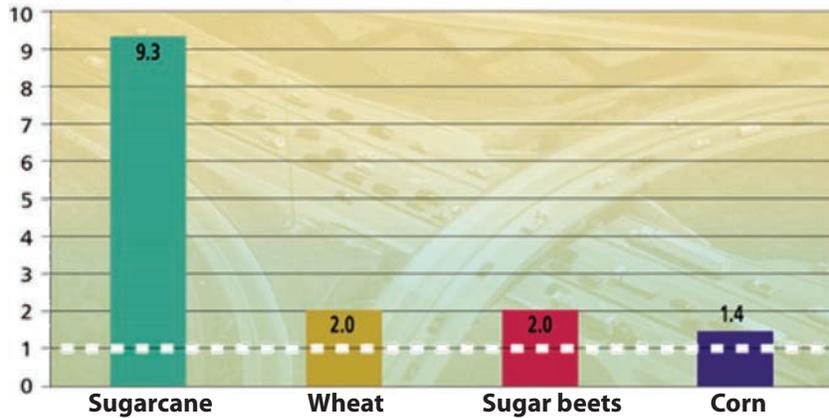
**Exhibit 2. The Sugarcane Chain**  
Source: Author

Cane production costs are increasing in several parts of the world, notably in Brazil. Sugarcane is heavy and needs to be planted close to processing plants; however, land in these areas has become very expensive. Increasing the efficiency of sugarcane production is a major challenge. The Brazilian government and the private sector are investing billions of dollars to generate production innovations. The hope is that these innovations will allow the growth and cost reduction that would make it possible for ethanol to compete with oil, shale gas and other energy sources.

### **Copersucar as an Originator of Sugar and Ethanol**

Copersucar's major activity is sugar and ethanol trade based on large scale and logistic assets that integrate the supply chain. More specifically, Copersucar has exclusivity deals to sell the products of 47 partner mills and also buys from 50 other independent sugar mills. Almost 100 of Brazil's 430 units have their sugar traded by Copersucar.

This brings a unique position in the supply chain, since Copersucar's production units are spread all over the cane production area, and this regional diversification reduces risks and makes it possible to face the climate variations and sugar production variations that affect the amount of supply. (Exhibit 3).



**Exhibit 3. Energy Balance by Crop Type**

Note: Estimated data represents the amount of energy contained in ethanol per unit of fossil fuel input

Source: World Watch Institute (2006) and Macedo et. al (2008), compiled by Unica

The benefit for Copersucar is to guarantee supply so that the company can focus on logistics, sales and risk management, and on creating, capturing and sharing value. Copersucar's access to so much sugarcane creates barriers for competitors and gives Copersucar a competitive, sustainable advantage, guaranteeing stable supply contracts to international clients. Since industrial and agricultural risks are taken by its members, Copersucar can focus on its core business.



**Exhibit 4. Location of the Units in Brazil**

Source: Copersucar

Copersucar has to offer profit margins above the market via financial management and operational excellence. Working with Copersucar allows its partner mills to outsource all commercial activities, like logistics, market intelligence and marketing channels, focusing on the production of sugar, ethanol and its by-products.

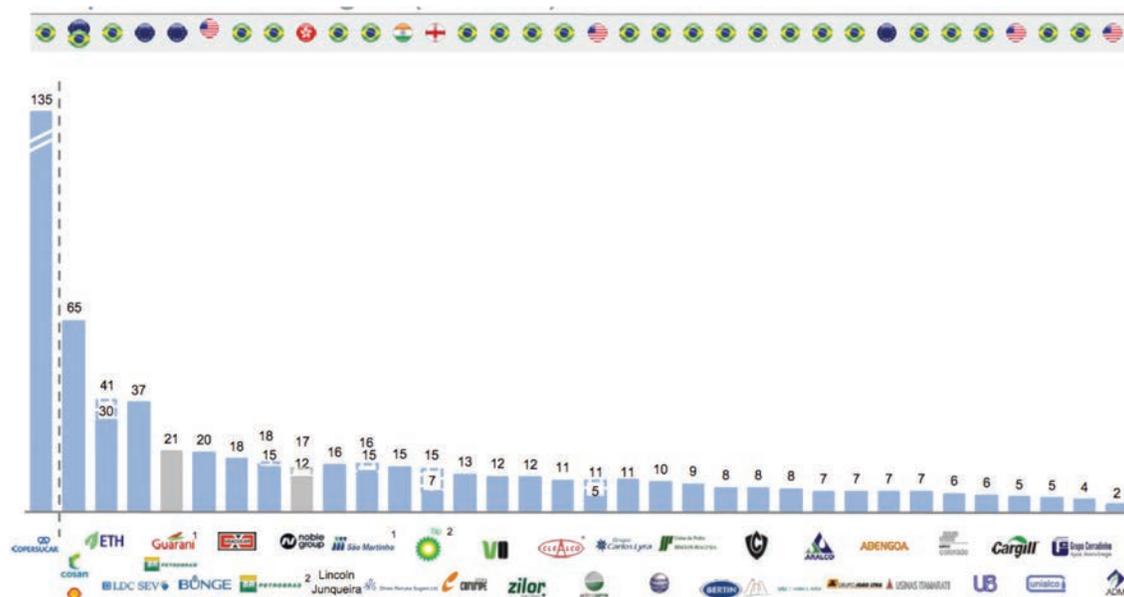
Partner mills don't need to maintain a commercial and risk structure or worry about market price guarantees. This allows Copersucar's shareholders to specialize in the production of sugarcane.

Copersucar's process of buying sugar and ethanol from the partner mills deserves clear understanding due to its uniqueness and advantages:

- Partner mills are associates of the cooperative and own 100 percent of Copersucar. The management team of the cooperative and Copersucar are the same.
- All of the partner mills' sugar should be sold to the cooperative, and 100 percent of the cooperative's sugar is traded by Copersucar.
- As soon as a partner mill produces, it delivers the sugar to the cooperative. The same contracts are applied to all partner mills, the same market prices are paid and there are no differences in the quantity purchased. Prices are the same for all partners. Price is based on current sugar prices for the specific sugar type, plus a fidelity premium of 2 percent. This means that all partners receive a price 2 percent higher than current prices. Partner members receive their payments equally each week. This brings another advantage of cash flow management. If, in a particular year, a partner mill produces and sells US\$52 million worth of sugar, the partner mill will receive US\$1 million each week.
- The sugar sold may stay in storage with partners, be moved to Copersucar storage or be moved directly to clients. The cooperative allows this flexibility of retention and storage, which improves logistic optimization. Copersucar can sell sugar to a Nestlé factory and ship it from its inventory at the closest mill. Copersucar only has to pay for storage if it uses more than 67 percent of the specific partner's sugar production capacity and 53 percent in the case of ethanol.
- The cooperative also allows for specialization without losing focus. If one of the partners is better at producing a specific type of sugar, it is able to produce that sugar. In the end, the cooperative provides a balancing of cost adjustments.
- Copersucar pays taxes only at the end of the process, when the sugar is sold to final clients. The intermediary processes, from partners to the cooperative, do not pay taxes. This also brings benefits to cash flow.

Copersucar is the largest player in Brazil and operates in a quickly consolidating international industry (Exhibit 5). Some competitors like Dreyfus, Bunge, Noble and Cargill are multi-product trading companies. Guarani is owned by the French Farmers Cooperative Tereos, very active in sugar beet production in Europe. Cosan is partially owned by Shell, and advanced to the ethanol distribution channels in Brazil, owing logistics and gas stations. São Martinho is also operating in cane diesel and other innovations. Some companies have refineries and distribute their own sugar brand at Brazilian retail. Strategies are diverse amongst the major players.

Copersucar is performing well as its cane-crushing capacity moved from 72 million tons in 2007-2008 to an expected 130 million tons in 2013-2014 (Table 1).



**Exhibit 5.** The Consolidating Sugar Industry in Brazil (in million tons of cane crushing)

Source: Alexandre Figliolino — Itau-BBA

	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Members	68.0	74.0	82.2	84.8	94.8
Outside	04.0	11.5	14.4	24.5	19.4
Total Cane	72.0	85.5	96.6	109.3	114.2

**Table 1.** Million Tons of Sugarcane Crushed under Coordination of Copersucar

Source: Copersucar

Before choosing Copersucar as their trader, companies typically consider competitors’ offers and the “make-versus-buy” option. This is why Copersucar must perform better and constantly innovate to offer benefits of the “buy” decision, the decision to use Copersucar. Member companies, as well as Copersucar’s independent suppliers, always have one question in mind: Would I perform better and cheaper than Copersucar? One of the most important participants, Clealco, with 7 percent of Copersucar shares, left the group in 2013, complaining about trading prices. Table 2 lists all of Copersucar’s participants and shares.

Besides reducing costs for its partner mills, Copersucar’s other challenge is to gain new partners and to operate as the originator of other groups to increase asset utilization, turnover and other financial performance indicators.

### Copersucar as a Logistic Operator and Trading Company

Copersucar has to outperform as a logistic operator and trading company. This is its core business, and sugar and ethanol are commodities with high transportation costs when compared to their value, so any cost difference here is significant.

Logistic assets include a storage capacity of 2.5 million tons for sugar and 3 billion liters<sup>10</sup> of ethanol, internal logistics (contracts for using trains), pipelines for ethanol (as one of the partners of Logum Logistica) and export logistics (vessels and transport companies — Copa Shipping).

Copersucar has long-term contracts with train system operators in Brazil that carry sugar toward Santos Port. Using trains allows Copersucar to save 70,000 250-mile truck trips. Copersucar’s goal is to move 70 percent of its sugar via rail systems by 2015.

It is estimated that by 2015, Copersucar, as well as other companies and government institutions, will have invested US\$1.5 billion<sup>11</sup> in logistics, making it possible to bring sugar transport costs down from US\$50 to US\$42 per ton.

Together with other companies, Copersucar is participating in the Logum Initiative, an 800-mile pipeline that will carry ethanol from the producing regions to the port (Exhibit 6). The first phase, with 200 miles already operational in 2013, has made it possible to take ethanol from Ribeirão Preto to the petrochemical cluster of Paulinia (a distribution hub of fuels in Brazil) and then to Santos Port. This initiative will replace 1.2 million truckloads between the production area and Santos Port, avoiding more than 250 million miles of truck movement and 350 thousand tons of CO<sup>2</sup> emissions each year.

The ethanol pipeline is a shared investment of US\$3.5 billion. By 2015, it will reduce the cost of transportation from US\$64 per cubic meter to US\$44 per cubic meter, a decrease of almost 31 percent. For the domestic market, the pipelines will reduce costs from US\$45 to US\$35 per cubic meter.

Shareholder	% Shares
Virgolino Oliveira	11.056
Zilor	11.050
Pedra	9.999
Cocal	6.247
Batatais	6.044
Aralco	5.832
Viralcool	5.745
Ipiranga	5.098
Santa Adélia	6.783
Balbo	5.505
São J. da Estiva	3.428
São Manoel	3.264
Melhoramentos	1.368
Ferrari	2.557
Pitangueiras	2.521
Furlan	2.501
São Luiz	2.335
Umoe Bioenergy	2.135
Jacarezinho	1.618
Cerradão	1.327
Santa Lucia	1.253
Santa Maria	1.119
Caçu	0.708
Decal - Rio Verde	0.484
Others	0.012
Total	100.0

**Table 2.** Participants (and shares) of Copersucar in 2013.

<sup>10</sup> 1 liter=0.264 gallons

<sup>11</sup> US\$1=R\$2.30 (September 6, 2013)

Several investments in storage and movement were made at Santos Port, and Copersucar's up-to-date facility allows it to have one of the lower costs in the industry.

In order to deliver commercial and logistical excellence to its shareholders, Copersucar made several investments in companies to transport, store and sell its products. Table 3 describes these companies and Copersucar's participation.

Copersucar estimates investing about R\$2 billion until 2015 in logistics projects, including the Logum Initiative. Besides the pipeline, other investments include enhancing the Terminal Açucareiro Copersucar (TAC), which concluded in June 2013, and the construction of an ethanol terminal in Paulínia (São Paulo), which is expected to be operational in 2014.



**Exhibit 6.** The Logum Initiative  
Source: Copersucar

The investments are aligned to the company's strategy of increasing the participation of the logistic segment in total net revenue. By growing the structural capacity, operating costs will be lower, and in some cases, there will be an intensification of the offer by selling services to other companies.

Copersucar also generates income by providing service operations of its logistic structures to third parties. In the 2012-2013 season, this area was responsible for R\$120.6 million, an increase of 45 percent from the previous year.

### **Sales Efforts and Strategies**

Besides excellence in logistical performance, Copersucar also has the challenge of developing worldwide sales of sugar and ethanol, competing with global trading companies. Both markets will be discussed further, but they involve a lot of risks and regulations.

The Brazilian market is the most important individually to Copersucar, but the company sells in several other markets (Table 5).

In order to have this worldwide presence, Copersucar invested in companies in different locations (Table 4).

Name of Companies	Location	Shares (approx.)	Function
Cia. Auxiliar Armazens Gerais	São Paulo – Brazil	100	Storage capacity lease and operation
Copersucar Armazens Gerais	São Paulo – Brazil	100	Storage capacity lease and operation
Uniduto Logística	São Paulo – Brazil	38.6	Build, develop and operate pipelines for fuels movement to be sold in national and international markets, port terminals and other facilities for export of fuels (also partner of Logum Logistica)
Logum Logistica	São Paulo – Brazil	20	Build, develop and operate pipelines for fuels movement to be sold in national and international markets, port terminals and other facilities for export of fuels and import and export of machineries involved in these activities and optical cables for information transport in pipeline areas.
Sugar Express Transportes	Rio de Janeiro	100	Road transport of sugar and ethanol
Copersucar International NV	Curaçao	100	Developed to be a shareholder of other companies

**Table 3.** Copersucar’s Participation in Logistic Companies

Name of Companies	Location	Shares (approx.)	Function
Cia. Auxiliar Armazens Gerais	São Paulo, Brazil	100	Sales of sugar to wholesalers and exports of sugar and port activities
Copersucar Armazens Gerais	São Paulo, Brazil	100	Sales of sugar to wholesalers and sales of fuels to wholesalers and retailers
Copersucar International NV	Curaçao	100	Developed to be a shareholder of other companies
Copersucar Trading A.V.V.	Aruba	100	Imports and exports of sugar and ethanol acquired mostly from the Cooperative of Sugar Planters and Producers of São Paulo
Copersucar Europe B.V.	Rotterdam, Netherlands	100	Sugar and ethanol trade
Copersucar North America, LLC	Franklin, Tenn., USA	100	Participate as a shareholder of the capital of other companies
Copersucar Asia	Hong Kong	100	Sugar and ethanol trading
Eco-Energy Global Biofuels LLC	Franklin, Tenn., USA	65	Ethanol origination and trade

**Table 4.** Copersucar’s Participation in Sales Companies

Copersucar made two recent, significant movements in sugar and ethanol chains. They created Copersucar Asia, a subsidiary based in Hong Kong, in order to build more intimacy with Asian buyers and to originate sugar not only in Brazil, but also in Asian countries, thus expanding Copersucar’s international presence. This will also allow Copersucar to be a year-round supplier to China, since for part of the year, Brazilian production is not competitive due to freight costs.

In 2012, Copersucar acquired 65 percent of Eco-Energy, a U.S.-based trading company founded in 1992 in California. Eco-Energy has a 9 percent market share of the U.S. ethanol trade, with sales of US\$3.1 billion in 2012. This acquisition cost US\$90 million and was totally financed by Banco do Brasil (Brazilian Federal Public Bank) in a project finance style. Now based in Nashville, Tenn., Eco-Energy originates ethanol from 16 units with exclusivity contracts, and that represents 60 percent of its ethanol origination. Like Copersucar in Brazil, Eco-Energy has several logistical assets, including 25 terminals and import-export facilities. With this acquisition, Copersucar is now the world leader in ethanol trade (Exhibit 7).

Prior to this acquisition, Copersucar had a global presence in sugar, but not in ethanol. This acquisition brought the chance to be global in ethanol and continue building a strong platform to be a global supplier (Exhibit 8).

The Copersucar and Eco-Energy business models are similar, focusing on vertical coordination of the ethanol chain. Together, they will be able to offer almost 14.1 billion liters of ethanol in 2013-2014, 12 percent of the world’s demand.

This move will diversify the way that the company operates, making it possible to increase the sourcing of ethanol from two different feedstocks in two different regions, further mitigating climate risks. It will allow Copersucar to build storage and distribution capacity and make it possible to have long-term ethanol export contracts based on the best matching of arbitrage, regulations, carbon balance and emissions. The move will facilitate the imports between both countries. The management challenges are the effective integration of the two companies and issues related to cultural differences.

Country	2013	2012
Brazil	4,655,231	4,447,412
United Arab Emirates	3,056,979	1,704,778
United States	2,151,330	1,055,719
Great Britain	1,325,626	644,213
Switzerland	719,686	442,016
Saudi Arabia	642,306	670,646
Canada	495,730	447,466
Singapore	440,086	623,952
Algeria	380,178	357,327
France	168,163	216,897
Egypt	117,120	-
China	114,764	140,450
Seychelles Islands	101,937	-
Colombia	88,734	120,797
Others	283,932	355,163
Total	14,741,802	11,226,836

**Table 5.** Net Sales of Copersucar in Major Countries  
(in Brazilian Reais – 1US\$ = 2BRL average in these two years)

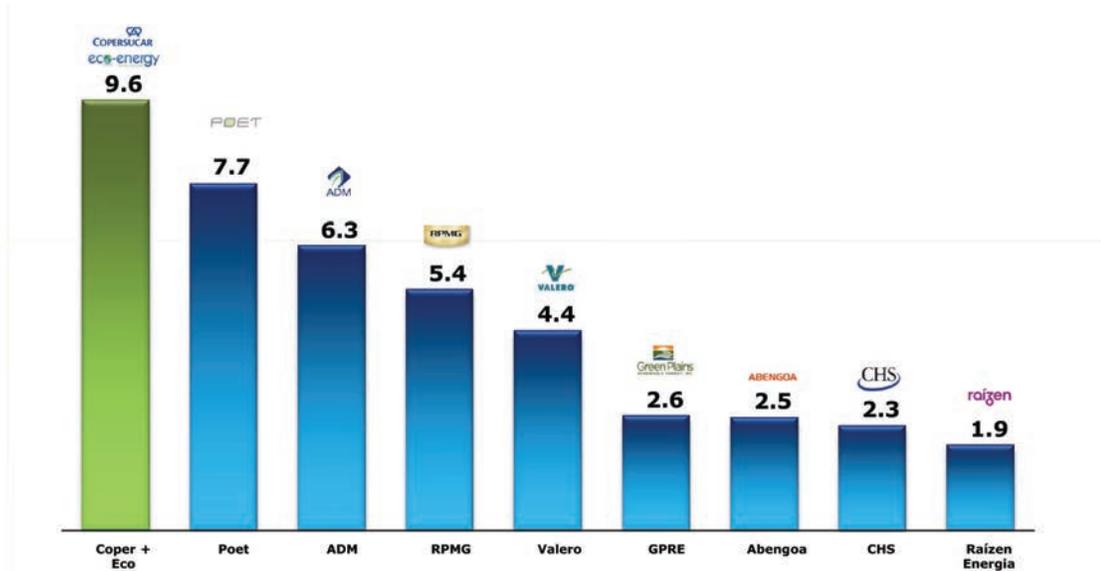


Exhibit 7. Global Biofuels Leadership, 2012

Source: Company reports and Copersucar estimates

## Risk Management in a Turbulent Scenario and Financial Performance

Active in a commodity business, buying from several groups and selling to clients in different countries, Copersucar faces severe risks. The management team selected four priority risk areas to receive special attention: credit, liquidity, market and operational risk. The company structured an audit and risk committee that is responsible for risk management and reports



Exhibit 8. Copersucar Activity and Sales Locations

to the administrative board. Due to the business's sensitivity to this issue, Copersucar's risk management policies obey strict rules and limits.

Credit risk involves receivables from clients. Its policies are to follow each client's limit, select clients and regions and other criteria. Normally, sugar for the internal market is paid in 20 days, and ethanol in 15 days. In the international markets, most of the sales are on the condition of cash against documents, and Copersucar also uses international banks' credit insurances. More than 80 percent of Copersucar's clients have more than five years of relationships and low historical of losses.

Liquidity risk involves the capacity of Copersucar to face its debts and liabilities. The company's policy is to face these obligations within the contractual conditions in order to maintain its reputation.

Market risk is probably the most complex issue, since the company faces risk surrounding commodity prices and exchange and interest rate changes. In terms of commodity prices, the company uses future markets and derivatives operating on the New York Board of Trade (Sugar #11 ICE) on a daily basis in acceptable and pre-defined parameters by the committee. A lot of volatility has been seen in the sugar market. In the last four years, prices went from US\$0.14/liber<sup>12</sup> to US\$0.32/liber and back to US\$0.16/liber, putting a lot of pressure on Copersucar's commercial team.

In the case of ethanol, most of the sales are for the internal market. Hedging mechanisms, although available at Brazil's BMF (securities, commodities and futures exchange), are still not strongly used by the market, so this alternative is not complete for Copersucar. For changes in exchange rates, Copersucar also protects its import and export business and debts in foreign currencies by hedging the possible fluctuations.

Finally, operational risk is monitored by the audit and risk committee, who observe people, technologies and infrastructure, as well as external factors like regulations monitoring.

Copersucar ended its fourth year of operation under the new format in 2012-2013. The statements of income show that net sales were of R\$14.7 billion, up 31 percent from the previous year. Financial results include three months of operations of Eco-Energy, which added R\$ 2.2 billion. In 2013-2014, with Eco-Energy, sales will move to about R\$25.7 billion.

Sugar represented about 45 percent of sales and ethanol 50 percent. Logistical service made up the remaining 5 percent. Although this result is much higher, cost of goods sold increased substantially, and gross income was smaller than in 2012. Copersucar (consolidated numbers) had an EBITDA of R\$180 million in this cycle, down from R\$250 million in the previous cycle and much lower than the R\$404 million of 2011.

Net profit was R\$86.2 million, also lower than in previous years because of lower volatility in the

---

<sup>12</sup> Liber is a unit of weight.

ethanol market and the fact that the company acted conservatively due to the risk of government intervention in ethanol prices. Also, partner mills produced more ethanol than sugar in 2013. Although the company has a high level of gross debt that can be seen in the balance sheets (US\$2.33 billion in 2012-2013 and US\$2.23 billion in 2011-2012), it is important to note that the cooperative is the guarantor of Copersucar, and stocks serve as guarantees for the cooperative's obligations. This is how banks understand Copersucar, and with this analysis, the situation in 2013 is better than 2012, since net debt less inventories decreased from R\$809 million to R\$573 million. For Copersucar, the most relevant issue is not the debt, but the risk over stocks. Banks consider Copersucar a conservative company in a comfortable financial situation, and the company received a prime risk evaluation. At the beginning of September 2013, Copersucar got a US\$220 million loan from BNDES (Brazilian National Development Bank) for ethanol storage, a sign of the comfortable situation with banks.

The company had planned a stock market launch (IPO) for 2011, but postponed it due to the economic crisis and U.S. debt downgrade. Even with this postponement, Copersucar plans to invest R\$2 billion by 2015.

It is impossible to look at Copersucar's future without considering the future of its two major traded products: sugar and ethanol.

### **The Sugar Market Highlights and Big Questions**

Around the world, sugar is recognized as the basic source of energy for metabolism, and the food and drink industry depends on sugar. According to the International Sugar Organization, sugar consumption grows 2 to 2.4 percent per year. In 2005-2006, 143 million tons were consumed, while 171 were consumed in 2012-2013. The largest sugar consumers are India (23 million tons), the European Union (19), China (15), Brazil (13), the United States (10), the Russian Federation (5.8), Indonesia (5.2), Pakistan (4.7), Mexico (4.5) and Egypt (2.9).

Average consumption can grow up to 4 million tons each year, expanding the market by about US\$1.6 billion. Projections with this growth pattern may take sugar consumption to 204 million tons in 2021, with 131 million tons being locally produced and consumed and 73 million tons traded. This would expand the export market by 15 million tons when compared to 2013. Following current patterns, the sugar import market may be US\$60 billion larger in 2021.

On the production side, because of its importance, almost all countries produce sugar, either out of sugarcane, sugar beet or other sources. The world's sugar production grew from 145 million tons in 2005 to 175 million tons in 2012. The largest producers are Brazil (39 million tons), India (25), the European Union (17), China (13), Thailand (10), the United States (8), Mexico (6.5), Russia (4) and Australia (4). Brazil had the largest growth since 2005, with 40 percent (from 27 million tons to about 39 million tons), while other countries' growth was about 16 percent. This made Brazil increase its production share from 19 to 22 percent. Production will grow and is estimated to be about 206 million tons in 2021.

A total of 58 million tons of sugar was traded in 2012-2013, of which Brazil supplied 50

percent, followed by Thailand (16 percent), Australia (5 percent), India (4 percent) and the European Union (4 percent), with several other countries supplying the remaining 21 percent. Brazilian exports jumped from 17 million tons to 28 million tons in the last seven years, representing growth of almost 60 percent, while other countries' exports declined by almost 6 percent.

The biggest sugar importers in 2011 were the United States (2.7 million tons), Russia (2.4), Indonesia (2.2), India (1.9), China (1.9), Iran (1.8), Malaysia (1.4), Algeria, Korea and Bangladesh (1.2 each).

Currently, sugar stocks are high due to three years of production exceeding demand. Prices are about 16-17 cents/liber, the lowest in recent years. This higher production is a reaction to good prices from 2009 until 2011. Current prices may discourage production and stock may be used in the next two or three crops, bringing about a new balance.

Considering the sugar market, Luís should think about the following before meeting with Copersucar's market intelligence team.

- Asian countries are responsible for 60 percent of the consumption growth. Per capita consumption of sugar in China and India, and also other populated countries in Asia and Africa is lower when compared with the United States, Europe and Brazil. Income growth and urbanization that pulls the market of soft drinks, chocolate, sweets, juices and several other products that use sugar may bring huge impact in these areas. For example, China's per capita consumption is 40 percent of the world's average and an 11 pound/person change in China would create a market of 7 million tons. Will per capita consumption in these countries grow at a faster rate, changing the average 2.4 percent annual growth in sugar consumption?
- India was responsible for the major sugar price volatility, due to its production variation and also its high consumption. With the land pressure and the need to produce more grains for its consumer demands, will India have the capacity to expand sugar production to meet its demand, or will the country focus more on other crops for its growing population, consolidating as a net sugar importer?
- Some sugar-producing countries are adopting mandates to blend ethanol to gasoline. India may start a 5 percent blend in 2013 and other countries such as Thailand, the European Union, Australia, Mexico and Brazil have or are discussing mandates. How will these affect sugar production since they will create an ethanol market that competes for sugarcane and sugar beet?
- With current sugar prices, production is not economically feasible in some areas and for some industrial groups. Which industries (like oil, food and trading companies) and countries will be able to consolidate and lead sugar expansion in a total, low-cost basis (production and logistics), taking advantage of the growth of

import markets?

- Which new plants or production technologies might arise that can give a breakthrough in this relatively old and traditional sugar industry?
- Although cane has lower production costs than sugar beet and other sources, will substitute products, like a sweetener with its own price and cost structure, take market share from sugarcane?
- The European Union highly subsidizes sugar beet production. What will happen in the coming years with the reform of the Common Agricultural Policy, and how this will affect European Union production and consumption balance?
- Brazil is the largest player in this market. Approximately 40 to 60 percent of Brazilian cane goes to ethanol, which is consumed mostly in the internal market for Brazil's growing fleet of flex-fuel cars. Will ethanol be competitive with gasoline, diverting more cane to ethanol in the future and removing some sugar from international market?
- How will climate changes and general weather conditions impact the production capacities of different regions?
- Since corn and sugar produce ethanol, there is a growing relationship in their prices. How will future corn prices affect sugar prices and consumption? In the same way, gasoline competes directly with ethanol as fuel, and ethanol is also directly linked to sugar. How will oil prices affect sugar prices and consumption?

Regarding the internal market, Brazilian sugar production has experienced almost continuous growth in the last 20 years. The sector represents 2 percent of the country's GDP and in 2012, exports totaled US\$12.8 billion, generating a lot of jobs and tax revenue.

Retail (sugar for final consumers) corresponds to 40 percent of total consumption, while the industry is responsible for 60 percent of internal demand. Within the industry, 20 percent of total demand is used for producing soft drinks and 10 percent for producing candy and chocolate. Considering that Brazil's per capita chocolate consumption is 15 times lower than in Sweden and 10 times lower than in the United States, and that the per capita consumption of soft drinks is four times higher in the United States than it is in Brazil, there is still room for the growth of sugar consumption through industrialized products.

In 2012-2013, Copersucar traded about 7.8 million tons, up 13 percent of what was produced a year ago. The company exported 6.1 million tons, almost 20 percent more than 2011-2012, to about 25 clients, mostly refiners. In the internal market, Copersucar has about 300 clients, a majority of which come from the food industry.

According to Luís, of the total 73 million tons of sugar to be traded in 2021, Brazil may provide

about 37 million tons, representing 10 million tons of new opportunities in exports. Together with the 2.5 million tons traded in Brazil's internal market, sugar opportunity in 2021 will total approximately 12.5 million tons. Copersucar will be able to play in a market that may be US\$48 billion larger. Luís is not considering Copersucar Asia in these numbers, since the company may source sugar from other countries.

Finally, when this Copersucar case began to be written, exchange rates were: US\$1 = 2 BRL (Brazilian real). At the end of the case, exchange rates were US\$1 = 2.30 BRL. A 20 percent devaluation of the Brazilian real changes some figures in the sugar business, favoring Copersucar's competitiveness.

Luís worries about the sugar business; however, with some careful considerations, he can relatively predict what the sugar market will do. This is not the case for ethanol, where the market is driven by external forces. The uncertainty surrounding the ethanol market is what keeps Luís awake at night.

## **The Ethanol Market — Dealing with Regulations and Uncertainties**

The world will produce about 100 billion liters of ethanol in 2014, and the United States and Brazil will be responsible for almost 80 percent of that ethanol. Most ethanol trade occurs between the United States, which produces about 50 billion liters, and Brazil, which produces about 28 billion liters. This section will explore what happens in these two countries and ask some questions about the future of world ethanol production.

The industrial production of fuel ethanol in Brazil started in the 1930s, stimulated by the first governmental incentives. A federal law from 1931 mandated a 5 percent ethanol blend in all imported gasoline. In the same year, all public service automobiles were required to use a 10 percent ethanol blend. In 1938, the 5 percent mix became mandatory to all gasoline produced in the country. However, it wasn't until 1973's Oil Shock that sugarcane became an important agent in Brazil's energy matrix. At that time, 77 percent of the oil consumed in the country came from abroad. Oil imports increased from US\$760 million to US\$2.9 billion within one year.

Ethanol, also known as ethyl alcohol, can be produced by the fermentation of sugarcane juice and molasses. It has been used in various forms for thousands of years, and has recently emerged as a leading fuel for combustion engines. Since March 2008, ethanol represents more than 50 percent of Brazil's overall gasoline consumption. Brazil produces two types of ethanol: hydrous, which contains about 5.6 percent water content by volume; and anhydrous, which is virtually water-free. Hydrous ethanol is used to power vehicles equipped with pure ethanol or flex-fuel engines, while anhydrous ethanol is mixed with gasoline before it reaches pumps. Several countries are now blending anhydrous ethanol with gasoline to reduce petroleum consumption, boost the octane rating and provide motorists with a less-polluting fuel. Brazil is a pioneer in using ethanol as a motor vehicle fuel. The country began using ethanol in automobiles as early as the 1920s, but the industry gained significant momentum in the 1970s with the introduction of ProAlcool, a trailblazing federal program created in response to global oil crises. ProAlcool succeeded in making ethanol an integral part of Brazil's energy matrix, but the program faced numerous challenges, particularly in the late 1980s, when oil prices tumbled and sugar prices were high. Ethanol use blossomed again in Brazil because of sky-high gasoline prices, environmental concerns and the 2003 introduction of flex-fuel vehicles that can run on

ethanol, straight gasoline or any mixture of the two.  
Source: UNICA — Sugar Cane Industry Association

In an effort to reduce the negative impact of oil prices in the trade balance, the Brazilian government launched the Alcohol National Program (Proálcool) in 1975. This was the beginning of a series of large investments in the development of ethanol-burning engines and efforts to stimulate the production of sugarcane and its products through tax cuts, prices control, strategic stocks, special lines of credit, and mandatory blending and distribution. Between 1975 and 1978, the demand for anhydrous ethanol (used in non-ethanol engines, for blending purposes) jumped from 1.1 percent to 9 percent of total fuel consumption. In 1979, the first ethanol-engine car entered the market. In 1986, 95 percent of new cars sold could use ethanol.

However, in the late 1980s and early 1990s, oil prices fell and the Brazilian government promoted the deregulation of the sector, ending subsidies and shrinking credit, and mills responded to high sugar prices by shifting industrial production in favor of sugar. Soon, ethanol prices rose to the same level of gasoline, the strategic stocks were sucked up and the drivers of ethanol cars found themselves literally out of fuel, which was a major hit on the image of the milling sector.

The launch of flex-fuel cars in May 2003 allowed ethanol to regain the trust of consumers and car manufacturers. With this type of car, drivers could just fill up their tanks with gasoline in case of a shortage in the supply of ethanol.

In 2013, Brazil has almost 20 million flex-fuel cars, more than the number of cars that use gasoline. Almost 85 percent of the 3.5 million new cars sold each year are flex-fuel. By 2021, it is expected that there will be 50 million cars in Brazil, 40 million of which will be flex-fuel.

Ethanol price is linked to oil prices, but for the past few years in Brazil, the government has kept the price of gasoline below the international average as an attempt to control inflation. This strategy is damaging to Petrobras, the Brazilian state-owned oil company, and to ethanol, because the price of ethanol is kept to a maximum of 70 percent of the price of gasoline since ethanol gets lower mileage per gallon. The Brazilian government can alter the blending level of anhydrous ethanol in gasoline, and it ranges from 18 to 25 percent, depending on cane production. Finally, Brazilian mills are almost running at capacity in the 2013-2014 crop, and a new investment (Greenfield) will take about three years to start producing.

The United States also has an interesting story on ethanol. In 2005, the Environmental Protection Agency (EPA) created the renewable fuels standard (RFS). The objective was to use 36 billion gallons of renewable fuel in 2022, corresponding to 23 percent of consumption. The RFS2 came about in 2007, and it had the improvement of differentiating the sources of ethanol, considering greenhouse gas emissions.

Ethanol in the United States is also linked to public policy. Until the end of 2011, oil companies received a blending credit of US\$0.45 per gallon called the VETEC — Volumetric Ethanol Exercise Tax Credit. Around the same time, the ethanol import tariff of US\$0.54 per gallon fell,

and now the United States has a much more open ethanol market.

Although ethanol uses less than 5 percent of the world's grain production, almost 40 percent of U.S. corn goes to ethanol, generating many complaints from meat producers. Communicating about ethanol in the United States is much more challenging than in Brazil.

The mandate in the United States fixed an ethanol target of 13.2 billion gallons for 2012. But with the declining gasoline consumption that dropped from 142 billion gallons in 2007 to 134 billion gallons in 2011, and a maximum level of 10 percent allowed to be added to gasoline, the blend wall is lower than this amount. In 2011, the EPA approved a blending of 15 percent (E15), but only for cars manufactured after 2001, clearly advertised and offered in separated pumps. These challenges made E15 more difficult to be implemented; it can be found in less than 50 stations around the United States.

Luís should consider the following facts in his meetings with Copersucar and the Eco-Energy market intelligence team:

- A report released in the United Kingdom shows that China will pass the United States as the biggest oil importer. With the extensive sales of new cars, and oil consumption in the growing truck fleet, it is expected that in 2020, 70 percent of China's oil needs will come from imports, about US\$500 billion. The number of cars will jump from 20 million in 2005 to 160 million in 2020 (Wood Mackenzie). What will be China's influence in oil prices and the role of ethanol, since most of the largest cities are already facing tough pollution situations?
- Concerns regarding environmental issues, global warming and the instability of oil prices have led a growing number of countries to add ethanol to their fuel matrix. What should we expect? Will this movement continue creating blending markets for ethanol all over the world?
- India is signing a 5 percent mandate to blend ethanol to gasoline. What will be the future of ethanol in India? Having a lot of sugarcane, and with current sugar prices, will India have a more aggressive policy on ethanol to substitute oil imports, copying the Brazilian example?
- What will happen to the ethanol mandate in the United States? If changes occur, how could it impact the future domestic consumption of ethanol? Will E85 be economically feasible and serve the 11 million flex-fuel cars running in the United States (out of a total of 240 million cars) in the places where fuel pumps are available? If the amount produced in the United States exceeds the blending target, will U.S. exports of ethanol be economically attractive? Classified by the EPA as an advanced fuel, and receiving special tax treatment, what will be the role of sugarcane ethanol in the United States?
- Will cane productivity growth coming from promising innovations result in three

or even four times more ethanol using the same area and make ethanol much more competitive?

- If the current flex-fuel fleet in Brazil runs to a petrol station and fills up its tanks with ethanol, it consumes almost 10 million tons of cane. If 50 percent of these cars use hydrous ethanol, the market can be 33.6 billion liters in 2021. Anhydrous ethanol blended to gasoline at a proportion of 25 percent can be 13.6 billion liters, up from 8.4 billion in 2013. What will happen in the Brazilian internal market of ethanol? Will it serve flex-fuel car drivers?
- Will cellulosic ethanol be feasible in the short term, challenging the feedstock used today to produce ethanol (mostly cane, corn and beet)?
- What will be the impact of shale gas on the U.S. ethanol market and in the global market in the long term?
- Which innovations can create substitute products that might endanger the future of ethanol as an energy source?

Although these questions emerge, the future of the global bioethanol market may be promising. According to some Copersucar estimates, the market may move from 92 billion liters consumed in 2012 to 165 billion liters in 2020, mostly consumed in North and Latin America.

In 2012-2013, Copersucar traded about 4.5 billion liters of ethanol, almost 22 percent more than in 2011-2012. Brazil's internal market absorbed 3.3 billion liters (10.4 percent more) and exports totaled 1.2 billion liters (71 percent more). Unlike, where Copersucar is well-positioned as a service provider for non-partners, 98 percent of the ethanol came from partner companies. Copersucar has 150 major ethanol clients in Brazil and 40 in international markets. The majority of ethanol exports go to the United States, Japan and Europe.

It is very complicated to predict what will happen in the ethanol market, but Copersucar needs this long-term view.

## Discussion Questions

1. Copersucar has ethanol in its veins. Ethanol is a complex issue since it involves passion, governments, media, debates, blending targets, innovations, flex-fuel cars, threats coming from new energy sources and other elements that make projections difficult. What are your projections for the future of the ethanol business?
2. How do you see the future of sugar markets? Will Asia continue to pull the demand, accelerating the average growth of 2 percent per year? Will new sweeteners come to market, affecting sugar? Will public attention to obesity and other factors become stronger? What are your projections toward the future of the sugar business? Which reasons make you agree, or disagree, with Copersucar's projections?
3. Should Copersucar expand and use its structure to diversify and trade other commodities? Which other investments would you suggest for Copersucar to increase value creation, capture and sharing within the trade business, towards its major clients?
4. Based on what was shown in the case, which risks does Copersucar face in its supply chain (sugar origination)? How can those be mitigated?
5. Transportation logistics prove difficult in Brazil. Until today, Copersucar's trade business dictated its logistical investments. Efficiency in providing logistical services may create a wider scale and better results for Copersucar's trade of products. Based on this, do you think that Copersucar should presently focus more on logistical investments, taking advantage of its expertise and public capital availability, and later increase trade, pulled by logistics?
6. Would you invest in Copersucar? If yes, on what arguments do you base your answer? If no, what are your reasons, and what different investments would you make?

## Appendix 1

### Sustainability and Innovation

Although Copersucar sells mostly to emerging economies, the company has felt increasing pressure about sustainability issues from its major clients. Sugarcane is complex and demanding in terms of resources due to its weight and production cycle. Several by-products are also generated and a lot of research is being done to reuse them and reduce water consumption, among other issues.

Sustainability is defined as one of the most important and challenging issues that Copersucar faces, due to the diversity of its supply chain. Copersucar consists of 47 different companies from 24 different groups, management styles, capital ownership arrangements and financial situations.

The most relevant subjects related to sustainability and governance were summarized by its shareholders and are presented in Table 6.

Issues	Content
Transparency in business	Transparency in the disclosure of results Suppliers' qualification
Ethics and governance	Bribery, fraud and corruption Corporate governance Code of conduct
Product responsibility	Quality of products
Health and safety	Labor risks
Climate changes	Reduction of emissions Burning sugarcane Impacts of climate change to production
Conservation of resources and biodiversity	Conservation of soil and water Protection of forested areas and reserves
Human rights and value chain	Child work and forced labor Respect to people Labor's conditions of suppliers
By-products management	

**Table 6.** Selection of indicators from the relevant material themes that received specific GRI (Global Reporting Initiative) to be addressed by company reports and by shareholders

Source: Copersucar

Sustainability is progressing with the engagement of the cooperative’s members. Six of its 47 associate producing units are certified by Bonsucro (Better Sugarcane Initiative), which analyzes practices regarding labor and the environment. Bonsucro is one of the most recognized certification processes in the sugar industry. Also, 39 of its 47 units were previously certified by RFS2 (Renewable Fuel Standard 2) to enter the U.S. market. They were registered at the California Air Resources Board (CARB) for adequately meeting the Low Carbon Fuel Standards (LCFS). Twenty-one of these companies were granted approval by the EPA, being responsible for 64 percent of ethanol exports to the United States.

Each of these topics is being covered and addressed within all 47 industrial units. The innovation part is one of the most important, due to the potential of the sugarcane plant. Yields need to be improved, and genetically modified plants are almost available.

To face the innovation challenges collectively with other businesses, Copersucar is a member of CTC (Cane Technology Center). CTC used to be the cooperative’s technology center, a department with some governance problems. The department did not retain technology gains — Copersucar made the investment, but the materials were used without payment by several free riders. Recently, CTC became a private company that is owned by major sugarcane producers. Copersucar has 32 percent of CTC shares and access to CTC’s most important innovations. This will allow for cane technology gains, growing the production of its partner mills without having to grow their area of cane. Copersucar will also receive royalties from the genetic material and other services sold by CTC.

In the future, the company expects that it will be able to produce more than 30,000 liters of ethanol per hectare, much more than the 7,000 produced on average today. This will be possible with several improvements in agronomy, genetic modification and cellulosic ethanol, described in Exhibit 9.

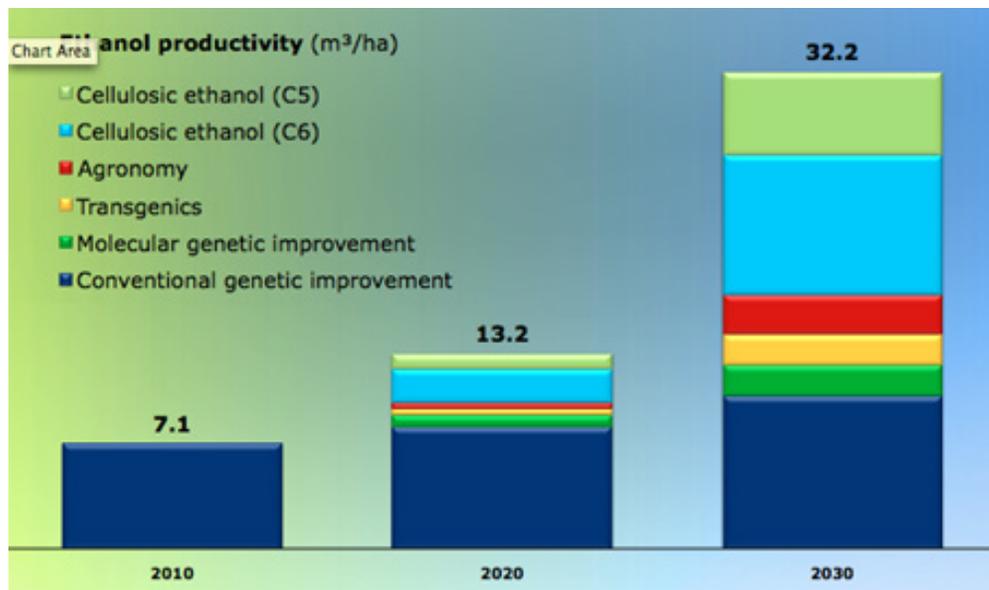


Exhibit 9. Ethanol Productivity

## Appendix 2

### Some Pictures of the Copersucar Logistical Infrastructure



Copersucar Sugar Terminal



An internal view showing sugar transportation between the warehouse and the shiploaders at the port



Storage at Santos Port



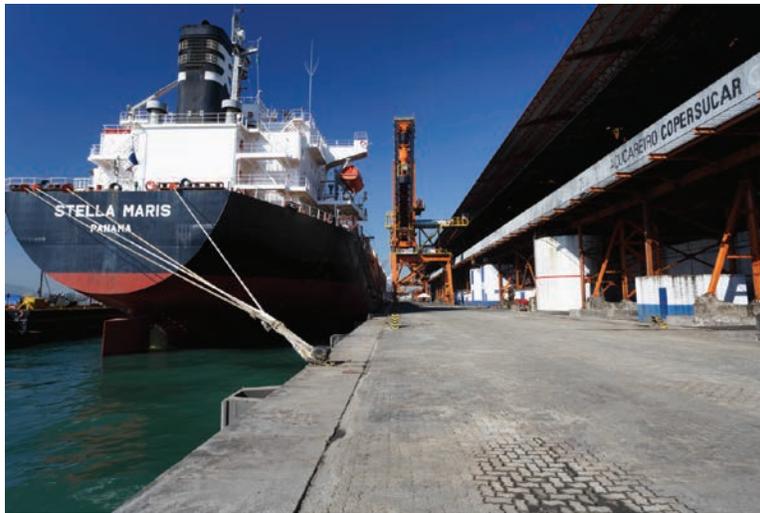
Ribeirão Preto Multimodal Terminal



Logistic Complex – Detail from Ribeirão Preto Terminal



Container Stuffing Terminal – TEC



Sugar Terminal at Santos Port



Sugar warehouse at the port terminal in Santos

## Copersucar Income Statements

In Brazilian Reais. US\$1=R\$2.30 (September 6, 2013)

	<b>2013</b>	<b>2012</b>	<b>2011</b>
Net income	14,741,802	11,226,836	8,275,344
Unrealized derivative financial instruments	34,583	(193,723)	157,956
Cost of sales	(14,323,865)	(10,549,444)	(7,790,579)
<b>Gross income</b>	<b>452,520</b>	<b>483,669</b>	<b>642,721</b>
Expenses with sales	(185,581)	(171,897)	(138,806)
Administrative expenses	(59,394)	(58,352)	(55,141)
Other income	23,786	5,482	4,941
Other expenses	(50,809)	(8,886)	(49,289)
<b>Income (loss) before net financial income and expenses and taxes</b>	<b>180,522</b>	<b>250,016</b>	<b>404,426</b>
<b>Net financial income (loss)</b>	<b>(105,628)</b>	<b>(196,091)</b>	<b>(40,888)</b>
Equity income (loss)	12,413	(3,087)	(8,517)
<b>Income (loss) before taxes</b>	<b>87,307</b>	<b>50,838</b>	<b>355,021</b>
Current income and social contribution taxes	(54,200)	7,087	17,810
Deferred income and social contribution taxes	53,185	44,627	18,275
<b>Total income and social contributions taxes</b>	<b>(1,015)</b>	<b>51,714</b>	<b>465</b>
<b>Net income for the year</b>	<b>86,292</b>	<b>102,552</b>	<b>355,486</b>
<b>Income (loss) attributed to</b>			
Controlling shareholders	67,575	102,552	355,486
Non-controlling shareholders	18,717		
<b>Net income for the year</b>	<b>86,292</b>	<b>102,552</b>	<b>355,486</b>

## Copersucar Balance sheets

In Brazilian Reais. US\$1=R\$2.30 (September 6, 2013)

	<b>Consolidated</b>		
<b>Assets</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>
Cash and cash equivalents	569,648	373,580	439,889
Trade accounts receivable	750,044	602,614	880,585
Dividends receivable	-	-	21,074
Inventories	1,190,194	1,050,262	353,614
Recoverable taxes and contributions	171,510	283,001	78,044
Advances to suppliers	552,442	54,673	57,166
Stock Exchange transactions	24,913	52,527	117,085
Unrealized derivative financial instruments	211,723	40,008	207,446
Other accounts receivable	15,457	5,119	2,419
<b>Total current assets</b>	<b>3,485,931</b>	<b>2,461,784</b>	<b>2,157,322</b>
<b>Non-current assets</b>			
Deferred tax assets	147,990	87,901	58,597
Judicial deposits	33,782	25,958	19,466
Unrealized derivative financial instruments	32,876	21,849	-
Loan operations	-	1,099	-
Other accounts receivable	263	-	-
Investments	107,093	64,801	23,769
Investment property	-	-	-
Property, plant and equipment	322,747	158,710	127,948
Intangible assets	164,715	11,762	3,763
<b>Total non-currents assets</b>	<b>809,466</b>	<b>372,080</b>	<b>233,543</b>
<b>Total assets</b>	<b>4,295,397</b>	<b>2,833,864</b>	<b>2,390,865</b>

**Copersucar**  
**Balance sheets**

In Brazilian Reals. US\$1=R\$2.30 (September 6, 2013)

	<b>Consolidated</b>		
	<b>2013</b>	<b>2012</b>	<b>2011</b>
<b>Liabilities</b>			
Suppliers	1,313,600	199,453	426,310
Loans and financing	1,243,791	615,585	573,088
Labor payroll obligations	35,907	22,767	24,426
Provision for income and social contributions taxes	459	-	33,173
Taxes and contributions payable	34,964	13,407	4,164
Stock Exchange transactions	42,642	-	339
Advances from clients	32,772	-	-
Dividends payable	676	25,638	-
<b>Unrealized derivative financial instruments</b>	<b>92,685</b>	<b>24,458</b>	<b>7,340</b>
<b>Other accounts payable</b>	<b>10,196</b>	<b>25,244</b>	<b>5,280</b>
Total current liabilities	<b>2,807,692</b>	<b>926,552</b>	<b>1,074,120</b>
<b>Non-current liabilities</b>			
Loans and financing	1,088,995	1,616,672	841,030
Employee benefits	16,610	30,900	21,888
Taxes and contributions payable	675	733	810
Provision for contingencies	35,152	27,914	21,842
Unrealized derivative financial instruments	-	-	24,896
Deferred tax liabilities	32,358	25,454	40,777
Other accounts payable	10,646	-	-
<b>Total non-current liabilities</b>	<b>1,184,436</b>	<b>1,701,673</b>	<b>951,243</b>
<b>Total Liabilities</b>	<b>3,992,128</b>	<b>2,628,225</b>	<b>2,025,363</b>
<b>Shareholders' equity</b>			
Capital	80,301	80,300	80,300
Treasury shares	(8)	-	-
Legal reserve	16,060	16,060	16,060
Profit reserves	62,434	7,539	-
Equity evaluation adjustment	23,164	27,378	32,365
Additional dividend proposed	16,218	74,362	236,777
<b>Shareholders' equity attributable</b>	<b>198,169</b>	<b>205,639</b>	<b>365,502</b>
<b>Interest of non-controlling shareholders</b>	<b>105,100</b>	<b>-</b>	<b>-</b>
<b>Total shareholders' equity</b>	<b>303,269</b>	<b>205,639</b>	<b>365,502</b>
<b>Total liabilities and shareholders' equity</b>	<b>4,295,397</b>	<b>2,833,864</b>	<b>2,390,865</b>