



FUEL ETHANOL PROGRAM IN COLOMBIA

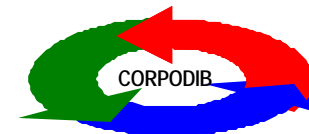
- **CORPODIB**, a Technological Development Center from Bogotá Colombia S.A., has been actively working in this project during seven years performing the preliminary and feasibility studies and the implementation plan, derived in a sustainable project with good profitability for investors.





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- ◆ A Fuel Ethanol Law was approved in 2001
- ◆ Obligatory use of ethanol from biomass, especially sugar cane
- ◆ Advanced initiative to use renewable fuels to achieve clean air in the cities, promote sustainable development and creating new employments
- ◆ Allow to attract private investors to produce 900 l/yr of bioethanol for 2006



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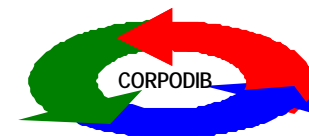
- ✦ Ethanol save 6 MTY CO₂
- ✦ CERs potentially increase projects DCFROR about 5-10%
- ✦ 27% less CO & 20% less HC
- ✦ Ethanol will substitute MTBE
- ✦ Use of fuel etOH:
 - ✦ Brazil 35 ml/d
 - ✦ US 18 ml/d
- ✦ 10% ethanol in domestic gasolines
- ✦ 150 khas of sugar cane
- ✦ 9 distilleries: 100 - 900 kl/d etOH
- ✦ 170.000 new employments (farmers)





Economics

- ✦ 400 MUSD annual sales
- ✦ 240 MUSD annual sales of sugar cane.
- ✦ Every farmer family will earn 2-3 minimum salaries (US\$4000/year).
- ✦ Increase of 3% of Agriculture Gross Domestic Product (GDP).
- ✦ A cluster for regional development.



ECONOMY OF ETHANOL IN COLOMBIA

- ✚ Production cost: 0.90 – 1.15 USD/gal of etOH
 - ✚ No gasoline taxes for ethanol.
 - ✚ No change in retail price of E10: 1.40 US\$/gal
 - ✚ Ethanol producer revenue: 1,35 - 1,6 USD/gal
 - ✚ Investment: 680 MUSD
 - ✚ Savings in gasoline importation: 150 MUSD/y
- With this project Colombia is being located in the vanguard of countries that in this 21 century take audacious initiatives for the sustainable development, using biofuels for a better quality of life and intensive employment generation.

