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Mexico

Biofuels Annual

Little Policy or Production Change Since Last Year, But Interest Growing

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Report Highlights:
The Government of Mexico (GOM) has essentially defined the legal framework governing biofuel production and marketing. Ethanol and biodiesel are more expensive than the products they intend to substitute. This annual report on Mexico's biofuel industry updates information since last year (see MX0507 *Biofuels Interest in Mexico Growing*).

Post:
Mexico City

Executive Summary:
The Mexican biofuels industry is still in its infancy. Although the GOM essentially has defined the legal framework that will regulate Mexico's biofuel production and marketing, actual production is limited to either self-consuming enterprises or research projects. The GOM is targeting the 3rd trimester of 2011 for the introduction of a 6-percent ethanol-gasoline mix in the city of Guadalajara, but the price and contract conditions required by *Petroleos Mexicanos* (PEMEX) are discouraging for interested parties. The State of Chiapas leads the way in biodiesel development with the establishment of three plants, but the production is used for self-consumption and further research, as the market price of regular diesel is cheaper. An opportunity exists in bio-jet fuel, but it is still in the experimental stages as the aviation industry is looking for proper incentive schemes. As far as advanced biofuels, the two projects reported last year seem to be on hold. There is some interest in the development of other renewable energies as Mexico looks to mitigate agricultural greenhouse gas emissions and combat climate change.

Policy and Programs
No significant changes regarding biofuels policy occurred in the past year. The GOM intends to keep the officially established biofuel introduction goals as reported in the Inter-Agency Biofuel Strategy (Spanish: Estrategia Intersecretarial de los Bioenergéticos). According to industry sources, however, the GOM could postpone the biofuel introduction goals for at least a year or longer as the country will enter into political campaigns, where the topic could become a third rail.

Table 1. Mexico: 2012 Biofuel Introduction Goals

	Biofuel Production (thousand barrels daily)	Goal Date
Guadalajara	3.2	3rd trimester of 2011
Monterrey	2.3	3rd trimester of 2012
Mexico City	8.5	3rd trimester of 2012

Source: Secretariat of Energy, SENER.

The GOM is encouraging research projects related to biofuel crops. On May 2, 2011, the Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA) and the National Council for Science and Technology (CONACYT) established a 100-million-peso (U.S. $8.7 million) fund for research projects to develop genetically-enhanced varieties of jatropha (*Jatropha curcas*), castor oil plant (*Ricinus communis*), and sweet sorghum (*Sorghum saccharum*) that could be used for ethanol and biodiesel production. SAGARPA will review the projects and announce the awards accordingly. The deadline for submitting projects was June 15, 2011, but an apparent extension was granted, as the announcement is still "open" on CONACYT's webpage. The idea behind promoting these projects is to reduce production costs so that ethanol and biodiesel are cost-attractive options in comparison with conventional fuel oxygenates and diesel.

Finally, and in accordance with the Biofuel Strategy, a press bulletin dated March 30, 2011, SAGARPA

launched the Bio-Energeticos website. The site is a clearinghouse that makes all government-related information on biofuels available to the public.

Ethanol

As previously reported, Mexico already produces ethanol, but not for fuel purposes. The current ethyl alcohol produced as a by-product of sugar cane milling is used to produce alcoholic beverages or by the pharmaceutical industry.

A May 24, 2011, article published by Grupo Reforma[1] reported that Mexico's only fully operational ethanol plant, a U.S. $60 million project built by Destilmex in the state of Sinaloa, is about to be dismantled or sold. Eduardo de la Vega, President of Destilmex, commented that the limitations prohibiting the use of corn as a biofuel input as defined in the Mexican Biofuels Law (Spanish: Ley de Promoción y Desarrollo de los Bioenergéticos) were the first obstacle that the plant managed to avoid by using sorghum as an alternative. However, with the early-February freeze that hit Sinaloa severely damaging that state's crops, the plant ran out of options (see MX1048 *Grain and Feed June Update*). Although Mexico has several sugar mills that could produce ethanol, the Destilmex project was the only facility primarily devoted to producing fuel ethanol.

Media reports and industry sources state that unless PEMEX really delves into the biofuel production strategy, the biofuels industry will never fully develop. Mexican Secretary of Agriculture Francisco Mayorga declared last year that sugar-based ethanol production was on hold because of PEMEX[2]. When PEMEX launched its bid for ethanol supplies in 2009, several sugar milling companies (the only ones technologically capable of producing ethanol) rushed to participate. However, they were all disappointed by PEMEX's price of 8.20 pesos per liter (U.S. $0.72) as the cost of producing ethanol in the sugar mills was over 12 pesos per liter (U.S. $1.04). Although a company was granted the bid, it was later cancelled by PEMEX, claiming contractual issues.

Biodiesel

Industry sources agree that the short-term potential for Mexican biofuels lies in developing biodiesel. In September 2010, SENER reported that the GOM granted a biodiesel production permit to the State of Chiapas' Institute for Productive Reconversion and Biofuels (IRPAB) as part of its jatropha-based biodiesel production project. Chiapas already has two biodiesel production plants in Tapachula and Tuxtla Gutierrez (which supply fuel for the public transportation systems of said cities), but IRPAB intends to produce 30,000 liters of biodiesel daily. President Calderon inaugurated a third plant, located in Puerto Chiapas, on November 26, 2010.

[1] "Cerraría única planta de etanol en México", El Norte, 24-May-2011.

[2] "Suspende PEMEX proyecto de etanol", El Norte, 18-Oct-2010.

President Calderon gives a speech at the Biodiesel Plant inauguration, Nov. 26, 2010
(Photo taken from: www.presidencia.gob.mx)

Although the three plants are operating, product is not commercially available. The output is used by the public transportation system of the cities of Tuxtla Gutierrez (the Conejobus: 90 buses running on B5 and one on B100) and Tapachula (the Tapachulteco: 45 buses running with B100) as well as for research purposes, like the jet bio-jet fuel project (see below).

Advanced Bio-fuels

According to SENER's Oil Products Prospective for 2010-2025, the BioFields project, an algae-based ethanol plant, in Puerto Libertad, Sonora, is scheduled to start operating in 2011.

Bio-jet fuels

The current biodiesel production project in Chiapas has attracted the commercial aviation industry. On April 1, 2011, Interjet (a Mexican-based low-cost airline) made a test flight from Mexico City to Tuxtla Gutierrez using Honeywell UOP's "Green Jet Fuel", a blend of traditional jet fuel and 27 percent biofuel produced from jatropha, to power one of its Airbus 320's engines. The test flight was part of the objective of the Mexican Aviation Administration to cover at least 1 percent (about 40 million liters) of the country's total jet fuel demand with biofuels by 2015 and 15 percent by the year 2020.

Close-up of the Interjet Airbus A320 engine which first used bio-fuels in Mexico after landing at the Tuxtla Gutierrez airport.

(Photo by: Reuters/Henry Romero)

Biomass for Heat and Power

SAGARPA and the Secretariat of Social Development (SEDESOL) are working together to promote rural energy efficiency and the use renewable energy as part of the nation's agricultural greenhouse gas mitigation efforts. Projects are detailed in the Special Program for Climate Change 2009-2012 (PECC) and include efforts to develop biogas digestors and biogas generators as well as the manufacture and installation of greater than 100,000 wood saving stoves in rural areas. The heat and power generated by these projects, however, has not been added to the nation's electrical grid, as sources indicate the energy is for use on the facility premises.

Mexico's Fossil Fuels

As explained in previous reports, Mexico exports most of its crude oil, and conversely, imports a large volume of gasoline, diesel, and fuel additives, mostly from the United States.

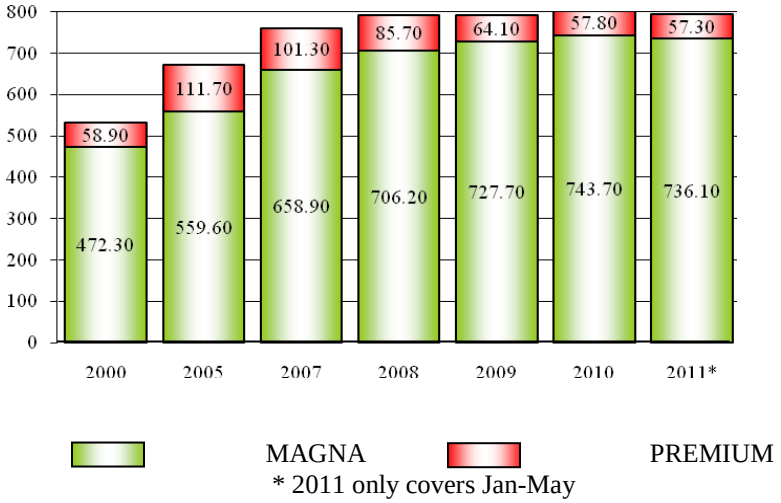
Table 2. Mexico: Import Volume of Refined Products (in thousand barrels daily)

	2005	2006	2007	2008	2009	2010	2011 (Jan-May)
Gasoline[3]	169.8	204.7	308.1	340.5	329.6	378.8	398.3
Diesel	21.4	40.5	52.7	68.0	47.7	108.0	125.7
Fuel Oil	26.4	14.3	17.0	32.9	39.2	11.0	24.4
Others	43.2	33.7	34.0	22.4	22.8	49.6	33.8
Total	260.8	293.3	411.7	463.8	439.3	547.4	582.2

Source: PEMEX Monthly Petroleum Statistics, May 2011

With regard to the sales of domestic fuels, the sale volumes of PEMEX's two brands of petroleum-based gasoline, Magna and Premium, and the two types of diesel, Vehicle or Industrial, are shown in the following tables.

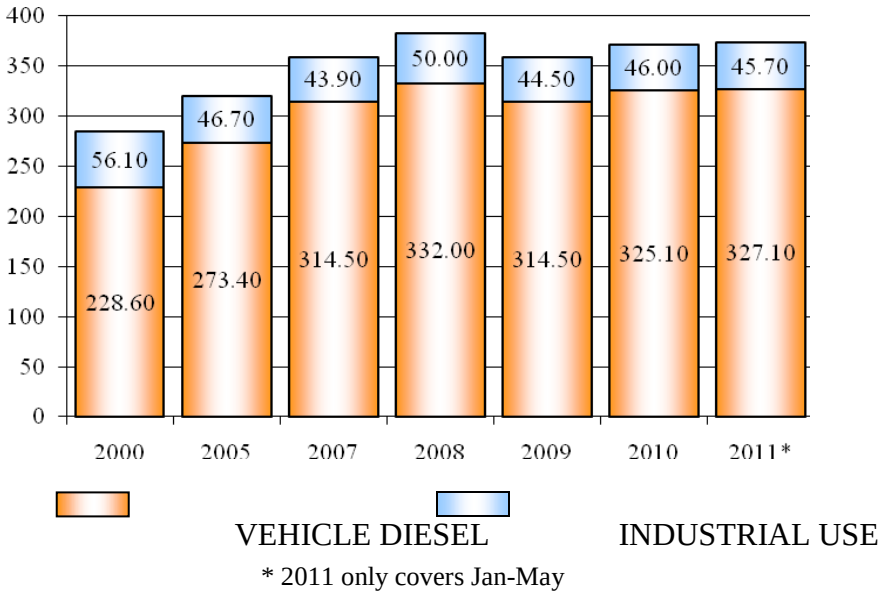
Table 3. Mexico: Gasoline Sales Volume (in thousand barrels daily)



[3] Includes gasoline and MTBE.

Source: PEMEX's Monthly Petroleum Statistics and Statistical Yearbooks.

Table 4. Mexico: Diesel Sales Volume (in thousand barrels daily)



* 2011 only covers Jan-May

Source: PEMEX Monthly Petroleum Statistics and Statistical Yearbooks.

Ethanol & Biodiesel Trade

Mexico's Customs Administration (Spanish: Aduana Mexico) has made no changes to the harmonized tariff code (HTC) classifications for ethanol. The import requirements for all three tariff codes remain the same as last year, as well. The classifications are for ethylic alcohol and do not make a distinction whether it is used as fuel or a fuel-production input or other uses like medicinal and alcoholic beverages. The tariff codes are:

HTC 2207.10.01 - Ethyl alcohol, undenatured [alcoholic strength of 80% vol. or higher]
HTC 2207.20.01 - Ethyl alcohol and other spirits, denatured, of any strength
HTC 2208.90.01 - Ethyl alcohol, undenatured [alcoholic strength of less than 80% vol.]

Of the three tariff codes under which ethyl alcohol is classified, only 2207.10.01 shows significant volume in trade. As described in previous reports, trade volumes refer to ethyl alcohol used for alcoholic beverage production or by the pharmaceutical industry.

Table 5. Mexico: Exports of HTC 2207.10.01 (in million liters)

Country	2006	2007	2008	2009	2010
United States	0.85	0.71	2.65	0.53	2.79
Canada	2.91	3.32	2.59	2.36	2.45
Others	5.36	3.22	12.46	0.22	1.09
Total	9.12	7.25	17.7	3.11	6.33

Source: SE, Banco de Mexico & Aduana Mexico

Table 6. Mexico: Imports, HTC 2207.10.01 (in million liters)

Country	2006	2007	2008	2009	2010
United States	18.71	10.35	12.68	15.36	78.74
Brazil	55.41	41.27	33.86	83.07	39.92
Guatemala	0	0	5.33	18.18	20.84
Others	17.94	2.94	7.69	11.81	6.33
Total	92.06	54.56	59.56	128.42	145.83

Source: SE, Banco de Mexico & Aduana Mexico

There is no specific HTC classification for biodiesel. FAS/Mexico consulted with a customs broker who indicated that if any biodiesel is imported into or exported out of Mexico, it could be under a generic, all-inclusive category and therefore, no specific trade data would be available.

FOR MORE INFORMATION

FAS/Mexico Web Site: We are available at: http://www.mexico-usda.com or visit the FAS headquarters' home page at: http://www.fas.usda.gov for a complete selection of FAS worldwide agricultural reporting.

FAS/Mexico YouTube Channel: Catch the latest videos of FAS Mexico at work: http://www.youtube.com/user/ATOMexicoCity

Other Relevant Reports Submitted by FAS/Mexico:

Report Number	Subject	Date Submitted
MX0507	Biofuels Annual 2010: Biofuels Interest in Mexico Growing	07/01/10
MX0060	September Grain and Feed Update	09/03/10
MX1029	Sweeteners Annual 2011: Sugar and Sugar Cane Production Forecast Stable while HFCS Consumption Grows	04/15/11
MX1048	Grain and Feed June Update	06/24/11

Useful Mexican Web Sites: Mexico's equivalent to the U.S. Department of Agriculture (SAGARPA) can be found at www.sagarpa.gob.mx , equivalent to the U.S. Department of Commerce (SE) can be found at www.economia.gob.mx and equivalent to the U.S. Food and Drug Administration (SALUD) can be found at www.salud.gob.mx. These web sites are mentioned for the readers' convenience but USDA does NOT in any way endorse, guarantee the accuracy of, or necessarily concur with, the information contained on the mentioned sites.