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Report Highlights:

In 2022, Colombia's fuel ethanol and biodiesel production are estimated to decrease to 360 million liters and 700 million liters, respectively, as a result of adverse weather conditions and lower blend mandates. In 2022, the Colombian government decreased the ethanol blend mandate to E6 and the biodiesel blend mandate to B10. Fuel ethanol imports to Colombia are estimated to remain unchanged at 60 million liters if the government decreases the ethanol blend mandate to E4 in the second half of 2022. The biodiesel blend mandate will likely remain at B10. No biodiesel trade is expected in 2022. U.S. ethanol exports entering Colombia continue to face a countervailing duty of $0.066/kg ($0.052/liter), originally put in place in May 2020. This duty is currently under review.

I. Executive Summary

In 2022, Colombia's gasoline and diesel consumption are estimated to increase as the country's economy continues to recover. Despite larger fossil fuel demand, Colombia's sugarcane-based ethanol production and palm oil-based biodiesel production are estimated to decrease to 360 million liters and 700 million liters, respectively. Adverse weather conditions during the first half of 2022, decreasing biofuel blend mandates, and the upward trend of input costs, primarily fertilizers, will likely affect productivity of raw materials for biofuels production.

The Colombian government tightly controls the Colombian fuel market. The Ministry of Mines and Energy (MME) has the authority to establish biofuel blend mandates, regulate fuel and biofuel prices, and set technical regulations on biofuel standards. Since 2005, when Colombia's implementation of biofuel blend mandates started, multiple changes were implemented. Since 2021, the Colombian government has decreased biofuels blend mandates from ten percent ethanol (E10) to lower levels, fluctuating between four to six percent ethanol (E4-E6). Most recently, the MME drafted a regulation, that has not been issued yet, decreasing the blend mandate to E4 from August to November 2022. This is despite a previous planned increase starting in July 2022. The biodiesel blend mandate will remain at B10 for the time being with no scheduled changes. The measures to decrease biofuel blend mandates were taken as a response to rapid, partial recoveries in fuel pools that locally produced biofuels could not meet to maintain higher blend rates. In the specific case of ethanol, increased costs of imported ethanol due to the strong U.S. dollar against the Colombian peso, higher international prices, and the countervailing duty imposed on U.S. ethanol discouraged imports that could have supported higher blends. Based on ethanol production, ethanol imports, and gasoline consumption, the average ethanol blend in the country will be at 5.3 percent in 2022, which is one of the lowest since the start of Colombia's biofuels policy. Biodiesel production and diesel consumption data suggest that the average biodiesel blend rate in Colombia will be at 10.0 percent in 2022 and thus relatively stable as it has remained for most of the past decade.

In December 2021, President Ivan Duque signed a Climate Action Law. This law institutionalizes Colombia's Nationally Determined Contribution target of reducing greenhouse gas emissions by 51 percent from business-as-usual projections by 2030, defines measures to achieve carbon neutrality by 2050, and outlines steps to build climate resilience.

If the ethanol blend mandate decreases to E4 in the second half of 2022, fuel ethanol imports are estimated to remain unchanged at 60 million liters assuming a similar volume as the one imported in the first half will be imported in the second half of the year. However, one risk to this estimate is that the current counter-veiling duty (CVD) expiry review on U.S. ethanol imports could result in an extension of the CVD and possibly a different duty rate. Colombia neither imports nor exports biodiesel. Since May 2020, Colombia has imposed a CVD against U.S. ethanol imports, with a specific duty of $0.06646 per kilogram (or $0.0526 per liter).

Policy and Programs

Colombia's biofuels policy was developed to support the rural economy through additional revenue streams for the sugarcane and palm oil industries. It also aimed to diversify Colombia's energy sources by decreasing the country's dependence on fossil fuels and reducing greenhouse gas (GHG) emissions to achieve the country's environmental commitments. MME is the authority that regulates Colombia's biofuels policies, primarily related to prices and blend mandates. MME works with the Ministry of Agriculture and Rural Development and the Ministry of Environment and Sustainable Development to design policies related to biofuels. Colombia manages its biofuel market using a system of mandates, tax relief, environmental regulations, and price controls. Colombia's biofuel strategy originated from two laws (Law 693 of 2001 for ethanol and Law 939 of 2004 for biodiesel). These two laws promote biofuels production and set fuel quality standards, determine taxes, set prices, and mandate support. Tax incentives have been in place since 2002, but the implementation of Colombia's mandates have changed over time and are not applied evenly throughout the country.

Greenhouse Gas (GHG) Emissions Policy

Colombia remains a regional leader on climate change ambition and seeks to play a pivotal role in advocating for carbon market and financing solutions that incorporate the unique needs of developing and climate-vulnerable countries. Since 2012, Colombia has been working on a Low-Carbon Development Strategy to identify and prioritize mitigation measures in different economic sectors. Despite Colombia's climate commitments, the Colombian government continues to impose emergency measures that decrease Colombia's biofuel blend levels in fossil fuels to adjust for local supply shortages and high international fuel prices.

On December 22, 2021, President Ivan Duque signed a Climate Action Law which institutionalizes Colombia's Nationally Determined Contribution target of reducing GHG emissions by 51 percent from business-as-usual projections by 2030, defines measures to achieve carbon neutrality by 2050, and outlines steps to build climate resilience. This law contains nearly 200 specific actions, including achieving net zero deforestation by 2030, increasing the number of electric vehicles in circulation to at least 600,000 in 2030 (as of March 2022, Colombia had 7,537 electric vehicles), reducing GHG emissions from agricultural activities, increasing the absorption of GHG through the promotion of agro-energy crops, and using biomass to produce biofuels and bioenergy.

The quality standards for ethanol used as fuel (i.e., water content, acidity, and conductivity) were established through resolution 789, issued in May 2016 and implemented in May 2018. Through resolution 182142 of 2007, MME issued the technical and safety requirements for the production, distribution, and import of biofuels used in diesel engines.

The Ministry of Environment and Sustainable Development published Resolution 1962, effective since December 29, 2017, that established a maximum carbon intensity value associated with the GHG inventory of denatured anhydrous ethanol fuel. The Colombian sugar-ethanol industry committed to reach a 20 percent reduction of GHG emissions from base year 2016. According to the Ministry of Environment, a 20 percent reduction by 2021 means that the calculations for the biofuel index quotient would set a value of 780 kg of

CO2e/cubic meter (equal to 42.3 gCO2e/MJ) fuel ethanol. By 2021, the limit would represent an approximate 61 percent reduction in GHG emissions of ethanol relative to gasoline.

Biofuel Blend Mandates

Backsliding on blend mandates across the nation when domestic feedstock supply is inadequate has led to stagnation in the Colombian ethanol market, especially from 2014 to 2017, and a mostly stagnant biodiesel market over the past decade with some backsliding as well in 2016 and 2017. Table 1 illustrates the changes in biofuels blend mandates since 2016.

Table 1: Average biofuel blend mandates in Colombia

Year	Ethanol	Biodiesel
2016	E8	B8 - B10
2017	E6 - E8	B9 - B10
2018	E10	B10
2019	E10	B12 - B6 - B8 - B10
2020	E10	B10
2021	E10 - E4 - E7 - E4	B12 - B10
2022*	E6	B11 - B10

** 2022 only includes the biofuel blend mandates for the first half of the year.*
Source: Ministry of Mines and Energy and National Biofuels Producers Association

The government has removed the biofuel blend mandates for periods of time due to a shortage of domestic production, even though imports could have supported sustained higher use. In March 2018, the Colombian government set the ethanol blend mandate at E10 and then in September 2019, the government set a biodiesel mandate of B12. These mandates, the highest ever established, were introduced to reduce levels of pollution in major metropolitan cities, contribute to Colombia's climate change commitments, and incentivize local production. These mandates applied to all areas except for three departments bordering Venezuela where there is no blend mandate for ethanol and only 2 percent for biodiesel.

Since mid-2017, Colombia maintained the ethanol blend mandate between E8 and E10 in most of the country due to increasing ethanol imports and steady local production. However, on March 31, 2021, the Colombian government issued an emergency resolution to decrease the ethanol blend mandate from E10 to E4 starting on April 1, 2021, and until June 2021. The measure attributed the blend mandate change to inclement weather that impacted domestic production and increasing U.S. ethanol prices that discouraged imports, although Colombia also maintained their countervailing duty on imports of U.S. ethanol. Following June 2021, the blend mandate was supposed to gradually increase to E10 at the end of 2021. However, MME has continued to issue new resolutions to decrease the ethanol blend mandate which has not returned to E10 since March 2021, despite earlier timelines for returning to higher blends. A resolution issued on November 11, 2021, established that the ethanol blend mandate for the first half of 2022 remains at E6, will increase to E8 in July 2022, and to E10 from August 2022. The most recent measure issued on April 12, 2022, established that if fuel distributors demonstrate shortage of ethanol inventories, they are allowed to blend ethanol with gasoline to lower levels of E6. This measure is valid until July 31, 2022. On July 12, 2022, MME issued a new draft resolution for public

comments, that decreases ethanol blend mandate to E4 from August to November 2022. Then it will gradually increase to E6 in December, to E8 in January 2023, and to E10 from February next year. The draft resolution attributes the decrease of the blend mandate to lower local production affected by adverse weather conditions and road-blockades. The increases will be subject to the issuance of new MME resolutions establishing the ethanol reference price.

Despite increasing the biodiesel blend mandate to B12 in September 2019, after only 20 days, Colombia decreased it again due to lower domestic production of palm oil. A resolution established that the biodiesel blend mandate would decrease to B2 by the end of September 2019 and gradually increase again to B10 in December 2019. In 2020, the biodiesel blend mandate was B10. On April 9, 2021, the Colombian government issued a resolution to increase the biodiesel blend mandate from B10 to B12 starting in April 2021 throughout most of the country. However, on December 29, 2021, the biodiesel blend mandate decreased to B11 in January 2022 and to B10 in March 2022.

Tax Policy

Since 2002, to promote biofuel use and production, the government eliminated the value-added tax (VAT) for biofuels and exempted them from a global carbon tax on fossil fuels. In addition, ethanol blended with gasoline is exempt from local surcharge fees. The 2016 tax reform established a new tax on fossil fuels. This bill, known as a "green tax" or "carbon tax," created a tax on the carbon content of all fossil fuels, including all oil derivatives and all types of fossil gas used for energy purposes. The rate is based on the release-of-carbon-dioxide factor for each fuel, expressed as the volume or weight of the fuel. Table 2 illustrates the current tax rates on fossil fuels and biofuels.

Table 2: Current fuel and biofuel tax rates in Colombia (in Colombian pesos)

Tax	Gasoline	Diesel	Biofuels	Regulation
Global tax	$586.25 per gallon on regular gasoline (~USD $0.15)	$561.12 per gallon (~USD $0.14)	Exempt	Art. 167,168,173 - Law 1607 of 2012 Art. 218,219,220 - Law 1819 of 2016
Value added tax (VAT)	19 percent	19 percent	Exempt	Art. 183 - Law 1819 of 2016 Art. 477 - Estatuto Tributario (Biofuels exempt)
Carbon tax	$169 per gallon (~USD $0.04)	$191 per gallon (~USD $0.05)	Exempt	Dec. 926 of 2017 Art. 221, 222, 223 - Law 1819 of 2016
Local surcharge fee	25 percent of the reference price. Reference price for May 2022: $4,842 per gallon (~USD $1.20)	6 percent of the reference price. Reference price for May 2022: $4,180.45 per gallon (~USD $1.04)	Exempt on ethanol blended with gasoline. There is no surcharge tax relief on biodiesel	Art. 117 to 121 - Law 488 of 1998
Note: Values are in Colombian pesos (COP). Specific tariffs are valid for 2022 and updated on annual basis. Exchange rate used 1USD=4,028 COP, average exchange rate in May 2022				

Source: Colombian Oil and Gas Information System (SIMEC), MME

Regulated Biofuel Prices

The MME periodically sets the price for gasoline and diesel at wholesale markets. These prices include the price that fuel distributors or blenders must pay to domestic producers of biofuels and are calculated based on a formula previously defined by MME resolutions. For ethanol, these resolutions are 181232 of 2008, 180643, and 91865 of 2012. For biodiesel, these resolutions are 181780 of 2005, 181966 of 2011, and 181489 of 2012. The current fuel price structure is established through MME's resolution 41281 of 2016. Reference fuel prices change across the country depending on the transportation and distribution costs of each region.

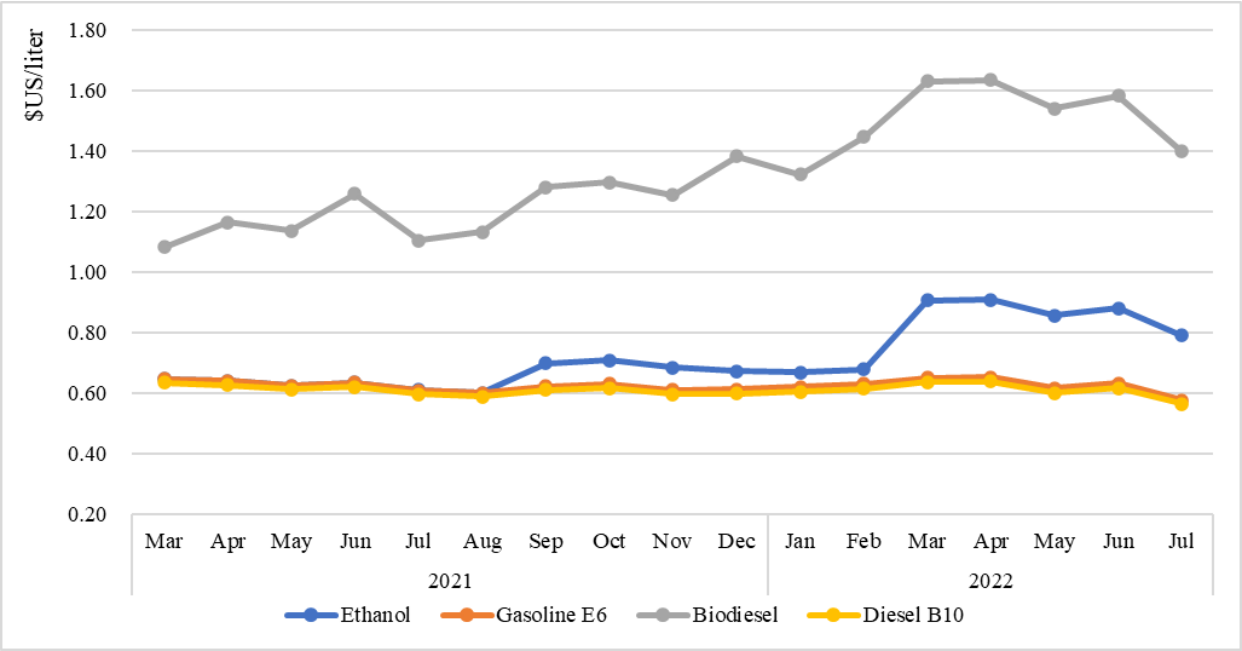
Colombia's biofuel policy gives an advantage to palm oil and sugarcane production. The government established formulas to calculate the price of biofuels based on the opportunity cost of using these raw materials to supply the sugar and palm oil markets.

The fuel ethanol price is established as the higher of the following two calculations: the opportunity cost of using refined sugar to produce ethanol (the international price equivalence for refined sugar at the London market) and the international price for gasoline adjusted by technical factors (increased octane and reduction on sulfur content). The ceiling value is the price of gasoline in Bogota, Colombia's capital. However, given rising sugar and ethanol prices, in August 2021 the MME issued a resolution to temporarily eliminate the ceiling price of ethanol. This measure was taken to incentivize local production and imports to maintain the current ethanol blend mandate at E6 during a period when most local ethanol plants and sugar mills close operations due to technical maintenance.

The biodiesel price is established within a price band: the ceiling price is calculated as the import parity price of fossil diesel adjusted by technical factors, and the floor price is expressed as the export parity price of palm oil at the Rotterdam market adjusted by freight costs and technical factors.

The most recent MME mandated price for a liter of ethanol is approximately $0.79 ($2.99 per gallon), a 29 percent increase from the same period last year. For biodiesel, the most recent MME mandated price per liter is about $1.40 ($5.29 per gallon), a 27 percent increase year-over-year following upward trend of palm oil price. The slight decrease observed in July's fuel prices is the result of Colombian peso devaluation against the U.S. dollar, which in only one month has devaluated 11.3 percent. Figure 1 illustrates fossil and biofuel administered prices in Colombia.

Figure 1: Colombia's monthly fuel and biofuel administered prices (USD/liter)



Source: Ministry of Mines and Energy and National Biofuels Producers Association

In 2007, the Colombian government established the Fund for Stabilization of Fuel Prices (FEPC) to limit international fuel price fluctuations in the Colombian market. Therefore, increasing international fuel prices have not yet passed onto consumers. However, driven by high oil prices, Colombia's fuel subsidy fund is estimated to reach a deficit of 33.7 trillion Colombian pesos ($8.8 billion) at the end of 2022, nearly 3.3 percent of Colombia's GDP. It will be necessary to gradually increase prices at the pump, but the government has remained cautious in rising prices due to high inflation rates and to avoid protests.

Import Policy

Under the U.S. Colombia Trade Promotion Agreement (CTPA), Colombia's import duties covering HS 2207.10 (i.e., un-denatured ethanol) were immediately eliminated when the agreement entered into force in 2012. In the case of HS 2207.20 (i.e., denatured ethanol), the 15 percent base rate duty was removed in five equal annual stages beginning in 2012. Since 2016, U.S. denatured ethanol, which is the one fuel ethanol falls under, has entered duty-free.

In January 2019, Colombia's Ministry of Commerce, Industry and Tourism (MINCIT) initiated a countervailing duties (CVD) investigation on U.S. ethanol at the behest of the National Biofuels Producers Association (Fedebiocombustibles). On May 7, 2020, MINCIT issued a final ruling in its CVD investigation of U.S. ethanol. It placed a $0.06646/kg duty (or $0.0526 per liter) on imports of ethanol from the United States for the next two years until May 7, 2022.

On May 4, 2022, MINCIT determined that a petition it had received from domestic industry to review the existing CVD against U.S. ethanol imports had merit to launch a formal review. The CVD was set to expire on May 7, 2022 but pending review could result in it being extended, and possibly at a different duty rate. While

the CVD expiry review is conducted, the $0.06646/kg duty ($0.0526/liter) on imports of U.S. ethanol continues to be applied.

There is no specific biodiesel import policy. The Colombian market is open to biodiesel imports without any regulatory restrictions, except for the compliance with quality standards and the MME authorization to be an importer. There is only one authorized biodiesel importer.

III. Fuel Ethanol

Consumption

In 2022, Colombia's fuel ethanol consumption is forecast to decrease to 425 million liters, down 11 percent from the previous year revised estimate of 477 million liters. This decrease is driven by a lower ethanol blend mandate and slow recovery of ethanol imports. In 2021, despite increased gasoline demand, Post's revised fuel ethanol consumption estimate is 13.3 percent down from 550 million liters to 477 million liters as the Colombian government did not reimpose ethanol blend levels as planned, and ethanol imports decreased more than expected. In 2021, gasoline demand recovered as a result of Colombia's rapid economic growth. Colombia's GDP grew 10.2 percent in 2021, higher than the 7.8 percent estimate, after the economic contraction of 6.8 percent in 2020. The Colombian Petroleum Association forecasts gasoline demand to grow by 9 percent in 2022 while the International Energy Agency projections, updated in the June 2022 Oil Market Report, estimates a 2 percent contraction. FAS Bogota estimates gasoline pool growth at 3.8 percent in 2022.

Given the lower blend mandate, high international ethanol prices, and imposed countervailing duty, Colombia's ethanol blend rate is estimated at 6.2 percent in 2021, and is forecast to decrease further to 5.3 percent in 2022. Gasoline pool growth continues to increase while local production is down, and imports are not recovering.

Production

In 2022, Colombian ethanol production is estimated at 360 million liters, a decrease of 9.3 percent from the previous year estimate of 397 million liters. In 2022, excessive rains and cloudiness have continued in the main sugar cane producing regions as a result of the La Niña weather phenomena resulting in a shortage of raw material for ethanol production. According to the Colombian Institute of Meteorology (IDEAM), weather conditions are forecast to return to normal averages in the second half of 2022. Although normal weather conditions and rising sugar and ethanol prices are expected to support higher sugarcane production, the upward trend of input costs, primarily fertilizers, will likely affect productivity in 2022 and 2023.

Currently Colombia's ethanol production is supplied by seven ethanol distilleries with a production capacity of 660 million liters using sugarcane as the feedstock. Of the 14 sugar mills in Colombia, six own ethanol refineries. These ethanol plants have an annual capacity of 540 million liters and are located near the city of Cali in Colombia's southwest region. The plants in this region are able to produce almost year-round, except for a period of 30 to 40 days when the plants close operations due to technical maintenance. Maintenance usually takes place annually between March and May.

One additional ethanol facility, Bioenergy, not linked to the sugar industry. Bioenergy is located in the eastern plains in the Meta Department. This distillery is sourcing sugarcane from 20,000 hectares established near the area. In this region, climate conditions only allow sugarcane harvesting during eight months per year. In 2020, Bioenergy started a liquidation process due to a lack of liquidity. However, a new company took ownership and obtained resources to continue operating.

While sugarcane juice is used for ethanol production, sugarcane bagasse is used to generate energy and produce paper. Most Colombian ethanol plants are energy self-sufficient and generate surplus power that is sold to the national electric grid. The current sugar sector capacity for electric power generation is 316 megawatts (MW), of which 140 MW supports self-sufficient plant operations with the remaining amount sold to utilities for public consumption. Bioenergy had an electric power generation capacity of 35 MW in 2021.

Trade

In 2022, Colombia fuel ethanol imports are forecast to remain unchanged at 60 million liters. Colombian peso devaluation against the U.S. dollar joined with the CVD duties in place, and potential decreasing blend mandate in the second half of 2022, will discourage imports growth. In the first half of 2022, nearly 35 million liters of ethanol have been imported, primarily from the United States. The United States is expected to continue as the main supplier.

Most imported ethanol is used to supply the Colombian north coast. Due to geographic and logistical issues, it is costly and inefficient for Colombia's domestic ethanol industry to supply to the northern region. When international prices are favorable, importers may purchase larger quantities to supply more cities in the center of Colombia. Domestic ethanol production is the predominate supplier to the southern and central regions.

Stocks

Colombia does not have programs to encourage storage or long-term stocks of biofuels. However, gasoline and diesel fuel regulations require stocks to adequately supply the market at 10 days of total fuel demand. In 2022, ending stocks are estimated at 15 million liters which represents approximately 10 days of total biofuel demand at the E6 blend level.

Table 3: Colombia's Production, Supply and Distribution for Ethanol

Ethanol Used as Fuel and Other Industrial Chemicals (Million Liters)										
Calendar Year	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022f**
Beginning Stocks	12	15	11	10	10	13	15	20	40	20
Fuel Begin Stocks	12	15	11	10	10	13	15	20	40	20
Production	388	406	456	434	393	470	450	395	397	360
Fuel Production	388	406	456	434	393	470	450	395	397	360
Imports	138	98	108	108	160	265	275	260	65	75
Fuel Imports	21	18	7	23	75	201	265	255	60	60
Exports	0	0	0	0	0	0	0	0	0	0
Fuel Exports	0	0	0	0	0	0	0	0	0	0
Consumption	523	508	566	542	550	733	720	635	482	440
Fuel Consumption	406	428	464	457	465	669	710	630	477	425
Ending Stocks	15	11	10	10	13	15	20	40	20	15
Fuel Ending Stocks	15	11	10	10	13	15	20	40	20	15
Refineries Producing Fuel Ethanol (Million Liters)										
Number of Refineries	5	5	6	6	7	7	7	6	7	7
Nameplate Capacity	412	412	465	540	600	660	660	540	660	660
Capacity Use (%)	94.1%	98.7%	98.2%	80.4%	65.5%	71.2%	68.2%	73.1%	60.2%	54.5%
Co-product Production (1,000 MT)										
Bagasse	1,308	1,371	1,540	1,464	1,326	1,585	1,518	1,330	1,338	1,215
Feedstock Use for Fuel Ethanol (1,000 MT)										
Sugarcane	4,673	4,897	5,499	5,229	4,736	5,663	5,420	4,760	4,785	4,337
Market Penetration (Million Liters)										
Fuel Ethanol Use	406	428	464	457	465	669	710	630	477	425
Gasoline Pool (1)	5,123	5,509	6,161	6,810	6,891	7,147	7,725	6,393	7,659	7,950
Blend Rate (%)	7.9%	7.8%	7.5%	6.7%	6.7%	9.4%	9.2%	9.9%	6.2%	5.3%

(1) Gasoline pool data was sourced from the IEA June 2022 Oil Market Report outlook. *Note: 2022 figures are FAS Bogota forecast*
Conversions: 1 MT sugarcane = 83 liters ethanol; Bagasse: 28 MT/100 MT of sugarcane

IV. Biodiesel

Consumption

In 2022, Colombia's biodiesel consumption is estimated to decrease by 2.1 percent to 700 million liters driven by lower domestic production and a decreasing blend mandate. Colombian biodiesel consumption is entirely dependent on local production to meet the government blend mandate. Given current market dynamics, Colombia's biodiesel blend rate is estimated at 10.0 percent in 2022.

In 2021, fuel demand recovered as a result of Colombia's rapid economic growth. Colombia's GDP grew 10.2 percent in 2021, after the economic contraction of 6.8 percent in 2020. Considering that the Colombian Petroleum Association forecasts diesel demand to grow by 9 percent in 2022, while the International Energy Agency projections, updated on the June 2022 Oil Market Report, estimates a 2 percent contraction, FAS Bogota estimates diesel pool growth at 6.0 percent in 2022.

Production

In 2022, Colombian biodiesel production is estimated to slightly decrease to 700 million liters, a 2.8 percent decrease from the 2021 estimate of 720 million liters. Adverse weather conditions from La Niña weather phenomena joined with rising input costs, primarily fertilizers, may affect palm oil production.

There are 12 operational biodiesel plants in Colombia (up from eight plants in 2016) using palm oil as the feedstock, and one of them produces small quantities of biodiesel from used cooking oil. Six of the 12 plants are members of the National Biofuels Producers Association (Fedebiocombustibles) and produce over 90 percent of the total Colombian biodiesel production.

The palm oil sector capacity for electric power is estimated at 340 MW. Palm oil producers generate energy from biomass and/or biogas to support self-sufficiency. Currently, there are only three palm oil plants that generate surplus, but there is no comprehensive information on quantity. The palm and ethanol industries claim to be capable of generating more power to sell to local utilities.

Trade

Colombia neither imports nor exports biodiesel. Even though there is an authorized biodiesel importer in Colombia since July 2017, to date, there have been no biodiesel imports registered under the codes HS 382600 (i.e., biodiesel-diesel blends above B30 by volume to pure B100 biodiesel) or HS 271020 (i.e., petroleum oils containing up to 30 percent biodiesel by volume). Prices have not been attractive to import.

The biodiesel industry operates with some production capacity unused and aspires to export with facilities running at full capacity. However, prospects are dim for palm oil-based biodiesel from Colombia with little opportunity for sales in the two largest biodiesel markets – Europe and the United States, due to regulatory and environmental restrictions.

Colombia's palm oil biodiesel is not approved for use to meet obligations under the U.S. Renewable Fuel Standard (RFS) and thus cannot generate Renewable Identification Numbers (RINs).

Stocks

Gasoline and diesel fuel regulations require stocks to adequately supply the market at 10 days of total fuel demand. In 2022, biodiesel ending stocks are estimated at 25 million liters if the B10 mandate remains and the diesel pool grows as expected.

Table 4: Colombia's Production, Supply and Distribution for Biodiesel

Biodiesel (Million Liters)										
Calendar Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022f
Beginning Stocks	11	14	15	13	11	13	15	20	20	25
Production	573	590	583	530	545	627	610	570	720	700
Imports	0	0	0	0	0	0	0	0	0	0
Exports	0	0	0	0	0	0	0	0	0	0
Consumption	570	589	585	532	543	625	605	570	715	700
Ending Stocks	14	15	13	11	13	15	20	20	25	25
Production Capacity (Million Liters)										
Number of Biorefineries	6	6	6	8	8	12	12	12	12	12
Nameplate Capacity	590	590	590	590	700	900	900	900	900	900
Capacity Use (%)	97.1%	100%	98.8%	89.8%	77.9%	69.7%	67.8%	63.3%	80.0%	77.8%
Feedstock Use (1,000 MT)										
Crude Palm Oil	527	543	536	468	479	554	535	498	632	613
Used Cooking Oil	0	0	0	22	25	26	30	30	35	35
Market Penetration (Million Liters)										
Biodiesel, on-road use	570	589	585	532	543	625	605	570	715	700
Diesel Pool, on-road use	5,883	6,071	6,296	6,315	6,183	6,282	6,422	5,686	6,596	6,990
Blend Rate (%)	9.7%	9.7%	9.3%	8.4%	8.8%	9.9%	9.4%	10.0%	10.8%	10.0%
Diesel Pool, total (2)	8,394	8,615	8,447	8,541	7,318	7,936	8,023	7,605	7,987	8,350

(1) Diesel pool, on-road use is an estimate based on information from the MME and the IEA Oil Market Report Outlook.
(2) Total diesel pool data was sourced from the IEA June 2022 Oil Market Report outlook. Note: 2022 figures are FAS Bogota forecast
Conversions: 1 MT CPO = 1,087 liters biodiesel; 1 MT UCO = 1,060 liters biodiesel

V. Advanced Biofuels

Although there are some research projects on advanced biofuels in Colombia, there is no production to date.

VI. Notes on Statistical Data

The source of production data for biofuels is Fedebiocombustibles, which receives information from the Colombian National Association of Sugar Producers (Asocaña) for ethanol and the National Federation of Palm Oil Growers (Fedepalma) for palm oil and biodiesel. The Colombian Customs Authority (DIAN) and Trade Data Monitor are the primary sources for trade data. The 2021 and 2022 fuel consumption estimates are sourced from the International Energy Agency projections updated on the June 2022 Oil Market Report. Stocks are unknown and estimated by an average of 10-day fuel supply according to fuel regulations. In 2022, biofuel consumption is based on fuel pool projections and assumed blend rates.

Attachments:

No Attachments