EXPERIENCE IN BRAZILIAN ETHANOL: DISTRIBUTION LOGISTICS

Bioenergy Week
EMBRAPA
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In the 2000/2001’s crop, behind Paraná, Alagoas was the third largest producer of ethanol in the country, followed by Minas Gerais, Mato Grosso, Goiás, Mato Grosso do Sul, Pernambuco and Paraíba.

The overall ethanol production was 10.6 billion liters.

In 10 years, agricultural productivity grew 16%, sugarcane crushing increased 141% and overall ethanol production grew 158%.

The Center-South region showed an 180% increase in total ethanol production, while the North-Northeast growth was 30%.
As a result, significant part of the production has been shifted to Goiás, Minas Gerais and Mato Grosso do Sul.

The growing ethanol demand and the production concentration in Center-South region has brought significant impact to the ethanol logistics.

In 2003, there were about 280 ethanol plants and the main transportation mode were roads.

In 2013, there are over 400 ethanol plants and the main transportation mode stills the same to meet demand of over 150 distributors and 38,148 gas stations.
• In 2003, the average road distance between ethanol plants and distribution centers was 600 Km.

• In 2012, the average distance was 900 Km, an increase of 300 Km – a 50% change.

• The total distance travelled by roads was more than 240,000,000 Km.

• More than 24,000 vehicles travelled collecting ethanol from production units.

• About 85% of all ethanol collected in Brazil flows through roads.
• The railways responds for only 10% of overall ethanol flow of the country.

• This is mainly concentrated in the Southern Region’s supply, where ethanol down from Ourinhos collector center (SP) to Paraná, Santa Catarina and Rio Grande do Sul.

• Other important railways flows are from Mid-West Region to Paulínia.
• It represents less than 5% of overall Brazilian ethanol flow.

• Waterways utilization is mainly concentrated in the North Region – Rio Madeira Waterway and Belém-Macapá.

• New projects are being planned for improving the utilization of the Paraná-Tietê Waterway.

• The main coastal shipping lines are Santos-Suape and Santos-Fortaleza.

• New import lines and the utilization of São Luís, Paranaguá and Itacoatiara could be an alternative to increase the ethanol flow by alternative modes.
In the months of March and April coincides the inter-harvest period in the Center-South and the North-Northeast regions.

**CENTER-SOUTH**

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**NORTH-NORTHEAST**

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During this period, the two regions are supplied by carryover stocks of ethanol plants, particularly those located in Center-South. Anhydrous ethanol imports were recently seen.
• It represents less than 2% of overall Brazilian ethanol flow.

• The Pipeline utilization is mainly concentrated in the Southeast Region – Paulínia-Barueri e Paulínia-Rio de Janeiro.

• A new project (Logum) is running and the first leg (Ribeirão Preto to Paulínia) will begin in April/2013. Other four legs are planned: Uberaba, Itumbiara, Quirinópolis e Jataí. All ethanol collected in this areas has Paulínia as destination.

• With this project, Paulínia will consolidate as the main hub of ethanol pipelines in the Southeast Region.
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