USDA Foreign Agricultural Service

GAIN Report

Global Agriculture Information Network

Template Version 2.09

Required Report - Public distribution

Date: 7/20/2007

GAIN Report Number: UY7002

Uruguay

Bio-Fuels

Uruguayan Biofuels Report

2007

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Report Highlights:
Uruguay is in the first stages of biofuel production. It currently produces a small quantity of biodiesel for domestic consumption. Fuel ethanol production will be initiated in 2008 in a newly built distillery next to a sugar cane mill. A new biofuel law is expected to be passed in the latter part of 2007. According to the provisions of this law, between 2008-2011 diesel sold in the local market will have to be blended with 2 percent biodiesel, and after this period, with 5 percent. By 2015 all gasoline will have to be blended with 5 percent ethanol. Official sources state that there are many investment projects which will come on line when the law is passed. Most contacts believe that the primary focus of biofuels will be the domestic market.

Includes PSD Changes: No
Includes Trade Matrix: No
Annual Report
Buenos Aires [AR1]
[UY]

I. Situation and Outlook

Uruguay has an efficient livestock and agricultural sector. The production of biofuels could provide an excellent opportunity to add value to its commodities. At the same time it will help to reduce the importation of petroleum and will promote a cleaner environment, however, much investment will be needed to expand biofuel production significantly.

Once the biofuel law is passed, which is expected to happen before the end of 2007, many investment projects will begin to come on line. The bill, so far, mandates for the domestic market that diesel be mixed with 2 percent of biodiesel during 2008-2011 and then with 5 percent thereafter. Gasoline will have to be mixed with 5 percent of ethanol beginning 2015; prior to this date blending is voluntary. There is currently small production of biodiesel which is exclusively used for the domestic market. ANCAP, the national oil company, is about to begin the production of bioethanol in a new distillery built in a sugar cane area. Sources believe that the initial production will be exported since Uruguay is not ready to blend and distribute biofuels. Most contacts indicate that the ethanol mandate will be met, but in the case of biodiesel, it is doubtful it will be reached by 2008 because ANCAP still needs to work with potential suppliers, and organize the blending and distribution infrastructure. The target for 2012 is probably more realistic.

Biofuel Policy

A new biofuel law is likely to be passed in the last part of 2007 to provide regulations for the development of this new industry that in the past was exclusively administered by ANCAP.

In July 2006, the Uruguayan Government (GOU), through the Ministers' Advisory Committee, presented a biofuels bill before the Senate. The objective of this bill is to promote and regulate biofuel production, commercialization, and use. The Uruguayan Senate approved the bill and it is currently in discussion in the Lower House. Most contacts believe that the law will be passed in the next few months. Consequently, there is a maximum of 180 days from the time which the law is passed to publish the regulations for its implementation.

Following are the main points of this bill:

- Regulates the production, commercialization and use of biofuels (ethanol, biodiesel and blends).
- ANCAP, the national oil company, will no longer have the monopoly of producing and exporting biofuels. Imports and commercialization will continue to be exclusively in the hands of ANCAP.
- Sets the percentages of mixes in diesel and gasoline. In the case of biodiesel, it can be voluntarily mixed at a 2 percent ratio with diesel until the end of 2008, and then it would become compulsory. As from 2012, the percentage of biodiesel would be 5 percent. In the case of ethanol, its use in gasoline would be voluntarily until 2014. From 2015, it would become mandatory to be mixed in a 5 percent ratio.
- It allows small-scale production (4,000 liter/day) for self-consumption.
- Biofuel exports would need a "previous authorization".
- The GOU can provide tax exemptions to biofuel products. In fact, tax advantages for a period of 5-10 years are under study.
- It establishes product standards and quality.

The previous biofuel law 17,567, of October 2002, was not operational because its regulations were never published. In 2005, the GOU created the National Biofuels Commission to advise on the framework for state policies related to biofuels production and use. It also established a National Bioethanol Program (Pronabio-E, administered by ANCAP) to coordinate the production of ethanol in different agricultural regions throughout the country. This program focuses primarily on sugarcane for the production of sugar and ethanol.

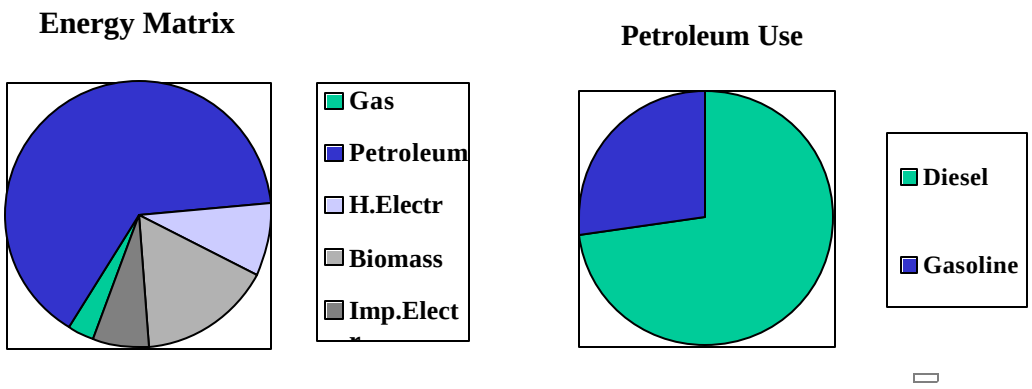
The Energy Market

Over half of Uruguay's energy consumption is oil, followed by biomass (primarily wood) and hydropower. Uruguay imports all its petroleum needs, which amounts to US$800 million annually. Annual diesel consumption totals 800 million liters, while gasoline totals 300 million liters. When mandated mixes reach 5 percent, Uruguay would need approximately 15 million liters of ethanol and 40 million liters of biodiesel.

In 2006, the transportation sector accounted for 33 percent of the country's total energy demand, residential use accounted for 28 percent, the industrial sector represented 22 percent, and the agricultural sector 8 percent.

The main objective of biofuel production is to partially replace petroleum used by cars and transportation. However, depending on costs and price differences between petroleum and biofuels, Uruguay could utilize biodiesel to feed its electric power plants in the future.

Uruguayan Energy Matrix and Petroleum Use



Ethanol

ANCAP, which currently produces ethanol not for fuel, has in progress a Biofuels Program. In early 2006 this company took over the Bella Union sugar mill and is building an alcohol distillery (to be inaugurated this year). The program also includes the expansion of cane plantations to 10,000 hectares (of which 20 percent would be owned by the company). Official sources indicate that by 2008, when the total acreage is in production, ethanol output will total about 18 million liters. This volume represents approximately 6 percent of Uruguay's gasoline consumption. However, at the beginning most ethanol production from

this new plant is likely to be exported as the country is not expected to have blending and distribution infrastructure operational before 2009.

The ethanol plant which ANCAP currently has operational is in Paysandu, and produces about 1.5 million liters per year. Its capacity is expected to double in the next two years. The main feedstock is sorghum and to a lesser extent, molasses. Uruguay normally uses 5 million liters of ethanol per year for beverage and industrial use.

The new distillery in Bella Union is being built with a US$7 million loan made by the Venezuelan oil company (PDVSA). It will produce only ethanol for fuel. At this point, contacts indicate that the feedstock used will be molasses. Approximately 75 percent will be used to produce sugar and the balance will be used for ethanol production.

ANCAP is also promoting private investment to build an ethanol plant in the south of Uruguay to complement the one in the north. Contacts indicate that Brazilians and Spaniards are interested in this future project, but that they are waiting for the biofuel law to be passed. Sorghum, sweet sorghum, corn and sugar beats would be the primary feedstocks of this plant.

Biodiesel

Biodiesel production in Uruguay is currently small. The largest four companies are projected to produce together approximately 2.6 million liters in 2007. About 900,000 additional liters will be produced by 30-40 small producers. Of the country's total output, roughly 60 percent uses tallow as feedstock, and the balance is primarily soybean oil. Most contacts believe that biodiesel in Uruguay will be focused primarily on the local market and secondly to supply niche export markets. Official sources indicate that there are more than 20 projects for biodiesel waiting for the biofuel law to be enacted.

Most biodiesel producers are working in order to comply with quality norms enacted in 2005. Larger producers are selling or using their biodiesel production for rural equipment, irrigation systems, and for bulk transportation or buses. Small producers use it for self consumption. Blending percentages go from small levels to 100 percent biodiesel.

Uruguay produces sunflower and soybeans, but very little is processed. There is one large oil crusher in the country and currently it has excess capacity. The small oil processing industry limits somewhat the growth of a large biodiesel industry, but at the same time, it provides good opportunities for investment. Oilseeds production is forecast to continue to grow as a result of the adoption of new technology, more land into production, and high world prices. Many believe that there will be a large development of small-scale biodiesel production at the farm level where output will be consumed on site. By doing this, producers can lower fuel costs (as they do not have to pay certain taxes and distribution costs) and will be able to integrate cattle production by feeding high-protein meal.

Uruguay is one of the world's largest beef exporters. Its industry is well developed and has been expanding year after year. It produces abundant tallow, of which part is consumed locally, and the rest is exported. Until now, local biodiesel producers use primarily tallow (which is less expensive than vegetable oil), processed in two plants. The other larger plants use primarily soybeans, sunflower and canola. There is a small company processing used oil.

Sources indicate that Uruguay's biofuel sector has some disadvantages compared to its neighbor Argentina. Argentina's huge vegetable oil production capacity and the export logistics of that country make it difficult for Uruguay to compete as it has higher processing

costs and small volumes to ship. Also Argentina currently has a differential tax in favor of biodiesel exports -- vegetable oil exports are taxed 24.5 percent while biodiesel exports are only taxed 5 percent (and receive a 2.5 percent rebate). However, these same sources believe that Uruguay provides other significant advantages (e.g., strong institutional framework).

Future Feedstock

There are several local institutions involved in research and development. As examples, we can mention the national university, through its science and agricultural schools, the national agricultural research institute, the national oil company, and private universities.

Currently, the feedstocks for ethanol are molasses and sorghum, while tallow, sunflower and soybean are used for biodiesel. However, many are confident that there is a lot of future in the use of rice husks and straw, wood residues, bagasse, sweet sorghum, sugar beats, switchgrass, elephant grass, and giant miscanthus for ethanol. For biodiesel there is interest to expand the use of canola. The biofuel bill states that biodiesel has to be produced from feedstock produced locally, unless there are strong reasons to source from other places.

Trade

Most contacts indicate that Uruguay, in the medium term, will export small volumes of biodiesel, focusing on niche markets in the region. The local industry does not have the storage infrastructure to load oil tankers for export, to for example, the European Union. Therefore, exports most likely will be in-region and transported by truck.

Ethanol is expected to be exported to Venezuela in 2009 when the new distillery in Bella Union is in operation. PDVSA lent US$7 million to build the distillery in the Bella Union sugar mill. This money will be paid back in-kind with ethanol. Once production increases, Brazil could also become a good market, as its ethanol production is located in the north. Sourcing product from northern Uruguay could provide strong cost advantages in transportation.

II. Statistical Information

Quantity of Feedstock Use in biofuel Production in MT						
		2003	2004	2005	2006	2007
Biodiesel						
Vegetable Oil						
	Soybean oil			265	620	880
	Rapeseed Oil					
	Palm oil					
	Coconut oil					
	Animal Fats		500	1200	1800	2500
	Recycled Vegetable oil					
	Other					
Ethanol						
	Corn					
	Wheat					
	Sugarcane					
	Sugar beat					
	Rye					
	Molasses					
	Wood					
	Cassava/tubers					

Biofuel production/Consumption/trade (million liters)					
	2003	2004	2005	2006	2007
Biodiesel					
Beginning stocks*					
Production		0.5	1.5	2.5	3.5
Imports		0	0	0	0
Total supply		0.5	1.5	2.5	3.5
Exports		0	0	0	0
Consumption		0.5	1.5	2.5	3.5
Ending stocks*					

Biofuel production/Consumption/trade (million liters)					
	2003	2004	2005	2006	2007
Ethanol					
Beginning stocks*					
Production					0
Imports					0
Total supply					0
Exports					0
Consumption					0
Ending stocks*					