

## **Sugar Ethanol for the Mexican Fuel Market**

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**Over-production and large surplus sugar stocks currently create great pressure on the Mexican sugar industry. One possibility to solve this problem is to diversify the Mexican sugar sector through the production of bio-ethanol transport fuel from sugar cane. Presently, an initiative to promote bio-ethanol has been started by the cities of Jalisco and Mexico City in order to stimulate nation-wide activities.**

At present, the population directly depending on the Mexican sugar agricultural industry represents 2.424.969 people. According to the National Sugar Cane and Alcohol Chamber of Industry (CNIAA) the total cultivated sugar cane area in Mexico was 715.000 acres in 2003. During the harvest season 2002-2003, the 60 Mexican sugar mills processed 47.400.000 tons of cane and produced 5.171.000 tons of sugar.

These figures show the great potential to designate surplus sugar to diversified production such as the production of ethanol. An initiative on pollution reduction, the '*Mexican Ethanol Project*', has been started by the cities of Jalisco and Mexico City and other cities are expected to join this important activity in order to create a nation-wide project. In order to ensure sufficient economic revenues for the Mexican sugar industry, the demand for bio-ethanol can be guaranteed through the use as substitute for MTBE in gasoline and as oxygenated fuel for public transportation vehicles. Currently, the Mexican transportation union is considering to purchase vehicles running on 100% bio-ethanol from the Swedish company Scania.

Today, the Mexican sugar agricultural industry is facing a difficult situation due to liberalisation and privatisation policies adopted by the National Government. Additionally, the Free Trade Agreement NAFTA between the United States, Canada and Mexico causes strong competition on the Mexican sugar market through imported fructose. Therefore, the national sugar industry encounters difficulties to place the registered 151 million tons of surplus sugar in a good market and at a decent price. A possibility to face this current over-production of sugar is the diversification of the activities of the sugar agricultural industry such as the production of ethanol as fuel.

In order to introduce alternative fuels in national transportation fuel markets, it is essential to closely cooperate with the main actors involved. In Mexico, the national petrochemical industry is under monopoly of the semi-state company PEMEX. At the beginning of the negotiations with PEMEX to allow the use of ethanol as transport fuel, they were reluctant to accept. But, after favourable results were obtained by the Mexican Petroleum Institute regarding properties and applications of ethanol-diesel and ethanol-gasoline mixtures, PEMEX finally has accepted to collaborate within the Mexican bio-ethanol initiative.

Finally, for the success of the bio-ethanol initiative it is important to create a favourable public opinion towards the ethanol program in Mexico to make available sufficient technological, financial and human resources. This will only be possible through rising public consciousness in Mexico for the issues of sustainable development and environmental protection in order to face the challenges of the 21<sup>st</sup> century such as the conservation of land and water and the improvement of air quality in Mexican cities.

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