Brazilian Agribusiness: Sugarcane

Short-term prospects – 2015/16 crop to 2017/18

2014

Brazilian Agribusiness: Sugarcane

What to expect for Brazil until 2018?

A complete analysis of the guiding factors of sugarcane production in Brazil, essential for an adequate short-term strategic positioning.

CANAPLAN CONSULTORIA TÉCNICA LTDA

Canaplan has operated at the heart of Brazil's sugarcane agribusiness for more than a quarter of a century. Founded in 1983 originally to work primarily with producers at a strategic and operational level, Canaplan's work now extends to the full range of market consultancy for the sugar, ethanol and biomass sectors, supported by a team with solid training.

Of particular importance to this forecasting service is Canaplan's monthly crop survey which covers 65% of the cane industry in the Centre/South. This provides Canaplan with unrivalled insights into crop performance across the region and gives this crop forecasting service a powerful advantage over other crop forecasters.

Canaplan's other activities include: crop development analysis, domestic and international market prospects and industry assessments for the sugar and ethanol industry.

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The Context

The Brazilian sugarcane industry is facing an unprecedented situation, which configures, on one hand, an extraordinary market perspective, but on the other, severe difficulties to expand its products' output. Such dilemma was a result of the abolition of essential public policies that triggered the segment boom between 2004 and 2009, in special the CIDE, abandoned in 2012 and gasoline price freeze, action that affects ethanol's competitiveness. The continuity of this problem brings up a question: is this a structural or conjunctural situation?

Once sugarcane is a semi-perennial crop, most important operational shifts (plantings/renewals) are performed in fractions of roughly 18% of cultivated area per year, in good years. This is another reason for the slow pace of changes observed in this activity.

The Brazilian sugarcane industry is going through one of the most complex phases of its history. After all, the marked decline of agricultural yield and sugarcane quality witnessed during the last four crops characterizes a concerning shift of the sectorial course.

In the current scenario, some aspects draw attention:

- Low renewal of plantations in 2014/15 crop.
- Plantations are aging and sprouting problems accentuate due to a number of reasons:
    - Excessive drought in 2014, especially in Sao Paulo state.
    - Learning curve of mechanized processes (planting and harvesting).
    - Pest and disease attack aggravated by varieties concentration.
- Expressive increase in sugarcane impurities content
- Depressed ethanol price in the domestic market due to gasoline price freeze.
- Abrupt abandoning of stimulatory public policies implemented in 2002 by the Federal Government.
- 70 requests of bankruptcy reorganization and 60 closed unities in a seven-crop horizon.
- A potential return of the sectorial concentration.

The report

The result of October 2014 presidential elections in Brazil has originated a scenario of uncertainties, replete of controversial projections. To measure the real consequences of the previously presented statements regarding the crisis, Canaplan prepared a document aiming to present its prospects for Brazilian sugarcane agribusiness; more specifically, the report analyses, based on sugarcane production guiding factors, the forthcoming three crops of Centre/South region (90% of Brazil's sugarcane output).

The document, as a product, includes:

- Analytical report (Boards, charts and attachments)
- PowerPoint presentation
- Revisions of the presented content in October 2015, October 2016 and October 2017.
- One presentation performed by Canaplan Team to subscribers.

Structure and Scope

Executive Summary

- Key considerations and conclusions

Introduction

- Retrospect of Brazilian sugarcane industry story until the current moment.
- Objective of the report

Market overview

- International sugar market
- International ethanol market

Impact of key drivers of the Brazilian crop

- Varieties
- Climate/Production Environments
- Production systems
- Economic dynamic
- Economic and land concentration

Centre/South crops: what to expect?

- 2014/15 crop
- 2015/16 crop to 2017/18

Final Considerations

Detailed content and Key results

Introduction

- Analysis of Brazilian sugarcane industry history and the reasons behind its crisis.
- Evolution of sugarcane, sugar and ethanol output, since 2002.

Synthesis of Brazilian sugarcane industry phases

1933 - 1987

Total Market control via through IAA (Sugar and Ethanol Institute)

1988 - 2002

Market deregulation:
- Sugarcane
- Sugar
- Ethanol

2003 - 2009

- Domestic policies:
  - CIDE (Federal Tax on gasoline price)
  - Gasoline blended with ethanol
  - Lower taxation on ethanol in Sao Paulo state
- International policies:
  - USA: RFS's high ethanol mandate
  - UE: ethanol mandate of 20% in 2020
- New technologies:
  - Flex-fuel vehicles
  - Bioelectricity

2010 - 2014

- Supply crisis
- Rising production costs
- Decreasing sugarcane agricultural yield and quality
- Depressed sugar prices
- Gasoline price freeze (low ethanol price cap)
- Reduction of CIDE to zero

Market overview

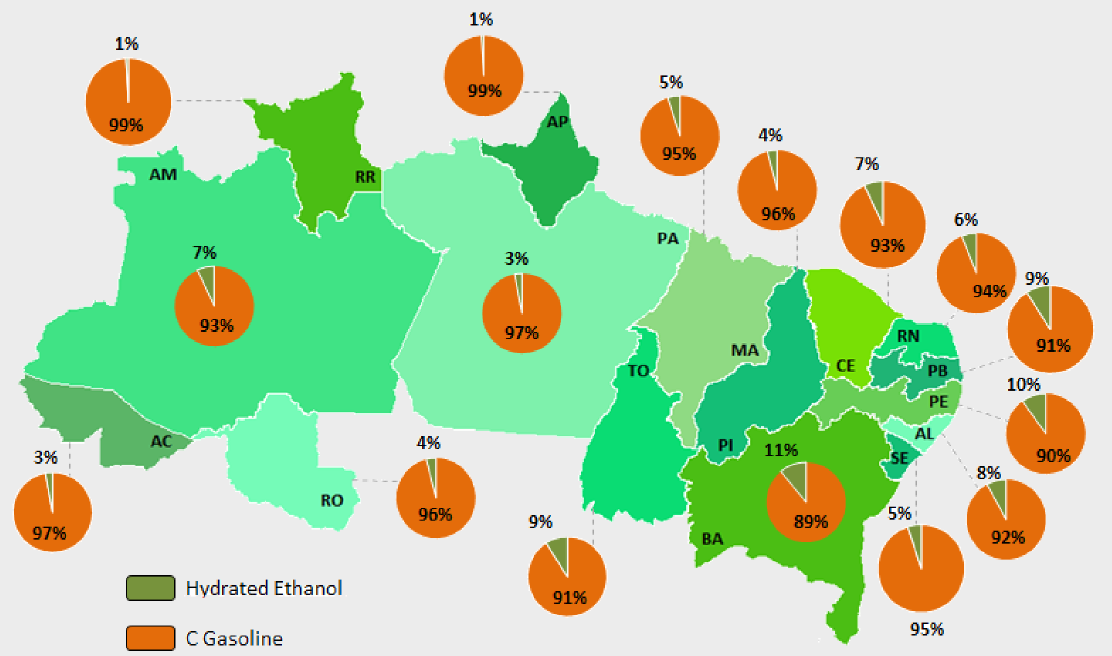
IINTERNATIONAL SUGAR MARKET

- Balance of global supply/demand and surpluses/deficits since 2002/03 crop.
- Condition of main producing countries and respective consequences for sugar prices in short-term.
- Domestic conjuncture and Brazil's actual role as major world producer.
- Forecast for sugar price behaviour in short-term according distinct scenarios.

INTERNATIONAL ETHANOL MARKET

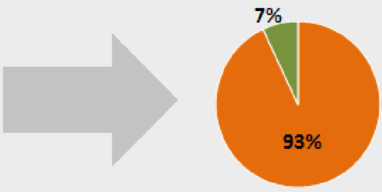
- Forecast for global demand in 2023.
- Forecast for global output by country and raw material in 2023.
- Otto Cycle potential domestic demand and the role of gasoline for its supply.
- Analysis of the behaviour of gasoline C and ethanol prices to consumer in Brazil in 2014.
- Short-term market prospects.

Market share in 2014 by State (Complete and updated in the report)



Consumption North/Northeast (m³)*	
C Gasoline	Hydrated Ethanol
7,429,828	585,901

*Accumulated until August 2014



Impact of key drivers of the Brazilian crop

SUGARCANE VARIETIES

- Delay in the adoption of new materials.
- Reasons of varietal concentration.
- Limitations of currently available varieties.
- Why not to expect gains in agricultural yields in short/mid-term due to the use of new varieties.

CLIMATE/PRODUCTION ENVIRONMENTS

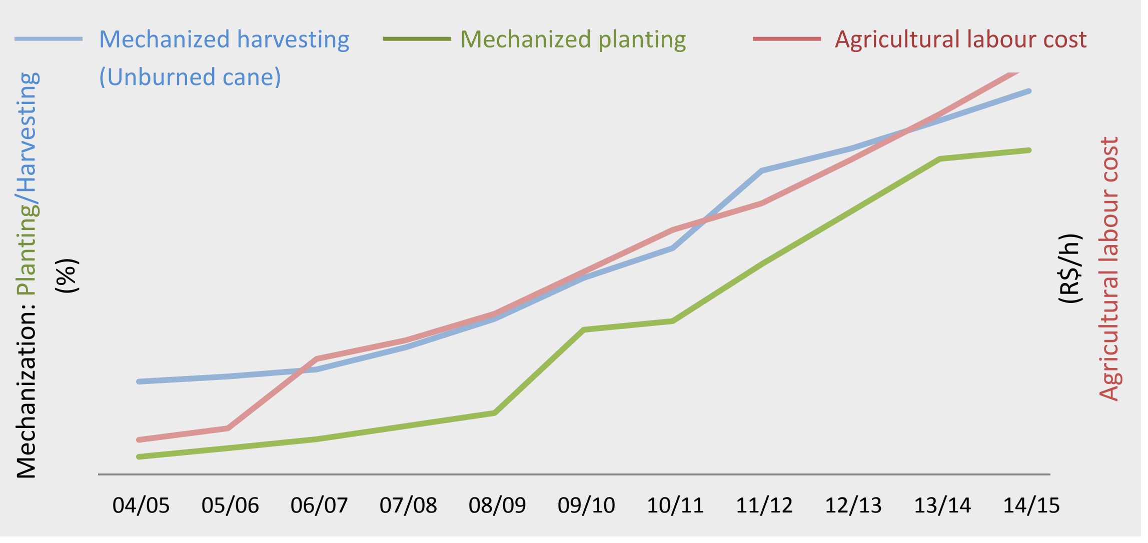
- Effects of new climatic reality of the areas incorporated for sugarcane cultivation after the boom triggered in 2003.
- Unusual climate patterns of expansion areas increased the limitations faced by sugarcane industry:
  - Water deficit: Maps illustrating where the expansion occurred and quantification of water deficits in these areas
  - Water excess
  - Frosts
  - Flowering

- Consequences for agricultural yield and sugarcane quality.

PRODUCTION SYSTEMS

- Mechanization: evolution and learning curve.
- Harvesting of unburned sugarcane and TRS limitation: only operational gains will not be enough to bring back previously obtained indexes.
- Expressive increase of fixed costs in cost matrix of sugarcane industry: reasons not to expect significant reductions in agricultural costs in short-term.
- Sensitivity analysis: the impacts in CTT costs due to eventual operational gains and different Diesel prices.

Evolution: harvesting of unburned sugarcane, mechanized planting and agricultural labour cost (Complete and updated in the report)

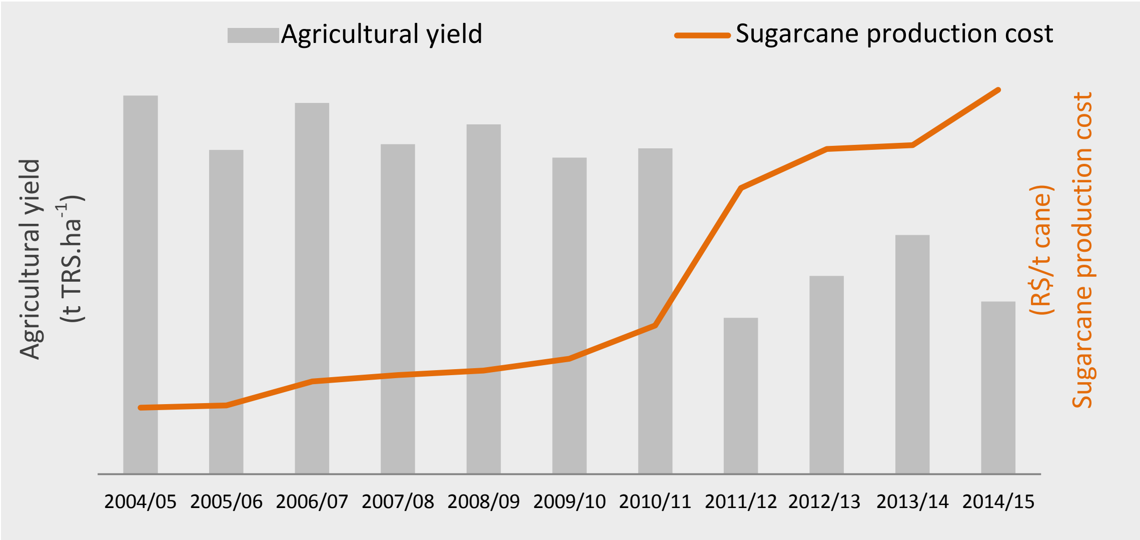


ECONOMIC DYNAMIC

- Analysis, based on technical and economic indicator, of the last decade of sugarcane industry, separated into 4 phases: (1) investment expansion; (2) reduction of investment capacity; (3) defrayal increase; (4) defrayal capacity reduction
- Evolution (since 2004) of the index: Debt x Crushing x Harvesting area.
- Evolution (since 2004) of the index: Average price (VHP and Hydrated) x Variation of production mix.
- Evolution (since 2004) of Average agricultural yield and Average sugarcane production cost.
- Evolution (since 2004) of Average agro-industrial cost, Average price (VHP and Hydrated) and Debt of sugarcane industry.
- Evolution (since 2004) of Average agro-industrial cost, Average VHP and Hydrated costs.
- Evolution (since 2004) of the Debt of sugarcane industry and CIDE aliquot.

- Measures that would palliate the crisis.

Evolution: Average agricultural yield (t TRS.ha^{-1}) and Average sugarcane production cost (R\$.t^{-1}) (Complete and updated in the report)



ECONOMIC AND LAND CONCENTRATION

- Considerations about the sugarcane industry concentration witnessed from 2004 onwards.
- Analysis of likely consequences, in terms of sugarcane output, of a new concentration process that seems to arise amid the current scenario.

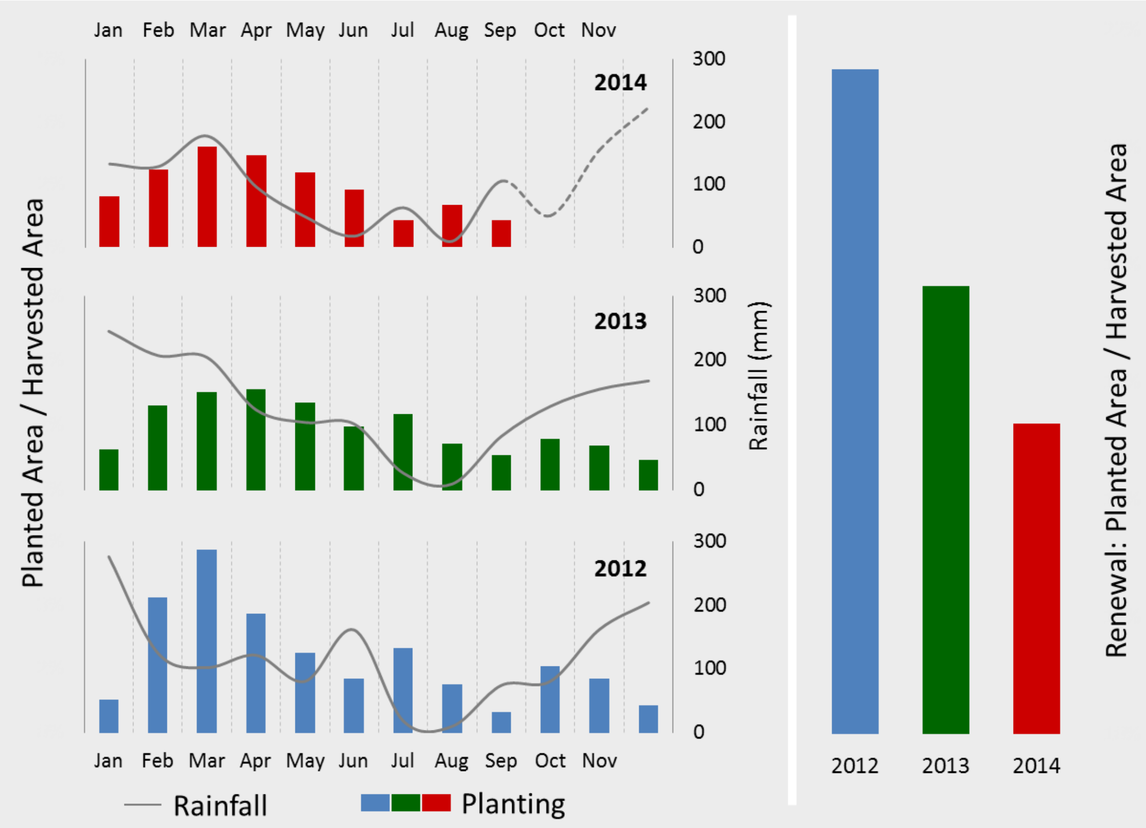
Centre/South crops: what to expect?

2014/15 CROP

- Impacts of the severe drought that struck Brazilian Centre/South in 2014.
- Monthly detailing of key indicators of Centre/South's cane crop by region (includes charts, tables and GIS maps).
- Monthly indexes of planting/renewal and comparison with other crops.
- 2014/15 crop overview (includes crushing, sugarcane quality, sugar and ethanol output, production mix and others).

Comparative: Dynamic of planting and renewal rate

(Complete and updated in the report)



2015/16 CROP TO 2017/18

- Crushing forecasts and impacts in sugar and ethanol output.
- Estimates of aging and deterioration processes of plantations due to the reduction of producers' defrayal capacity.
- Forecasts involving planting levels, required seedling area and mechanization evolution.
- Production area by state, with scenarios of expansion or retraction of cane cultivation.
- Centre/South's capacity and response time in terms of sugarcane output.

Subscription fee and Availability

The fee of the report **Brazilian Agribusiness: Sugarcane. Short-term outlook – 2015/16 crop to 2017/18** is BRL 16,000.00, payable in full upon subscription.

Subscribers will receive electronic and printed versions of the Main Report, as well as a PowerPoint presentation. The fee also includes a Canaplan Team presentation.

The report will be available from January 2015. Revisions editions will be delivered in October of 2015, 2016 and 2017.

Confidentiality

The report **Brazilian Agribusiness: Sugarcane. Short-term outlook – 2015/16 crop to 2017/18** is offered by Canaplan for subscription on the strict understanding that the subscriber agrees to the following: the content of the report and related materials provided shall remain confidential within the subscribing organisation, and shall not be disclosed, in whole or in part, in any manner, to any third party, without the prior written consent of Canaplan Consultoria Técnica Ltda.

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