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Biofuels Annual

2015

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Report Highlights:
Argentine bioethanol production and consumption for 2016 are forecast up at a record 900 million liters. In 2016, the sugar industry is expected to source half of the bioethanol production, and the grain industry the other half. The official mandate is currently at ten percent, but the industry is pushing to increase it to 12 percent. Production capacity is expected to reach 90 percent in 2016. No exports of bioethanol are projected in the short term. Production of biodiesel in 2016 is forecast at 2.33 billion liters. This volume will supply a record domestic demand and somewhat higher exports. The U.S. biodiesel market is expected to be the most active destination, with exports in 2016 at 750 million liters and 625 million liters in 2015. There are seven local plants registered with the Environmental Protection Agency and qualify to participate in the RFS market and generate RINs. Production capacity for 2016 is projected at 5.2 billion liters, while used capacity is forecast at 45 percent.

Post:
Buenos Aires

Executive Summary:

Argentina's Law #26,093 mandated the use of biofuels beginning in January 2010. This law included both biodiesel and bioethanol and set initial blending at five percent respectively. Since its implementation, the sector's policy has undergone many changes.

Argentine bioethanol production continues to expand since the official mandate was put in place. Production and domestic consumption in 2016 are projected at 900 million liters, the highest ever. The current blend mandate is ten percent but the local bioethanol industry is pushing to have it increased to 12 percent. In 2016, the sugar industry is expected to source half of the bioethanol production, and the grain (corn) industry the other half. There are nine sugar mills participating in the official mandate program and five grain ethanol plants (all inaugurated during 2012-2014). The capacity in use in 2015 and 2016 is projected between 85-90 percent. There are a few investment projects under way, but Post does not expect a significant expansion capacity over the next 18 months. No exports are expected in the short term as the industry is focused on supplying the profitable official mandate.

Biodiesel productions for 2016 is projected at 2.33 billion liters, higher than 2015 but significantly lower than 2014. Domestic consumption is forecast to increase to 1.3 billion liters, a record high. This is due to a combination of higher diesel consumption and expectations of topping out the official blend ratio of ten percent. There are 38 biodiesel plants with a production capacity of 5.2 billion liters. Used capacity for 2016 is projected at 45 percent. Since the beginning of the industry, exports have played a very important role, averaging 70 percent of Argentina's total biodiesel production. Exports in 2016 are projected at 1.02 billion liters, higher than in 2015, but the lowest during the 2009-2014 timeframe. Exports to the EU are not expected to resume before 2017 and sales to North Africa (a discretionary blending diesel market) are for the moment shelved due to current market conditions. In 2015 and 2016 local exporters will focus on the U.S. biodiesel market, which currently presents the best export market potential. Since 2014, there have been seven Argentine biodiesel export plants registered with EPA to export under the RFS and generate RINs. Exports to the United States in 2016 are projected at 750 million liters and 625 million liters for 2015. Traders indicate that the strict segregation system and tight controls increase production costs and make exports grow slower.

Since 2007, Argentina has in place a regulatory framework to promote the production and use of biofuels. The main objectives of this framework are to diversify the supply of energy, to foster environmental conservation, and to promote the development of rural areas (primarily nontraditional production areas), especially for the benefit of small and medium sized agricultural producers. The framework focuses particularly on conventional biofuels, as Argentina has a large biodiesel industry based on soybean oil and a growing ethanol industry based on sugarcane and more recently grains. Current policy does not specifically focus on second generation or advanced biofuels. However, there are a few government, private sector and university programs researching these types of feedstocks and technology.

Law #26,093, of 2006, mandated the use of biofuels beginning in 2010, with an obligatory mix of five percent blend of ethanol in gasoline and five percent blend of biodiesel in diesel. Under this law, companies which produce biofuels have three alternatives: 1) to produce for the domestic market, taking advantage of various tax incentives; 2) to produce for self-consumption, with similar advantages as in 1; and 3) to produce for the export market, in which case the companies are ineligible for the tax incentives.

A summary of Argentina's biofuel law and regulations follows:

In April 2006, the Argentine Congress passed Law 26,093, which regulates and promotes the production and sustainable use of biofuels. In February 2007, the Executive Branch, through Decree 109, published the regulations for implementing the above law. Salient points of the Argentine biofuel law (and regulations) are:

Chapter I - Creates incentives for production and use of biofuels in the domestic market with a duration of 15 years (beginning on the date of the enactment of the law). It establishes that the Secretariat of Energy will be the controlling authority. The oversight of tax breaks will be under the control of the Ministry of Economy (every year this Ministry will set the maximum overall amount of the fiscal incentives directed to biofuels, and the percentage of this total that will accrue to individual companies participating in the domestic market). Some of the responsibilities of the controlling authority, in general, are to establish quality levels, security conditions, registration of participating companies, approval of projects that benefit from incentives, and the percentage blend of biodiesel with diesel and ethanol with gasoline for the domestic market. Every year the Secretariat of Energy will establish the volumes of biofuels needed to comply with the law, determine and modify the percentage blends, set prices of biofuels for the domestic market, establish volumes, terms and conditions for those producing for their own consumption, and approve exports.

Chapter II - provides details concerning the incentives of the biofuels promotional regime for domestic use. To be eligible for incentives, companies have to operate in Argentina and be dedicated exclusively to biofuel production, with the majority of the company's equity in the hands of the government (i.e. government at either the national, provincial, or municipal levels) or agricultural producers (and producers' cooperatives). Companies have to operate under the above regulations and specifications, and will be assigned a percentage of the total tax break granted by the Government of Argentina (GOA) --the law gives priority to small and medium enterprises, farmers, and entities that operate in nontraditional production areas. Biofuels governed by this promotional regime will be exempt from three specific taxes applied to fossil fuels. In addition, biofuel producers for the domestic market will enjoy tax breaks and other advantages (e.g. anticipated reimbursement of the value added tax or accelerated depreciation on capital investment). At some point, Chapter II leaves open the possibility for producers to receive direct subsidies.

In January 2008, Congress passed Law 26,334, which promotes the production of bioethanol from sugarcane.

This law allows sugar mills to participate under the biofuel promotional regime, maintaining the basic norms and regulations of the biofuel law. It also promotes exports of surplus ethanol.
More than ten provinces have adhered to the Biofuels Law, and in some cases, they provide additional tax advantages for investment and construction of bio-refineries in their territory.

In December 2013 the GOA announced that the mandatory biodiesel blend would be increased to nine percent in January 2014 and to ten percent in February 2014. In this announcement it also included, for the first time, a ten percent blend to use in heating power plants. In the case of ethanol, with the rapid incorporation of new grain bioethanol plants, the effective national average blend in 2014 increased to eight percent as oil companies were voluntarily blending at a higher rate than the five percent mandate. The Secretariat of Energy, through Resolution 44/2014 increased the blend mandate for ethanol to a minimum of ten percent by December 2014. Most contacts estimate the effective mix will be very close to ten percent in 2015.

In June 2015 the GOA announced a lowering of the export tax on biodiesel for the month of May 2015 from 15.21 percent (effective tax 13.20 percent) to 10.86 percent (effective tax 9.80 percent). One of the key factors of the rapid expansion of the local biodiesel industry in the past years has been the differential export tax on biodiesel vis-à-vis soybean oil. Soybean oil exports are taxed 32 percent while biodiesel exports were originally taxed effectively 16.6 percent (nominal tax was 20 percent), and benefiting from a 2.5 percent rebate available until mid-2012. Since then the GOA has adopted a "flexible export tax system for biodiesel. In the last 12 months the government has modified the export tax on a monthly basis. The local industry claims that due to the nature of their business they need the export tax to remain fixed at least for 6 month increments.

In August 2012, the GOA made important changes to the biodiesel policy by reducing the official domestic price by 15 percent. It also left aside the original formula (which took into account production costs) to calculate the price, which is supposedly announced every month. Furthermore, the typical practice of the GOA releasing the publication of the official price (which biodiesel producers have to sell to oil companies) only after a 2-3 month lag causes market uncertainty. This uncertainty, combined with high inflation, estimated at 25-30 percent in 2015, makes it difficult for producers to calculate their returns.
In December 2012 the GOA announced a new price scheme for biodiesel for the local mandate, based on the size of the plants. It set a higher price for processors of up to 20,000 tons/year, a lower price for processors of up to 100,000 tons a year and an even lower price for large companies (most big exporters) with production over 100,000 tons/year. In September 2013 the government created a new category of large plants called "nonintegrated" (which need to purchase the feedstock from third parties). These prices have fluctuated since program implementation, while current prices (as of May 2015) are US$706 per ton (AR$6,392 per ton) for small plants, US$695 per ton (AR$6,292 per ton) for medium plants, US$657 per ton (AR$5,947 per ton) for large "nonintegrated" plants, and US$554 per ton (AR$5,021 per ton) for large companies.

In mid-2014, Congress passed Law 23996 suspending until the end of 2015 a 19 percent tax on local biodiesel sold at the pump and a 22 percent tax on biodiesel to subsidize power generation. The idea is that this suspension will last until the countervailing duties applied by the EU to Argentine biodiesel are removed.
In September 2014, through Resolution 44/14, the Secretariat of Energy created a differentiated price for ethanol depending on the feedstock used (until then, there was only one price). Therefore, through the publication of new price formulas, grain ethanol was priced lower than that of sugarcane ethanol. In December 2014 the first differentiated price was published. In June 2015 the official price for grain ethanol was US$781 per ton (AR$7,032) and US$999 per ton (AR$8,987) for sugarcane ethanol.

Under Law 26,190 of 2006, named National Support for the Use of Renewable Energy Sources, and its regulatory framework established in 2009, the GOA created program Genren (Renewable Generation). Its

objectives are to produce 895 Mega Watts (MW) in a sustainable manner, reducing emissions of carbon dioxide and other GHG, diversifying Argentina's energy matrix, while promoting regional economies throughout the country. The Law establishes that eight percent of the country's electricity consumption be supplied by renewable energy sources (including wind, biofuels, biomass, photovoltaic, solar and small hydro power projects) by 2016. Almost 32 private projects were approved through bids, of which the vast majority was wind generation. In 2010 the GOA announced a second stage Genren II, for 1200 MW, exclusively for wind energy. To date, approximately ten percent of these available funds have been awarded, primarily because of the lack of financing and difficulties with private investors.

Argentina currently consumes approximately 16.0-16.5 billion liters of diesel per year, of which 2.5-3 billion liters are used to generate electricity, and 8.0-8.5 billion liters of gasoline. The country has been energy self-sufficient until a few years ago. The combination of a declining oil production and a growing demand forces the country to import gas, gasoline and diesel. Record car sales in the past several years, plus a strong agricultural sector promise diesel and gasoline demand to remain steady. However, the development of the local economy directly affects energy consumption. In 2014, the demand of gasoline dropped one percent and diesel two percent. There are no flex fuel cars sold in the country and only one automaker imports a hybrid model, sold at a very expensive price. In 2010 Argentina discovered a huge shale oil and shale gas field, named Vaca Muerta. This non-conventional energy source in the province of Neuquen is the third largest of its kind in the world. However, until it goes into production (a minimum of five years and several billion dollars of investment needed), most analysts project Argentina expanding its energy imports. Lower world oil prices are expected to somewhat slow down investment in this area.

Fuel use projection

Fuel Use Projections (Million Liters)										
Calendar Year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gasoline Total	8,500	8,560	8,740	8,980	9,210	9,380	9,480	9,660	9,830	10,000
Diesel Total	16,900	17,160	17,470	17,760	18,080	18,400	18,720	18,970	19,220	19,490
On-road	14,100	14,320	14,580	14,820	15,090	15,350	15,620	15,830	16,040	16,260
Agriculture										
Construction / mining										
Shipping/rail										
Industry										
Heating	2,800	2,840	2,890	2,940	2,990	3,050	3,100	3,140	3,180	3,230
Jet Fuel Total										
Total Fuel Markets	25,400	25,720	26,210	26,740	27,290	27,780	28,200	28,630	29,050	29,490

There are no specific official environmental or social sustainability criteria for biofuels in Argentina. However, being a major exporter of biodiesel, the GOA closely monitors other countries' criteria and regulations in order

to avoid restrictions on Argentine exports. The EU established through its Climate and Energy Package that biodiesel from soybean oil does not meet the minimum GHG emissions saving level. Argentina challenged this decision. The GOA presented a study prepared by its Agricultural Research Institute (INTA), in which it takes into account the extensive adoption of no-till cropping, the short distance from the farms to crushing facilities, refining and port facilities, and its modern and efficient industries. CARBIO, the Argentine Chamber of Biodiesel, has presented to the EU a voluntary certification scheme addressing all their requirements. So far, none of the two have been officially recognized by the EU, but while markets were open, exports were accompanied by certificates demonstrating land use and GHG emissions. In the case of the United States, in mid- 2009, the GOA presented comments to the Environmental Protection Agency's (EPA) Regulation of Fuels and Fuel Additives, and the changes to the U.S. Renewable Fuel Standards (RFS). It showed that Argentine soybean-based biodiesel reduced GHG emissions far more than the established 22 percent. EPA's rulemaking currently establishes that soybean-based biodiesel meets the 50 percent reduction in GHG emissions required to qualify for the biomass-based diesel category. In September 2012, the Argentine biodiesel chamber (CARBIO) consortium presented EPA a certification scheme demonstrating that Argentina could export biodiesel made of soybeans produced in land which was not deforested after 2007 and hence be eligible to export under the RFS quota scheme. In late January 2015, EPA approved CARBIO's certification scheme. However, there are seven local biodiesel export plants registered with EPA well before CARBIO's approval. So far none is exporting under CARBIO's umbrella and they all use individual recordkeeping. Already in 2013 one of these plants exported a small volume which generated RINs. The local industry estimates that in 2014 there were approximately 180 million liters of biodiesel exported from Argentina to the US that generated RINs.

The Argentine biofuel law establishes that the Secretary of Energy will encourage cooperative agreements between the public and private sectors to promote and encourage the development of production technology, and the use of biofuels.

The Ministry of Agriculture, through the research agency INTA, conducts and coordinates most of the research in biofuels in Argentina. The National Bioenergy Program goals are to ensure the supply of sources of bioenergy in support of sustainable development, national energy security, the reduction of poverty, the attenuation of climate change and environmental equilibrium. There are three specific objectives: 1) identification and characterization of the potential of different crops, waste and byproducts to produce energy, 2) the study and development of non-traditional crops with energy potential, and 3) the development of second generation biofuels, through the identification of new enzymes to degrade cellulose.

The Ministry of Agriculture and the Secretariat of Energy manage a project called Probiomasa, with the objective of producing electric and thermal energy using biomass feedstock from the agricultural and forestry sectors, and urban waste. With several projects in 12 different provinces, the program provides funding support for foundations and bases to launch targeted projects. There are more than 30 projects, of which 11 are under construction.

There are also provincial entities, public and private universities, and the private sector working on different projects. Some of these programs focus on jatropha, algae, castor oil plant, canola, sweet sorghum and miscanthus. Research is primarily focused on feedstocks which can be produced in areas not suited for crop production and which do not compete with food production. A few programs are working on cellulosic biofuels, based on sugar cane, sugar beets, harvest residues, sweet sorghum, and switch grass. There are also a few industries and municipalities developing biogas facilities to use waste and reduce the cost of energy they consume. There are also some small operations which recycle used vegetable oil.

Since 2009 Argentina is a member of the Global Bioenergy Partnership (GBEP) which promotes bioenergy for

sustainable development. The government received financial support from the IDB and it is already coordinating public/private studies of 24 sustainability indicators for bioenergy.

ETHANOL

Production

Bioethanol production for 2016 is forecast at 900 million liters, the highest ever. Good returns in the sector, thanks to the official price which producers sell to oil companies under the mandate, encourage producers to increase output. In the case of sugarcane, ethanol production is expected to continue to be more profitable than sugar production, primarily due to low world sugar prices and large local production volumes which build up stocks.

In 2016, the sugar industry is expected to source half of the bioethanol production, and the grain industry the other half. The sugar-ethanol industry is located in the northwestern provinces, while most of the grain ethanol plants are located in the central part of the country, where much of the grain is produced. As this area is far from ports, freight costs significantly impact the prices received by the farmers.
The industry's capacity is estimated at approximately 1 billion liters. There are five plants which utilize grain as feedstock and in 2014 they supplied 55 percent of the country's bioethanol. The first of these plants was inaugurated in 2012, and the most recent in late 2014. Their annual production capacity is approximately 500 million liters. There are nine local sugar mills which produce bioethanol with a capacity of approximately 450-500 million liters. Argentina also produces some 130 million liters of alcohol for industrial purposes for its domestic market. About half of the production is made by sugar mills, but there is a plant inaugurated in 2012 in Cordoba which utilizes grains and has a production capacity of 50 million liters a year. The main uses of this alcohol are for beverages, pharmaceutical, cleaning, cosmetics, paints, etc.

The largest 3-4 sugar mills have invested in the past few years in the ethanol business, as it has shown to be more profitable than sugar under current market conditions. Recently there was an announcement of a large investment in the construction of a new grain ethanol plant in Chaco province to produce 100 million liters per year. Construction has not started yet, and in the best-case scenario it would start production in 2017. The economic situation of the local bioethanol industry is very good for those using sugarcane as feedstock, and good but less profitable for those producing from grains.
Although local grain plants are capable of using corn or sorghum, they use almost exclusively corn. Historically sorghum was 10-20 percent cheaper than corn, but last November Argentina became eligible to export sorghum to China, making local sorghum prices higher than corn. Therefore, Post currently expects ethanol plants to continue to process corn rather than sorghum due to a number of cost and production advantages.

All except one grain processing plant dry the distillers grains (DDGS). At the beginning some of the new plants were not capable of drying. Nowadays a few plants cannot dry the volume they would wish to because of the lack of gas supply in the winter. DDGS are currently sold domestically to feed mills, feed additive companies and large dairies or feedlots which are far from bioethanol plants but still prefer to use them. Three of the plants are currently exporting DDGS to neighboring Chile and Uruguay and to South East Asia. WDGS are marketed primarily in feedlots and dairies located no more than 300 kilometers away from the plants. During winter WDGS can be used within two weeks' time of production, while in summer, the timeframe is reduced to only 4-5 days. Sugar mills have lately made good improvement in reducing the negative impact of the vinasse, a byproduct of the distilleries, which is a serious contaminant. Although it can be used to produce fertilizer, it is still a significant environmental problem which sugar mills are resolving as the GOA continues to exert significant pressure.

Bioethanol producers purchase corn locally at prices well below international prices (due to the 20 percent export tax on corn, and to the GOA administration of export volumes which negatively impact farmers' price). In the case of bioethanol produced from sugarcane, it allows mills to diversify their production and have an alternative, depending on the size of the crop and the level of world sugar prices. Argentina is self-sufficient in sugar and normally has a significant volume of sugar surplus to export. The current sugarcane harvest began in June, with a large carry in from the previous season and expectations of record production, which could put additional downward pressure on domestic sugar prices.
Argentina is the world's fourth largest corn exporter, averaging around 15 million tons in the past 3-4 years. Domestic consumption ranges between 9-10 million tons a year, with the poultry, feedlot, and dairy industries as the main consumers. The local grain ethanol industry has more than sufficient supply to even expand further in the future. Sorghum exports are also important, with volumes ranging between 1.5-2.0 million tons a year. In 2015 and 2016 the local grain ethanol industry is forecast to demand approximately 1.2-1.3 million tons of grains.

Consumption

Bioethanol consumption for 2016 is forecast at a record 900 million liters. This volume is taking into account the current official mandate of ten percent or slightly higher. There are strong rumors that the government could increase the blend rate by two percentage points. The sugarcane industry has officially requested the increase to 12 percent for this year in an attempt to help cut large sugar stocks in a crop season which is expected to have abundant production and low world sugar prices which turn exports unprofitable. The grain bioethanol sector is also supportive of the increase as new players could come in the future. However, local oil companies prefer to import gasoline at a lower cost rather than buying additional volumes of higher-priced ethanol at official prices. Car manufacturers are also not very supportive of an increase of the mandate blend due to potential problems with engines and the extension of warrantees. The local association of grain ethanol indicates that they have done studies which show that gasoline can be blended with 20 percent ethanol without affecting engines. The case of neighboring countries Brazil and Paraguay are good cases that support blends of 20-25 percent of ethanol.

Gasoline consumption represents approximately 40 percent of the consumption of local on-road fuel use, while the remainder is diesel. In the case of ethanol, the mandate began in 2010 with a five percent blend rate with gasoline. However, the Secretariat of Energy allowed gasoline distributors to mix between 5-10 percent. The average blend for 2015 is estimated to be 10 percent. Due to logistical preferences, there are a few areas in the country (e.g. very down south) which do not blend in winter, while blends in the northern part of the country can be slightly higher due to the fact that most distilleries are located in this area.

Argentina has a huge trucking system which has replaced a decaying railway system. The country is extensive and boasting a large agricultural sector demands large volumes of diesel to produce and move cargo and passengers. Most cars run on gasoline. The GOA is trying to revamp some railway tracks in key agricultural areas in the interior of the country to make freight more efficient and less costly.

The country is doing little in becoming more fuel efficient. Engines have no limitations on minimum mileage efficiency, there are no flex fuel cars sold in the country and hybrid and electrical cars are practically nonexistent and do not have import duty advantages. For some time, Argentina has had an extensive fleet of vehicles which run on liquefied petroleum gas. More than 2 million cars out of 10 million run on this fuel (which primarily substitutes gasoline). There are several passenger railway lines, with some running on electricity and some on diesel. Cargo lines all run on diesel.

Trade

Argentina is not expected to export bioethanol in 2015 and 2016 mainly because most of the country´s supply is consumed domestically and local producers are focused on fulfilling the profitable local mandate. Also, low world oil prices and high local production costs discourage exports.
Once the biofuel mandate was in place in early 2010, Argentine ethyl alcohol exports dropped significantly as most production surplus was redirected to supply the local bioethanol mandate which was more profitable. Before the mandate, Argentina exported 60-80 million liters of ethyl alcohol (not for fuel use) a year. Exports in 2014 totaled 14 million liters, with Chile being the main destination.
Ethanol imports from Mercosur countries (including Brazil) are duty free, and from countries outside the block pay 20 percent. Exports are taxed five percent, but receive a 4.05 percent rebate.

Ending Stocks

Bioethanol ending stocks for 2016 are forecast at 55 million liters. Stocks are mainly in the hands of the local sugar industry which produces ethanol in the last semester of the year, which then is distributed throughout the following months until the new sugar crop begins in May. The local grain bioethanol industry can have by the end of the year some 10 million liters waiting to be distributed immediately.

Bioethanol Table

Ethanol Used as Fuel and Other Industrial Chemicals (Million Liters)										
Calendar Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Beginning Stocks	0	0	0	0	0	0	0	0	0	0
Fuel Begin	0	0	0	20	24	28	48	48	55	55

Stocks										
Production										
Fuel Production	0	0	23	122	170	253	475	670	800	900
Imports										
Fuel Imports	0	0	0	0	0	0	0	0	0	0
Exports										
Fuel Exports	0	0	0	0	0	0	0	0	0	0
Consumption										
Fuel Consumption	0	0	3	118	166	238	475	663	800	900
Ending Stocks										
Fuel Ending Stocks	0	0	20	24	28	48	48	55	55	55
Total Balance Check	0	0	0	0	0	0	0	0	0	0
Fuel Balance Check	0	0	0	0	0	-5	0	0	0	0

Production Capacity										
Number of Refineries	0	0	3	9	9	11	12	14	14	14
Nameplate Capacity	0	0	120	215	355	600	680	880	950	1,000
Capacity Use (%)			19%	57%	48%	42%	70%	76%	84%	90%
Co-product Production (1,000 MT)										
Distill Grain Sol dry eq	0	0	0	0	0	18	130	285	320	350
Feedstock Use (1,000 MT)										
Grains	0	0	0	0	0	58	420	920	1,040	1,125
Molasses/Juice	0	0	90	470	650	880	1,175	1,175	1,475	1,730
Feedstock C										
Feedstock D										
Market Penetration (Liters - specify unit)										
Fuel Ethanol	0	0	3	118	166	238	475	663	800	900
Gasoline			5,760	6,240	6,970	7,500	8,200	8,080	8,250	8,500
Blend Rate (%)			0.1%	1.9%	2.4%	3.2%	5.8%	8.2%	9.7%	10.6%

BIODIESEL

Production

Biodiesel production in Argentina is projected at 2.33 billion liters in 2016, a recovery from 2015. The rebound is the result of an increase in domestic consumption as result of an expected economic recovery and somewhat greater exports, primarily to the United States.

Production in 2015 is estimated at 2.07 billion liters, significantly lower than 2014. The main reason for the decrease is the significant drop in exports of biodiesel to supply the discretionary blending diesel market of North Africa. Because of the steep drop in world crude oil prices in late 2014, Argentina's biodiesel prices are currently not competitive enough to supply this market. Larger biodiesel exports to the United States in 2015 are expected to partially offset some of the drop.

Since February 2014, the biodiesel mandate blend is ten percent and Post expects it will remain that way through 2016. The government sets every month the official prices that oil distributing companies have to pay when buying biodiesel and the level of the export tax. It takes a very close look at the profitability of the two sectors and adjusts variables in such a way that most players have some positive return. Since the early stages of this industry, exports have been fundamental. During 2008-2014, average annual exports accounted for over 70 percent of the total production. Therefore, exports of biodiesel still make a significant difference in total production. However, the EU, once the number one market of Argentine biodiesel exports, for all practical purposes is currently closed, as high antidumping duties are applied. Also, exports of biodiesel for discretionary blending to North Africa are currently discontinued due to low prices. Therefore, local exporters are focusing on sales of biodiesel to the United States, which generate RINs. Although good volumes are projected to be shipped in 2015 and 2016, there are some bottlenecks which will take time to overcome to expand volumes significantly.

Biodiesel in Argentina is almost exclusively made from soybean oil. There are a few small plants which recycle used vegetable oil. So far there is no other feedstock which could be used in the near future to produce biodiesel in significant volumes. Argentina's soybean oil production in the past five years has averaged 7 million tons, with average exports of 4.5 million tons. Most domestic consumption of soybean oil is used to produce biodiesel.

The local biodiesel industry has invested over US$1.5 billion since 2007, with production capacity going from 0 in 2007 to 5.2 billion liters in 2015. Investment in the past three years has slowed down dramatically due to a highly interconnected business affected by local policy and foreign market limitations. Used capacity for 2016 is projected at 45 percent. While most small plants are operating to supply the local mandate, there are a few large plants which have shut down or are only working a few days a month. Practically any new investment is directed to small plants.

There are 38 biodiesel plants in Argentina with capacity ranging from 11 million liters per year to 700 million liters per year. The largest ten companies account for over 70 percent of the country´s capacity. Most of these companies are international traders which already had large vegetable oilseed crushing facilities in the country. They account for practically all exports and they currently supply less than 25 percent of the local mandate. The balance is distributed among 28 smaller companies, with plants with a capacity ranging between 12-110 million liters per year. This group supplies approximately 75 percent of the local mandate. Most of these plants need to buy the feedstock from third parties and have higher production costs than the large plants, most of which are fully integrated.

The economic situation of the biodiesel industry is not good in general terms. Large companies are operating at a very low capacity. However, most of the big plants are owned by large corporations which have been

operating in the grain sector for many years and do not have biodiesel as their core business. Several of these plants were built during the first days of the biodiesel industry and have already recovered the investment. The smaller companies are in varied financial situations, with higher production costs but also receiving a higher official price under the mandate.

Consumption

Biodiesel consumption for 2016 is projected at 1.3 billion liters, the highest ever. Since the local mandate was put in place in 2010, biodiesel domestic consumption has been growing every year. However, the growth in the past 3-4 years has been moderate for an industry which is operating at a low capacity use. Most producers and contacts expect the blend mandate to remain at ten percent through 2016, and expect an overall increase in fuel demand. There are doubts about the use of biodiesel by thermoelectric plants, which, despite an adoption mandated for 2014, have yet to adopt B10. This is a potential market of approximately 200 million liters. The local power regulator has recently opened a bid to purchase some 40 million liters, but local producers found quality demands difficult to meet and indicated that the price offered was not sufficiently attractive.

Diesel consumption represents approximately 60 percent of the consumption of local on-road fuel use, while the balance is gasoline and liquefied petroleum gas.

Car manufacturers and oil companies prefer not to increase the blends due to warranty conditions, logistical problems, and higher costs. The Argentine chamber of biodiesel has come up with successful results after testing a diesel engine running on 10 and 20 percent biodiesel blends. Most contacts indicate that mandate blends will continue to be set by the GOA depending on its needs. If it requires increasing beyond current blends the local industry will have to adapt.

The country does not have a plan to become more fuel efficient. Engines have no limitations on minimum fuel mileage efficiency, there are no flex fuel cars sold in the country and hybrid and electrical cars are practically nonexistent and do not have import duty advantages. Argentina has an extensive fleet of vehicles which run on liquefied petroleum gas since long ago. More than 2 million cars out of 10 million run on this fuel. There are several railway lines of passengers with some running on electricity and some on diesel. Cargo lines all run on diesel.

Trade

Biodiesel exports for 2016 are forecast at 1.02 billion liters, higher than in 2015 but significantly lower than in 2014. The main focus of exports for 2015 and 2016 is the United States market to generate RINs under the RFS. Local exporters timidly began exploring this market in late 2013, increased exports in 2014 and are expected to continue to expand further in 2015 and 2016. However, Post believes growth from now on will be slower, as exporters need to meet strict traceability and certification schemes which limit a rapid growth in exports.

The Argentine biodiesel export portfolio has changed significantly in the past couple of years. Until mid-2013, the EU (primarily Spain) was the main market. Late that year the EU implemented an average countervailing duty of 24.6 percent on Argentine biodiesel due to alleged dumping, which in practice meant closing of the market. In late 2013 Argentine exports were redirected to the United States to supply biodiesel for heating oil for the east coast. In 2014, local exporters again shifted markets to attend the discretionary blending diesel market in North Africa, as a result of lower world soybean prices. The spread between low soybean oil price and diesel price (called BOGO) turned local biodiesel exports competitive enough against world diesel.

Argentine biodiesel exports to attend this market totaled 1.25 billion liters in 2014. However, in late 2014, with world crude oil dropping aggressively, this business diminished dramatically.

Over the next 18 months local biodiesel exporters will likely focus on exports to the United States. Some contacts speculate that biodiesel exports to the EU could eventually resume, but no earlier than late 2016 or 2017. There also exists the possibility of resuming exports to the discretionary blending market whenever market conditions permit, but most local traders see little opportunities in the short term.
There are seven local biodiesel plants registered with EPA and they are all active in exporting under the RFS quota. Exports began in 2013 and grew significantly in 2014, reaching a total of about 180 million liters which generated RINs. Local traders expect exports to total 625 million liters in 2015 and 750 million liters in 2016. Current export prices are not very attractive for the processing plants, but they prefer to keep the plants operating. Traders indicate that export prices to the United States which generate RINs are US$80-100 per ton higher than prices sold to other markets, such as Peru. However, EPA segregation requirements add an estimated cost of US$30-40 per ton of biodiesel. This includes a price premium paid to farmers producing "EPA soybeans", the cost of segregations and controlling the whole chain until export, the time consumed in the whole process, etc. Different companies have different problems. The most common are limited supply of traced soybeans, smaller-than-needed biodiesel storage capacity, and logistical complications.

In early 2015 EPA finally approved the Argentine Biodiesel Chamber (Carbio) proposed certification scheme presented in 2012 demonstrating it complied with EPA's environmental regulations and qualified under the U.S. Renewable Fuel Standards program. Biodiesel exports have to be segregated and traced back to the farm, demonstrating that soybeans used in the process were produced on land that was not deforested after 2007.

In 2013, thanks to a competitive price spread between soybean oil and diesel, Argentina exported to the east coast of the United States 460 million liters of biodiesel used as heating oil, paying a 4.6 percent duty. As there is uncertainty about the United States reinstalling the blender's credit in 2015, exports to this market are so far discarded. If the blender's credit is reinstalled in the near future, Argentine exports could start flowing out again.

In the past three years Peru has been a very steady market for Argentine biodiesel, importing roughly 250 million liters a year to supply its official mandate. However, in August 2014 the Peruvian Institute of Defense of Competition and Intellectual Property Protection (INDECOPI) opened an investigation on imports of alleged Argentine subsidized biodiesel. This investigation was requested by the largest Peruvian biodiesel processor. To date the dispute is not settled and through May 2015 Argentina continued to export biodiesel to Peru.

Argentine biodiesel is very competitive as a result of large production scale with the latest technology, the use of no-till and biotechnology seed, and having the soybean production area very close to the industry and ports. This is the source of Argentina's biodiesel competitiveness.

Argentine biodiesel exports are currently (through May 2015) taxed 10.86 percent (effective tax is 9.8 percent). The GOA sets the level of the tax every month. Import duties are 14 percent. The export tax on soybeans is 35 percent and soybean oil is 32 percent.

Stocks

Argentine biodiesel ending stocks for 2016 are forecast at 41 million liters. Local plants do not produce biodiesel for stocks, due to the instability of the product. Normally stocks are volumes waiting to be shipped right away.

Biodiesel Table

Biodiesel (Million Liters)										
Calendar Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Beginning Stocks	0	10	40	75	25	25	75	29	41	31
Production	215	830	1,360	2,070	2,760	2,800	2,260	2,930	2,070	2,330
Imports	0	0	0	0	0	0	0	0	0	0
Exports	185	780	1,305	1,545	1,910	1,770	1,296	1,818	890	1,020
Consumption	20	20	20	575	850	980	1,010	1,100	1,190	1,300
Ending Stocks	10	40	75	25	25	75	29	41	31	41
Balance Check	0	0	0	0	0	0	0	0	0	0
Production Capacity										
Number of Biorefineries	9	18	22	24	27	33	36	38	38	38
Nameplate Capacity	665	1,500	2,300	2,800	3,300	4,000	4,550	5,200	5,200	5,200
Capacity Use (%)	32.3%	55.3%	59.1%	73.9%	83.6%	70.0%	49.7%	56.3%	39.8%	44.8%
Feedstock Use (1,000 MT)										
Soybean oil	190	730	1,200	1,820	2,430	2,460	2,000	2,580	1,820	2,050
Feedstock B										
Feedstock C										
Feedstock D										
Market Penetration (Liters - specify unit)										
Biodiesel, on-road use	20	20	20	575	850	980	1,010	1,100	1,190	1,300
Diesel, on-road use	12,860	13,850	12,750	13,770	14,210	13,490	13,750	13,420	13,750	14,100
Blend Rate (%)	0.2%	0.1%	0.2%	4.2%	6.0%	7.3%	7.3%	8.2%	8.7%	9.2%
Diesel, total use										

Advanced Biofuels

There is no production so far.

Biomass for Heat and Power

Sugar mills in Argentina generate part of their energy needs from bagasse. Four sugar mills have new and high efficiency generation boilers which allow them to cogenerate energy for their own needs and to sell to the local energy grid. The total capacity of these plants is approximately 100 MW. Other mills have similar plans, but investment is coming very slow. There are several projects to produce electricity from woody mass in Corrientes and Misiones provinces. There are also some projects to produce energy from residential waste and livestock and oil crushing facilities. Cordoba province recently inaugurated a biogas plant using the fermentation of corn silage with cattle and hog manure. This plant will produce one megawatt per hour of electrical power which will be used to feed an ethanol plant and sell to the grid.