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Colombia

Biofuels Annual

Blend Mandates Maintain Status Quo as a Biofuel Policy Vision Remains Unclear

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Report Highlights:
The Government of Colombia (GOC) has communicated no clear vision for biofuels policies despite promises to increase blend mandates as new production facilities come online in 2015. Current mandates remain unchanged for 2013 resulting in little stimulation in production or consumption patterns.

Post:
Bogota

Executive Summary:
In 2013, the GOC biofuel blending mandates remain at B10 (a blend of 10 percent palm ethyl esters in diesel) and a range of E8 to E10 (a blend of anhydrous ethanol from eight to 10 percent in gasoline). The blend mandates were set in December 2011. New investments in commercial ethanol and biodiesel production facilities will support expanded production in 2015. The production capacity of the new facilities is estimated to be up to 500,000 liters of ethanol and 200,000 liters of biodiesel per day. The production of the new facilities will be entirely dependent on an increase in the blend mandates given limited domestic demand and few export market incentives. The GOC has promised to increase mandates as those facilities come online. Given there are few technology upgrades needed for the primary consumer of Colombian biofuels, gasoline and diesel powered vehicles, the GOC will likely follow through with the promise. Nevertheless, no expanded vision for biofuels policy has been communicated beyond the promise to incrementally increase current blend mandates.

Biofuel production increased in 2012 paralleling a yield recovery of for Africa palm and sugarcane due to improved weather and more ideal growing conditions. In 2012, Post estimates are that Colombian ethanol production increased to 362 million liters, up seven percent from the year before. Colombian ethanol production in 2013 is expected to increase marginally to 365 million liters. Biodiesel production reached 533 million liters in 2012, increasing 10 percent from the previous year, stimulated by the Africa palm yield recovery. Biodiesel production in 2013 will stay at 2012 levels.

The GOC officially established an ethanol blend mandate of E8-E10 in 2012, in addition to adjusting upward the biodiesel blend mandate from B8 to B10. Colombian Africa palm oil area planted continues to expand and cane sugar production consistently exceeds local demand. The surplus generated by both feedstocks can easily sustain increases in biofuel production, motivating the biofuels industry to demand further increases in mandated blend levels.

The Colombian Ministry of Energy (MOE) and the Inter-American Development Bank collaborated on research revealing that Colombian palm oil-based biodiesel production can reduce green house gases in Colombia by up to 83 percent. And, expanded Africa palm production will have negligible impacts on the environment and food security. The Colombian Federation of Biofuels (FEDEBIOCOMBUSTIBLES) has worked with the MOE to petition the U.S. Environmental Protection Agency to recognize the sustainability of Africa palm oil for biodiesel production in Colombia and the measurable reduction of green house gas emissions.

Author Defined:
The GOC supports the production and use of biofuels with blend mandates aimed at diversifying sources of energy, reducing dependency on fossil-fuels and proactively addressing greenhouse gas emissions. There is an understanding by agro-industry that biofuels production positively impacts rural employment. For the energy sector as a whole, the GOC sets fuel policies to improve fuel quality by reducing the sulphur content in diesel and gasoline to 50 and 300 parts per million (ppm), respectively.

Colombia imports low sulphur diesel fuels to blend with local diesel produced with higher sulfur content. There are no import restrictions on diesel fuels and the publicly owned Colombian Petroleum Company, known as ECOPETROL, has the only refinery that blends biodiesel fuels with imported and domestic diesel for distribution throughout the country.

Biofuel production facilities receive a special tax designation as an industrial free trade zone and therefore pay zero taxes on revenues. Biofuel sales are also excluded from paying a GOC 16 percent value-added-tax. Ethanol sales are exempt from many local taxes; however, biodiesel sales are levied a local tax of US$0.15 per gallon.

The 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. In addition, every month the MOE calculates a new price to be applied to ethanol and biodiesel.

The current biofuels blend mandate originates from *Decree 4892* establishing a biodiesel blend at B10 and an ethanol blend range from E8 to E10. The decree was implemented on January 1, 2012. The decree determines that the GOC should consider the following aspects before any change in the blend level: 1) Africa palm and sugar cane productive viability and impact on environmental conditions; 2) technological capacity of vehicles to function under certain blends; 3) the storage infrastructure; and, 4) the distribution and transport chain. In addition, the decree gives the authority to the Ministries of Energy, Transport, Environment, and Health and Social Protection to regulate the production, storage, transport, distribution, infrastructure, use, surveillance and control of the blend mandate.

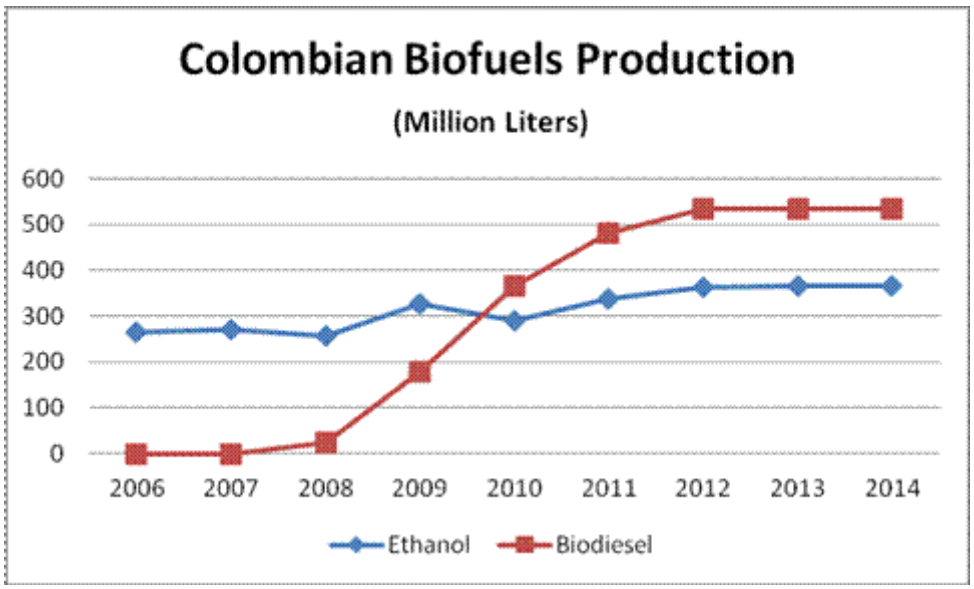
The decree allows for some flexibility for the GOC reduce or expand the blend mandates based on domestic production levels of ethanol and biodiesel. This 'flexibility' has created some concerns with industry and demonstrates little vision about GOC priorities for biofuels, creating unclear expectations that blend mandates would be consistently increased over time.

Colombia is a net exporter of palm oil and sugar, supporting a reliable source of inputs for the biofuel industry with little concern about the impacts on both feed stocks and disruptions to local supply. As well, biodiesel production has stimulated rural development through Africa palm cultivation creating new opportunities for rural income and employment.

Bioethanol and Biodiesel

Production

Ethanol production is derived entirely from sugarcane, while all biodiesel is produced from Africa palm. Colombia is the fourth largest producer of African palm globally after Indonesia, Malaysia and Thailand. Sugar and palm oil production sufficiently exceed local demand creating a production surplus for biofuels and/or export. The sugarcane and Africa palm feedstock neither competes with the food supply nor takes land from alternative food crops. Biofuel production has displaced 48 percent of sugar and 50 percent of palm oil exports with no impacts to domestic markets.



All of Colombia's ethanol production is supplied by five ethanol plants in the southern Cauca Valley region near the city of Cali. All ethanol plants are clustered with larger industrial sugar production and manufacturing facilities. There is an additional facility to produce ethanol derived from yucca (cassava) as a feedstock; however, the facility is mostly a failure given limited yucca supplies. Two new ethanol plants are currently being built as part of larger sugar manufacturing operations with an expected completion in 2015, increasing overall ethanol production capacity to 500,000 liters per day. Current ethanol plant production for all facilities averages about 1.25 million liters per day

There are currently nine biodiesel plants using Africa palm oil as the primary feedstock. Four of these plants are owned by palm oil producers, while two plants are majority owned by ECOPETROL. Total biodiesel production capacity is an estimated 631.5 million liters per day. One plant is currently being expanded and will increase capacity an additional 92,300 liters per day in late 2014. A new biodiesel plant is projected to come online in 2015 producing approximately 108,700 liters per day. In 2015, the total Colombian capacity of biodiesel production is estimated to reach 832.6 million liters per day.

Consumption

Colombia biofuels consumption is entirely dependent on GOC blend mandates, currently set at B10 and E8-E10. Most ethanol consumption is at the 8 percent blend. Consumption is expected to parallel increased production from new ethanol plants, reaching a consistent E10 blend by 2015. Biodiesel consumption is currently operates under the B10 blend mandate in the most populous regions of Colombia, covering 85 percent of the total population. Some remote areas along the eastern plains and frontier only blend between B2 and B8, respectively.

Most urban centers have been replacing older public transportation buses with more modern vehicles that are capable of using cleaner biofuels, marginally stimulating consumption. Both the ethanol and biodiesel industry organizations have conducted research and opened dialogue with the U.S. Environmental Protection Agency to seek recognition that Colombian palm oil-based biodiesel and

cane-based ethanol are sustainable with significant greenhouse gas reductions of up to 80 and 40 percent, respectively. FEDEBIOCOMBUSTIBLES has expressed concerns to the GOC that the extensive Colombian mining sector ignores blend mandates and consumes 100 percent fossil fuel-based diesel, commenting that there is significant potential to increase the biofuel demand if that industry would abide by GOC biofuel blend mandates.

Trade

Colombia neither imports nor exports biofuels. Tight biofuel supplies to comply with current blend mandates limit potential for exports. Infrastructure and storage deficiencies also limit Colombia's biofuel export potential. Colombia will not likely import ethanol given industry commitments to source domestically and an ethanol import duty of 10 percent. Biodiesel producers are optimistic that Colombia will become an exporter of biodiesel as Africa palm area expands and new production facilities come online.

Ethanol was excluded in the Colombia – Southern Common Market (MERCOSUR) trade agreement, leaving duties on imports for biodiesel (5%) and ethanol (10%). Under the U.S.-Colombia Trade Promotion Agreement, ethanol and biodiesel imports from the United States pay zero duties.

Stocks

Colombia does not have programs to encourage storage or long-term stocks of biofuels. Most industries hold no more than 2-3 days of working inventories.

Tables

Biodiesel (Liters - Thousand)									
Calendar Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Beginning Stocks			0	1,013	5,184	8,286	10,973	3,089	4,089
Production			24,713	177,271	365,802	481,587	532,616	533,000	533,000
Imports									
Exports									
Consumption			23,700	173,100	362,700	478,900	540,500	532,000	533,000
Ending Stocks		0	1,013	5,184	8,286	10,973	3,089	4,089	4,089
Production Capacity									
Number of Biorefineries			2	6	6	6	9	9	9
Nameplate Capacity			50,000	543,500	570,675	570,675	570,675	570,675	570,675
Capacity Use (%)	#DIV/0!	#DIV/0!	49.4%	32.6%	64.1%	84.4%	93.3%	93.4%	93.4%
Feedstock Use (1,000 MT)									
Palm oil			23	163	337	443	490	490	490
Feedstock B									

Feedstock C									
Feedstock D									
Market Penetration (Liters - specify unit)									
Biodiesel, on-road use									
Diesel, on-road use									
Blend Rate (%)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Diesel, total use									

Ethanol Used as Fuel and Other Industrial Chemicals (Liters - Million)									
Calendar Year	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Beginning Stocks	2	4	5	5	8	7	9	5	2
Fuel Begin Stocks	2	4	5	5	8	7	9	5	2
Production	266	272	256	327	291	337	362	365	365
Fuel Production	266	272	256	327	291	337	362	365	365
Imports									
Fuel Imports									
Exports									
Fuel Exports									
Consumption	264	269	256	324	293	335	366	368	366
Fuel Consumption	264	269	256	324	293	335	366	368	366
Ending Stocks	4	5	5	8	7	9	5	2	2
Fuel Ending Stocks	4	5	5	8	7	9	5	2	2
Production Capacity									
Number of Refineries	5	5	5	5	5	6	6	6	6
Nameplate Capacity	378	378	378	378	378	456	456	456	456
Capacity Use (%)	70%	72%	68%	87%	77%	74%	79%	80%	80%
Co-product Production (1,000 MT)									
Co-product A									
Co-product B									
Feedstock Use (1,000 MT)									
Sugarcane	3,587	3,667	3,416	4,350	4,405	4,480	4,450	4,450	4,450
Cassava					8	8	8	8	8
Market Penetration (Liters - Million)									
Fuel Ethanol	264	269	256	324	293	335	366	368	366
Gasoline									
Blend Rate (%)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!