BRAZIL'S ETHANOL INDUSTRY
CURRENT DYNAMICS AND EXPORT POTENTIAL
AND IMPLICATIONS FOR US ETHANOL

A Multi-Client Study Proposal

October, 2011

Background & Study Objectives

Since 2005, Informa Economics FNP (Based in Sao Paulo) has been producing reports on the Brazilian sugar and ethanol value chain. Understanding that there is increasing interest in validating Brazil´s ability to supply ethanol for the international markets, the Informa Economics Group (Brazilian and North American offices) has developed a detailed multi-client report on Brazil´s sugar and ethanol sector with special emphasis on the prospects of supplying ethanol into the US market.

The Brazilian sugar and ethanol sector is one of the most dynamic in the world. Currently, Brazil is the number one producer of sugarcane and sugar and the second largest producer of bio-ethanol. Sparked by a peak demand in the international market for sugar, Brazil´s ability to sustain sugar and ethanol exports has been questioned. More importantly, the Brazilian market for ethanol is in flux. On the supply side, one has witnessed the entrance of major petroleum players – like Petrobras and BP - which indicate the viability of ethanol in the fuel transport matrix. On the other hand, Brazil has experienced a very atypical period regarding the viability of ethanol to compete with gasoline and, planned investments in increasing ethanol capacity and new projects have fallen off. On the demand side, the flex car concept has made it easy for car owners to decide on what fuel to use, yet even with relatively high ethanol prices, car owners are still opting for ethanol at equilibrium points. And lastly, the political aspects are critical. These aspects include the pre-sal (off-shore, deep drilling project for petroleum) investments which will – longer term – have an impact on the federal government´s posture regarding bio fuels. The number of supply/demand variables influencing ethanol markets has increased, making it much more difficult to provide a clear picture of Brazil´s export potential.

To better understand this supply/demand situation, this study will focus on the major drivers which impact the supply of sugarcane and derivatives as well as those factors which impact Brazilian supply and demand for ethanol. Regarding the US industry and market, Informa Economics will take the lead in analyzing the current dynamics and potential alternative demand scenarios for ethanol and particularly for corn based ethanol.

The report will evaluate what is Brazil's potential to increase ethanol production, over the next 10 years, to support domestic demand and world demand for ethanol, particularly the US, and sugar. Driving this analysis will be an evaluation of Brazil´s sugarcane milling sector and its ability to expand production in traditional and/or new areas of Brazil.

Other important factors which will be covered in this study include the profiles of major sugar and ethanol players and the current and expected changes in federal government legislation that may impact both domestic and global demand for ethanol.

To execute this project, the Informa Economics Group will use both primary data proprietary to them and data from public and other secondary sources. In the latter portion of the study effort, in-depth interviews will be conducted with major chain players to better understand and qualify certain issues and trends. And lastly, the Informa study team will analyze subjects and issues of relevance to the clients and develop a 2021 forecast.

Report Outline

Based on the study team´s initial meetings with interested parties, the outline of this report will cover the value chain for sugarcane, sugar and ethanol in Brazil and the supply/demand situation for ethanol in the USA. The proposed outline of the report is as follows:

EXECUTIVE SUMMARY – POWER POINT PRESENTATION

1 INTRODUCTION

- 1.1 Symbols and Abbreviations
- 1.2 Measures and General Data on Brazil
- 1.3 Maps
- 1.4 Overview of Agriculture & Livestock Sector
- 1.5 Global Competition Index

2 AGRONOMIC ASPECTS OF BRAZILIAN SUGARCANE

- 2.1 Crop Requirements
  - 2.1.1 Climate Suitability
  - 2.1.2 Edapho Climatic Requirements
  - 2.1.3 Water Requirements
  - 2.1.4 Soils
  - 2.1.5 Production Environments
  - 2.1.6 Yield x Age of Cane Fields
- 2.2 Agro-Environmental Zoning
- 2.3 Land Aspects
  - 2.3.1 Land Availability

Report Content

This report is already underway and will be completed and delivered end of January, 2012. Aside from the text and chart format in Word, an executive summary will be provided in Power Point. A webinar or personal presentations can be made with additional costs covered by the interested clients.

Who Should Buy this Report?

This study is designed to bring value to all players involved in the value chain for sugarcane, sugar and most importantly, ethanol. Some of the players which may require data and information on this important study include:

- Financial and private equity investors
- International producers of sugar and ethanol
- Sugar and ethanol equipment suppliers
- Soft commodity traders
- Fuel and energy companies – both renewable and fossil
- Government entities involved with renewable energy programs
- Organizations and entities involved in renewable fuel programs on a domestic and global basis.
- Ethanol, sugar and corn trade organization

- Agriculture and livestock consultants

Study Scope

This program is solely focused on the sugarcane and derivatives activities in Brazil and the US. When appropriate – mainly for supply/demand forecasts - data and information will be provided on a global basis.

It is quite common to find clients interested in specific issues and subjects. Assuming that such issues and subjects are outside of the scope of this study, the Informa Economics Group can give further focus to certain subjects/issues at an additional cost.

Study Methodology

This study is based on a three-step methodology which starts with extensive desk research. Informa Economics FNP has developed two previous reports on the sugar and ethanol industries in Brazil and, as such, has considerable experience in providing the clients with pertinent data and information on the value chains for Brazilian sugar and ethanol. A good portion of the effort will be dedicated to updating data and information based on previous reports. Much of the updating will come from Informa Economics FNP´s in-house data/information bank, but will also be derived from secondary sources of data and information as well as select interviews. It is important to note that the sugar and ethanol industry has gone through major changes in the past three years and, as such, new information and data sources are continuously being required. Upon the completion of the collection of in-house and secondary data/information, focus will be placed on consolidating such data and information in an orderly fashion.

The second stage of this study effort will involve interviews to enhance the data base and qualitative information on the sugar and ethanol markets in Brazil as well as the dynamics of the US market. Since 2008, numerous changes have taken place on critical issues, including environment, industry consolidation and chain coordination. Important agents and players will be questioned on near-future trends. These interviews will be carried out with thought leaders, including suppliers of agricultural inputs, experts in sugar and ethanol production and the marketers of sugar and ethanol products. It is estimated that some 50 interviews will be conducted for this effort.

In the final analysis, the Informa Economics study team will draw upon its expertise to pinpoint drivers, barriers and trends, enabling the reader to analyze business opportunities and forecasts with a greater level of assurance and accuracy.

Study Deliverables

Clients will receive a comprehensive report covering the topics mentioned above. The fully documented report will include all relevant background statistics, analyses and evaluations, and supporting detail developed during the study. To better exemplify the final results of this study, some of the main questions to be answered are:

- Looking at the historical and current situation regarding the production of sugarcane, sugar and ethanol, how does Brazil fit in to the global picture?
- Looking at food, feed, fiber and energy issues, what stance will the Brazilian government take regarding ethanol?
- What, if any, discriminatory/political measures may be taken by the Brazilian government to ensure fulfillment of sugarcane/sugar/ethanol objectives?
- Where – in Brazil – will new production come from? New agricultural frontiers or improved yields?
- What are the implications to indirect land use?
- What is the outlook for the US ethanol industry?
- Can the RFS be reached by 2022?
- How policy may change in the US to reshape the RFS?
- Can California rely mainly on Brazil?
- What are the current and near future investment projects underway and planned in Brazil?
- What would happen if Low Carbon Fuel Standards are adopted by states other than California?
- How much ethanol would the US need to import to meet the RFS thresholds?
- Can Brazil supply the US demand for low carbon ethanol and the world demand for ethanol?
- Can other players surface beyond the US and Brazil?
- Understanding the options for sale of sugarcane derivatives, how may the Brazilian value chain change in the near future?
- What will be the role of the Brazilian federal government in the near future?
- What will be Petrobras´ role in the near future?
- What are the underlying trends in sugarcane production?
- What will be Brazil´s role in sugar and ethanol production and exports in the next ten years?
- What are the major obstacles to further investments in Brazilian sugarcane, sugar and ethanol production?
- What Brazilian and US investment opportunities are foreseen in the coming 5-10 year period?

Study Team

This study is a joint effort of Informa Economics and Informa Economics FNP (The Informa Economics Group). Those to be working on this study are:

Informa Economics FNP

Richard J. Brostowicz, Business Intelligence and International Consulting Lead, has been with FNP since 2003. In this period with the company, Richard has supervised and worked directly on over 40 projects in consulting and market research as well as other risk analysis, feasibility and site location efforts. He began his career at FNP in the Business Intelligence area with focus on market research initiatives with international clients. Prior to FNP, Richard worked some 24 years at Monsanto's Brazilian operation located in São Paulo. In this company, he worked in numerous departments, including Planning, New Business Development, and Manufacturing and ended his career at

Monsanto, establishing the Business Intelligence Department. Some of the highlights of his career at Monsanto include the successful approval of NutraSweet in Brazil, approval of Lactotropin (Bovine Somatotropin) for commercial use in Brazil and the reorganization and implementation of a hybrid distribution system for agricultural chemicals and seeds. Richard also worked some eight years as a financial director for a venture capital firm in Brazil and a few years in consumer market research. He received his bachelor's degree in marketing from the University of Wisconsin and later completed a post-graduate program in economics with OAS – Organization of American States.

Mauricio Mendes, CEO at FNP has been with the company for 15 years and started his career at FNP in the commercial and marketing area. Soon after, he became a senior analyst in the consulting division, responsible for the technical and economic aspects of the ad hoc projects in the area of feasibility studies, financial analysis and risk assessment services. Although Mauricio has taken the CEO role at FNP since 2005, he is actively involved in many projects, primarily in the analysis efforts and the final presentations. Prior to FNP, he was a consultant with GCONCI, the leading agricultural consulting group for the citrus sector in Brazil. Based on his 20 years of experience as a citrus grower, Mauricio has conducted numerous projects in the citrus area as well as coffee, sugarcane and other fresh and processed fruits and vegetables. Mauricio is an agronomic graduate from the University of São Paulo – ESALQ and received his master's in Business Administration from Fundação Getúlio Vargas University. In 2009, he was elected President of ABMRA, the Brazilian Association for Rural Marketing.

Jacqueline Dettmann Bierhals has been working with Informa Economics FNP for some six years and is a senior analyst in commodities. She currently is responsible for all consulting efforts for land values, production costs of commodities and agro energy projects. Of importance for this effort, Jacqueline is responsible for adjusting all land value data as well as production cost data which are developed within the company. She is an agronomist from the University of Pelotas, Rio Grande do Sul and received her PhD from the University of São Paulo in Food Sciences. Jacqueline has been involved in all of Informa Economics FNP´s consultancy projects which require production cost analysis of crops as well as land valuations. Prior to Informa Economics FNP, she was a university professor in Food Sciences at Bandeirantes University.

Juliana Rocha is an agronomist from ESALQ/USP with post graduate courses in the derivatives markets for agricultural products. She has five years of professional experience, two of which at CEPEA/ESALQ (Advanced Studies in Applied Economy) and another two years at GEA/ESALQ (agronomic initiatives). Juliana is an analyst at Informa Economics FNP and has been involved in numerous projects related to the crop and livestock sectors, including a multinational report on Brazilian farmer profiles, a foliar fertilizer survey as well as coordinating efforts for price monitoring programs for agricultural inputs.

Marcio Perin is FNP´s renewable energy analyst. His current responsibilities are focused on the weekly Biofuel Newsletter and FNP´s Renergy Yearbook. Marcio is an engineer, specialized in energy and sustainable energy sources from the State University of Rio Grande do Sul. He has a master´s degree from the ABC University – UFABC – and a doctorate degree in energy from the same university (UFABC). Marcio is a specialist in alternative energy sources with vast experience in electric and combustion energy sources.

Informa Economics - USA

Bruce A. Scherr, Chairman of the Board and Chief Executive Officer. Dr. Scherr has been with Informa Economics, Inc. (formerly Sparks Companies, Inc.) since 1987 in several executive capacities including President and CEO. In addition, he is an Advisor for Metalmark Capital LLC, a private equity fund. Formerly he was president of Sparks, Jacobs, Scherr, Inc. (SJS), a sister company to Sparks, and president of Agri-Commodities, Inc., an agriculture consulting firm based in Andover, Massachusetts, which was acquired by SJS. Prior to forming Agri-Commodities, Dr. Scherr was a divisional vice president at Data Resources, Inc., where he developed and utilized for the public and private sectors the first commercially available econometric model for US agriculture. Dr. Scherr received his bachelor's degree from Rutgers University and his master's and doctorate degrees from Purdue University, all in agricultural economics. Currently, he is a member of the Board of Trustees of the North American Electric Reliability Corporation, E. Ritter & Company, and he serves as a member of the Global Strategy Institute Advisory Council of the Center for Strategic and International Studies. He served as a member of the Board of Directors for Desert STAR Inc., an electrical transmission Independent System Operator for the Desert Southwest from January 2000 through February 2002. In addition, Dr. Scherr has served as a member of The University of Tennessee’s (UT) Institute of Agriculture Agricultural Development Board and UT’s Committee for the Future. He was named a 2007 Distinguished Agriculture Alumni from Purdue University and he is a member of several honorary research and agricultural societies, a member of the National FFA Foundation Sponsors’ Board 2000 through 2001 and a former advisor to the President's Council of Economic Advisers and National Aeronautics and Space Administration.

Thomas P. Scott, President and Chief Operating Officer. Mr. Scott has been with Informa since 1989 with the majority of that time being the head of the Informa Economics Memphis-based Project Consulting Group. Mr. Scott's specialized work has included business strategy, agribusiness economic development, feasibility and site selection work, as well as various market analyses. In addition to his work in North America, Mr. Scott has extensive experience in the agribusiness sectors of Central Europe, Southeast Asia and South America. He has been involved in many training programs developed and delivered by Informa Economics. Prior to joining the company, he had various assignments in management, trading, logistics and merchandising with Continental Grain Company. He received his bachelor's degree in agricultural economics and business from Cornell University and a master's degree in business administration from the Amos Tuck School of Business Administration at Dartmouth College where he was an Amos Tuck Scholar.

Juan E. Sacoto, Senior Vice President. With Informa Economics since 1997, Mr. Sacoto is the leader of Informa's Project Consulting Group with his primary responsibility including research and analyses for international and domestic consulting clients. His work often involves market assessment, financial and competitive analyses, economic modeling, business strategy, international economic development, economic impact, risk management, and acquisition/investment due-diligence studies. Mr. Sacoto has extensive knowledge and experience analyzing most agricultural, food and related markets, including grains and oilseeds, feed ingredients, livestock and meat, vegetable oils, fisheries, fertilizers, fruits and vegetables, grain storage, and farm equipment as well as the renewable fuels industry, particularly biodiesel. He also has extensive practical experience evaluating agribusiness and renewable fuel projects across several regions, including Latin America, Europe and Africa. He is fluent in Spanish and has broad cross-cultural training. Prior to joining the company, he worked as a financial and equity analyst. He received his bachelor's degree in finance from Jacksonville State University and his master's in international business administration from The University of Memphis.

Crystal L. Carpenter, Senior Consultant. Ms. Carpenter is a senior consultant within Informa's Project Consulting Group where her primary responsibilities are research and analyses in support of projects for a range of consulting clients, including those involving the development of second generation biofuel feedstocks such as jatropha, camelina, algae, miscanthus, and sweet sorghum. Other areas of work have included oilseed processing, renewable fuels, animal feed and distillers dried grains industry analysis, and econometric modeling. Prior to joining the company, Ms. Carpenter was a graduate research assistant at Michigan State University where she developed a non-linear mathematical simulation model that identified optimal distiller’s grain inclusion rates into beef feedlot rations. She also previously conducted research on topics including trade flows of edible beans in Central American countries; vertical integration within the beef industry; the use of satellite imagery in conservation management strategies; and Montana’s beef trade with Russia and China. She received her bachelor's degrees in agricultural economics and Spanish with a minor in public relations from the University of Idaho and her master’s degree in agricultural economics from Michigan State University.

Benjamin E. Warolin, Commodity Analyst, Tropical Products. Mr. Warolin joined Informa Economics in 2008. His principal responsibilities include market research, analyses and price forecasting for the domestic sugar, world sugar, cocoa and corn sweetener markets. Prior to joining the company, Mr. Warolin served for two years as an agribusiness volunteer with the Peace Corps in Moldova. He received his bachelor's degree in economics at Gordon College, his master's degrees in agricultural economics from Michigan State University and a master of business degree in business economics from Indiana University’s Kelley School of Business.

ENROLLMENT FORM

☐ Yes, I want to purchase the multi-client study entitled *“The Brazilian Ethanol Industry – Opportunities, Challenges and Implications for the US Ethanol Industry”*. The cost of the study is:

__US$ 15,000 for Informa Economics and FNP clients

__US$ 17,500 for Non-clients

☐ Please have someone contact me to provide further information.

☐ English version ☐ Portuguese version ☐ Both

FAX to Informa Economics FNP at 55-11-4504-1411
Or
FAX to Informa Economics at (901) 766-8158

Name: ____

Signature: ____

Title: ____

Company: ____

Street Address: ____

City, Province/State, Code: ___

Telephone: ____________________________________ Fax: __________________________________

E-mail Address: ____

PAYMENT METHOD

☐Check Enclosed ☐VISA ☐MasterCard ☐American Express

Card Number:________________________________ Expiration Date:_______________

Signature:____

Mr. Tom Scott
President and Chief Operating Officer
Informa Economics, Inc.
775 Ridge Lake Blvd., Suite 400
Memphis, TN 38120
Phone: (901) 766-4586
Fax: (901) 766-8158
Email: tom.scott@informaecon.com

Mr. Richard Brostowicz
Business Intelligence Lead
Informa Economics FNP
Rua Bela Cintra, 967 – 11th Floor
01415-000 São Paulo SP Brazil
Phone: + 55 11 4504-1414
Fax: + 55 11 4504-1411
Email: richard.brostowicz@informaecon-fnp.com