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GAIN Report

Global Agricultural Information Network

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Colombia

Biofuels Annual

Biofuels Production to Reach B10 in 2012 and E10 in 2011

Approved By:

Joe Lopez, Agricultural
Counselor

Prepared By:

Leonardo Pinzon,
Agricultural Specialist

Report Highlights:

In 2010, ethanol production decreased to 280 million liters due to a dramatic reduction in sugarcane supply caused by extreme rainfall. In 2011, production is expected to recover to 300 million liters. The expansion of 200,000 liters in production capacity is expected to boost ethanol production to 350 million liters in 2012. Biodiesel production should reach B10 by the end of 2012 as a new facility enters into production. Colombia is not expected to export biofuels in the next two years.

Post:
Bogota

Executive Summary:

As expected in 2010, extreme rainfall hit Colombian agricultural production and caused massive flooding in many sugar cane areas. The extreme rains caused a shortage in sugarcane supply for ethanol production and, as a result, Colombian ethanol production fell to 280 million liters, 14 percent lower than the year before. In 2011, Colombian ethanol production is expected to recover to 300 million liters. Colombian ethanol capacity will increase by 200,000 liters per day to reach a total annual capacity of 459 million liters.

In 2010, Colombia reached E8 and increased the biodiesel blend to B7 in the Atlantic region, while other region mixes reached B5 and B7. Colombian palm oil and sugarcane production well exceed the local demand and generate a surplus that sustains biofuels production. They are also the main sources for biofuels expansion in Colombia. Ethanol production using cassava as feedstock has virtually been put on hold due to the unexpected low cassava supply. There are several studies in Colombia looking for financing to produce ethanol and biodiesel with feedstock other than sugarcane and palm oil.

Colombia biofuels capacity has not covered the initial biofuel blend mandate, thus, the Colombian government has allowed biofuels mix to increase along with the increase in production as new facilities expand or enter into production. The Government target for B20 is 2015, and the Ethanol blend target for E10 is 2011. Palm oil growers indicated that the current expansion in the palm oil area planted is able to supply palm oil for a B20 blend.

The government is promoting increased use of biofuels and has established that, by 2012, 60 percent of all new vehicles sold in Colombia must bear flex fuel technology. Colombian trade in biofuels, particularly exports, will not happen in the near term since the supply expands to cover mandatory blend.

Author Defined:

Policy and Programs:

The Colombian government has promoted the production and use of biofuels aimed at diversifying their sources of energy by reducing the dependency on fossil-fuels, using environmentally friendly fuels to reduce greenhouse gas emissions, and developing the Colombian agro-industry to promote agricultural employment in rural areas. For the energy sector as a whole, the Colombian government has set a policy on fuels aimed to progressively reduce the sulphur content to 50 ppm in diesel, and to 300 ppm in gasoline, and to improve overall fuel quality.

Colombia is a net exporter of palm oil and sugar, which secures inputs for a biofuel industry based on these two feed stocks without causing any disruption to local supply. In fact, biofuels production opened up new development for the agricultural sector that supported the GOC's policy of sustaining agricultural employment. The government role has been to define a legal framework for making biofuels production that are economically

sound.

The GOC initially established a minimum mandatory blend for E10 to be accomplished by 2008. However, due to a lack of production capacity, the mandate to reach E10 was not obtained by the set date, but we expect the E10 level to be reached at the end of 2011. For biodiesel, the initial mandate was for B5 to be reached by 2008 with a plan to increase it to B10 by 2010 and B20 by 2015. The Ministry of Energy has issued several resolutions to make the B-blend mandatory at levels that can be supplied by new biodiesel plants coming into production. The Biodiesel blend is expected to reach B10 at the end of 2012.

Moreover, the GOC established tax exemptions for ethanol and biodiesel consumption for the part of the blend constituted by biofuels. Also, the areas where biofuels facilities are built can be declared by the government as a permanent customs zone, which reduces the income tax paid from 35 percent to 15 percent. In addition, in 2004, the government granted a tax exemption to new palm oil planted over the next 10 years. Biofuels are exempt from the value added tax (VAT) and the global tax, which are charged to fossil fuels.

The Ministry of Energy (MOE) regulates prices and blend levels of fuel with biofuels in Colombia. The MOE defines a price formula for biofuels which grants a minimum price for biofuels producers. Every month, the MOE calculates a new price to be applied to ethanol and biodiesel.

Bioethanol and Biodiesel:

Production

Colombia produces almost all of its ethanol from sugarcane, while all biodiesel is produced from palm oil. Sugar and palm oil production almost double local demand, so the production surplus is exported and used for biofuels production. Colombian biofuels production neither competes with food supply nor takes land from food crops. Biofuels production has replaced so far, only 25 percent of sugar exports and 30 percent of palm oil exports.

Colombia's ethanol production is supplied by 5 ethanol facilities that are located next to sugar mill facilities. There is an additional ethanol facility to produce ethanol using yucca (cassava) as a feedstock. However, the yuca supply has been far lower than expected and the ethanol production from yucca is virtually non-existent. There is one additional project being developed that will use cane as feed stock for ethanol production only (no sugar).

Biodiesel production started in 2008 and has experienced rapid growth. There are currently 7 plants in production which use palm oil as feed stock, and there is one project under construction that would enter into production in 2012.

Some projects based on other feed stocks for ethanol production using sugar beets and yuca have been halted due to a lack of investment. Overall, the increase in production based on new projects and development is almost stagnant due to an absence of investment.

In the short term, Colombia's biodiesel production is expected to increase given that palm oil area continues to grow. The palm oil planted area has doubled since 2001; Fedepalma (Colombia Palm Growers Federation) considers that with the current expansion in the planted area, B20 would be reached.

In 2011, ethanol production will increase due to the expansion of three distilleries that added 200,000 liters per day to the total capacity. The new Colombian ethanol capacity will reach 1.25 million liters per day in late 2011.

Consumption

Colombia biofuels consumption will expand as the blend increase. Ethanol consumption has reached 9 percent of the intended mix of 10 percent in the whole country. The Colombian ethanol plant capacity will be equipped to supply the E10 blending at the end of 2011 for the entire country. Biodiesel consumption reached B7 in the north coast region and between B5 and B6 in other regions of the country. The B10 blend expected for 2010 was not reached due to delays in new biodiesel projects, which are now projected to enter into operation in 2012.

Biodiesel consumption is stronger given the Colombian policy of improving the quality of its diesel and the replacement of the old public transportation vehicles by those that use cleaner fuels. The government and biodiesel producers in a joint effort have conducted research and tested the blend level capacity of the current public transportation system. As a result, it is estimated that levels of up to B50 could be used by the mass transit system.

Trade

Currently, Colombia neither imports nor exports biofuels. In the short term, given the lack of biofuels supply for covering the local demand, it is unlikely that exports will occur. Also, it is unlikely that imports will take place for current biofuels given the commitment from the local industry to supply the local demand and the government's flexibility to reach the blend as new facilities enter into production. However, in the medium term, it is expected that Colombia may become an exporter of biofuels, particularly biodiesel from palm oil, as expansion of palm oil area continues.

The basic import duty for ethanol is 10 percent. It was excluded from the Colombia – Mercosur trade agreement. The basic import duty for biodiesel is 5 percent. Under the CAN-MERCOSUR agreement, imports from Brazil, Paraguay and Uruguay enter at zero duty while imports from Argentina pay a 1.55 percent duty. Under the Colombia-Central America triangle trade agreement, imports from Guatemala, Salvador and Honduras pay a 6 percent import duty. Imports from Chile and Mexico pay zero duty. Biofuels imports are under the Colombian regime of free importation which means there are no special requirements for imports.

Stocks

Colombia does not have programs to encourage the biodiesel industry to keep stocks. The stocks held by the industry are their working inventories.

Tables

Ethanol - Conventional & Advanced Fuels (Mil. Liters)							
Calendar Year	2006	2007	2008	2009	2010	2011	2012
Production, Total	269	275	260	327	280	300	350
Advanced Only							
Imports	0	0	0	0	0	0	0
Exports	0	0	0	0	0	0	0
Consumption	265	270	255	319	273	294	410
Ending Stocks	4	5	5	8	7	6	3
Production Capacity - Conventional							
No. of Biorefineries	5	5	5	5	6	6	7
Capacity (Mil. Liters)	378,000	378,000	378,000	378,000	387,000	459,000	459,000
Capacity Use (%)	71%	73%	69%	87%	72%	65%	76%
Production Capacity - Advanced							
No. of Biorefineries							
Capacity (Mil. Liters)							
Capacity Use (%)							
Co-product Production - Conventional only (1,000 MT)							
Product Y							
Product Z							
Feedstock Use - Conventional (1,000 MT)							
Sugarcane	3,587	3,667	3,416	4,350	4,405	4,480	5,625
Cassava					8	8	8
Feedstock C							
Feedstock D							
Feedstock Use - Advanced (1,000 MT)							
Feedstock A							
Feedstock B							
Feedstock C							
Feedstock D							

Biodiesel - Conventional & Advanced Fuels (Mil. Liters)							
Calendar Year	2006	2007	2008	2009	2010	2011	2012
Production, Total		9	80	330	420	537	545
Advanced Only							
Imports							
Exports							
Consumption							
Ending Stocks							
Production Capacity - Conventional							
No. of Biorefineries		1	2	6	6	6	7
Capacity (Mil. Liters)		56	100	540	568	568	683
Capacity Use (%)		16%	80%	61%	74%	95%	80%

Production Capacity - Advanced							
No. of Biorefineries							
Capacity (Mil. Liters)							
Capacity Use (%)							
Feedstock Use - Conventional (1,000 MT)							
Palm oil		8	71	291	369	473	473
Feedstock B							
Feedstock C							
Feedstock D							
Feedstock Use - Advanced (1,000 MT)							
Feedstock A							
Feedstock B							
Feedstock C							
Feedstock D							