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Biofuels Annual

Biofuels Report 2019

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Report Highlights:
Argentina's fuel ethanol production and consumption remains stable with 2019 forecast at 1.1 billion liters with no trade expected and the E12 mandate blend near 11.5 percent. Biodiesel production in 2019 is projected to drop 9 percent year-over-year to 2.5 billion liters, following a 15 percent drop in 2018 with declining exports and production capacity use falling to 50 percent. Domestic consumption reflects little change at 1.3 billion liters, a near record high since 2017 but with no sustained upward movement since the B10 mandate was essentially met. Exports are forecast at 1.2 billion liters, down 400 million liters from last year. Argentina's duty-free quota of 1.36 billion liters with a minimum set price to the EU is not expected to fill this year. No biodiesel exports are expected in 2019 to the US despite its preliminary lowering of countervailing duties due to remaining anti-dumping duties.

I. Executive Summary

Argentina continues to expand its renewable energy sources in support of its commitment to reduce greenhouse gas emissions. The 2006 Biofuels Law 26,093 mandated a 5 percent mix of biodiesel in diesel and bioethanol in gasoline beginning in 2010 and, since 2016, the blend mandated a 12 percent mix for ethanol and 10 percent mix for biodiesel. Although the Secretariat of Energy traditionally sets company quotas and monthly prices for biofuels production, recently, the government is seeking more free-market orientation despite some provincial and industry leaders pushing for higher blending rates.

Bioethanol for Fuel Use:
In 2019, Argentina's nineteen bioethanol plants are capable of producing 1.4 billion liters. Thirteen plants use sugarcane as feedstock and six corn. The 2019 blend mix is estimated at 11.6 percent, near the current E12 mandate, with production capacity at about 80 percent. Despite rumors of a future blend mandate between 15 to 27 percent, increasing government support to boost blending is unlikely with its ongoing economic troubles, as indicated by a downward trending of the official price over several years which has eroded sugarcane and corn producer profits.

Domestic consumption in 2019 is forecast at 1.06 billion liters, a near record and an 800 percent increase since the E5 mandate began in 2010 but essentially unchanged from the previous two years as the economic recession continues to drag on gasoline sales, which in 2019 are expected to drop marginally. Argentina is not expected to import or export fuel ethanol in 2019.

Biodiesel:
Biodiesel production capacity is estimated at 5 billion liters, unchanged for 2 years. For 2019, production is forecast down 260 million liters from last year to 2.5 billion liters. If realized, production will have fallen two years consecutively due to declining exports from a record 3.26 billion liters in 2017. Looking at domestic consumption, recent government prices for biodiesel have fallen making profit margins tight. The average blend rate is expected to reach 9.6 percent in 2019, slightly higher than last year and little changed since 2017 where it has remained above 9 percent. Domestic consumption in 2019 is forecast up slightly at 1.3 billion liters, falling only 35 million liters below the record set in 2017. A marginal increase in diesel consumption is expected.

Exports are forecast at 1.2 billion liters in 2019, a four-year low, down one third from sales in 2016-17. In February 2019, the European Commission and Argentina agreed to a duty-free quota of 1.36 billion liters with a minimum price based on Argentine FOB soybean oil prices plus production costs. This quota is not expected to fill in 2019 due to a large EU biodiesel supply and the use of low-priced palm oil. The export estimate assumes no shipments to the United States in 2019 as was the case in 2018 as well.

A few weeks ago, the U.S. Department of Commerce provided a preliminary determination that Argentina's reduction of the differential export taxes in its soybean value chain (including biodiesel) warranted a change in countervailing duties (CVD) on biodiesel imports. CVDs were reduced from an average 72 percent to 10 percent. However, anti-dumping (AD) duties remain unchanged at an average 75 percent, which alone will likely continue to impede exports to the United States.

II. Policy and Programs

Renewable Energy, Greenhouse Gas (GHG) Emissions and Other Environmental Issues

At the December 2018 UN Framework Convention on Climate Change, Argentina declared it would present its long-term strategy to mitigate emissions, through sectorial plans between energy, transportation, land use, agriculture and forestry, in 2020. Previously, Argentina had announced its targets to reduce GHG emissions unconditionally by 18 percent and conditionally by 37 percent over its 2005 baseline by 2030.

To reduce GHG emissions, Argentina is focusing on diversifying its energy matrix to boost renewable energy use and improve energy efficiency. For example, in 2015 Argentina passed Law 27,191, the National Support for the Use of Renewable Sources of Energy, which required that by the end of 2019, at least 12 percent of Argentina's total electricity consumption be from renewable sources and at least 20 percent by 2025. Currently, the coverage rate is almost 5 percent and by the end of the year, it is expected to reach 8 percent.

In addition, the Renewable Energy Plan - RenovAR - has attracted over $7 billion in investments since 2016 for 6,000 megawatts (MW) of power, primarily in wind, solar and biomass energy. Argentina is developing wind power in southern Patagonia and solar power in the northwest. More than 200 bids/contracts have been approved with some 40 already delivering electricity. A third round of bids has generated significant interest to produce 352 MW. The government is expected to award these projects in July/August 2019. In addition, the Secretariat of Agriculture has a program called Probiomasa to encourage energy production with biogas and biomass through renewable energy tenders.

The Biofuels Law 26,093 of 2006, which mandated the initial obligatory mix of five percent blend of ethanol in gasoline and five percent blend of biodiesel in diesel in 2010, is also an important part of the country's efforts to reduce GHG emissions. The main objectives of the 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. This goal was largely met on schedule for biodiesel, but was three years late for ethanol. The law expires in May 2021 with ongoing discussion for next steps.

The current government would like to move to a more competitive, less regulated market while the industry wants higher blending mixes, such as 20 percent in biodiesel and more for farm equipment and public transportation. In bioethanol, the industry would like a mandate of 27 percent in gasoline (like Brazil and Paraguay) and a flex fuel program. Several provinces have formed a bioenergy league to promote the production, use and commercialization of biodiesel and bioethanol. All the main provinces where biofuels are produced are members of this group. As an example, the province of Santa Fe, where most of the biodiesel plants are located, has been conducting studies with B25 and B100 in public buses and has declared that, from 2020, all public buses will integrate B100. A few other provinces, including Tucuman, have also begun testing public buses with biodiesel. This market could demand 50-70 million liters of biodiesel and 250 million liters a year if other provinces implement its use. Some large farming companies are also exploring the use of biodiesel in their equipment and machinery.

Some analysts are skeptical that Argentina will be able to meet its future compromises to reduce GHG emissions, especially with the recent policy of exploiting Vaca Muerta in Neuquen, one of the world's largest non-conventional oil and gas reservoirs.

In January 2008, Congress passed Law 26,334, which promoted the production of bioethanol from sugarcane. This law allowed sugar mills to participate under the biofuel promotional regime, maintaining the basic norms and regulations of the biofuel law.

There are no specific environmental or social/economic sustainability criteria for biofuels in Argentina. However, as the country is a major exporter of biodiesel, the criteria and regulations of other markets are closely monitored for export compliance. For example, the EU's Renewable Energy Directive (RED) established that biodiesel derived from soybean oil does not automatically meet the minimum GHG emissions savings level of between 50-60 percent. Argentina challenged this decision in a study that outlined its advantageous circumstances, including its extensive no-till cropping, short distances from farms to crush refining and port facilities and modern and efficient industries and CARBIO, the Argentine Chamber of Biodiesel, voluntary certification scheme. After the EU agreed to the resumption of exports in September 2017, certificates granted by the International Sustainability and Carbon Certification system (ISCC) or the French 2BS biomass biofuel sustainability voluntary scheme, now accompany Argentine exports.

In the case of the United States, the EPA's rulemaking established that soybean-based biodiesel meets the 50 percent reduction in GHG emissions required to qualify for the biomass-based diesel category under certain conditions. Argentine suppliers must prove that land used to supply biofuel feedstock was cultivated prior to 2007 using a robust monitoring and tracking system to ensure no direct land use change has occurred. In late January 2015, EPA approved a certification scheme presented by the Argentine biodiesel chamber (CARBIO) permitting Argentina to export biodiesel made of soybeans produced on land which was not cultivated or cleared after 2007, and hence eligible to generate RINs and meet obligations (mandates) under the RFS. Seven large biodiesel export plants with approved pathways were registered with EPA before CARBIO's certification.

Mandates, Official Prices and Taxes Since 2007

A) Blend Mandates

In January 2010, Argentina implemented a mandate of 5 percent bioethanol in gasoline and 5 percent biodiesel in diesel. This mandate was increased to nine percent in January 2014 and ten percent in February 2014. A ten percent biodiesel blend requirement was added for power generation plants technically able to use a biodiesel blend but it was never enforced and virtually none is used in this sector.

Resolution 37 in April 2016 raised the minimum blends to 12 percent bioethanol and 10 percent biodiesel. In the case of bioethanol, the additional 2 percentage points had to be supplied by the sugar industry. Afterwards, the grain and the sugar industries were required to divide equally the total supply of bioethanol to gasoline distributors.

In 2019, the biofuel mix is expected to be 11.6 percent for bioethanol and 9.6 percent for biodiesel; rates largely unchanged since 2017. The biodiesel blend statistic is calculated by aggregating all fuel used in on-road transport, off-road agriculture, off-road construction, mining, shipping and rail. Excluded is power generation, which varies by year and is dependent on weather, and public transportation in a few provinces that are not part of the mandated program.

In May 2021, the current promotional regime for biofuels will expire. As with all biofuels, the government has expressed its preference for more flexible, free market conditions. However, with roughly 50 percent of idle production capacity, the US market closed and the EU market limited by volume and price, the local biodiesel industry and provincial governments are pushing for an increase in the official mandate up to 12 percent, and for an even larger blend (20 percent) for farm equipment and transportation. However, the government, focused on implementing a zero deficit cannot afford more revenue loss and is therefore unlikely to support a

blend proportion increase. In addition, oil companies and auto manufacturers do not support the use of biodiesel as they see their business contract and car manufacturers continue to be concerned about a blend increase impact on engine warranties. Ethanol producers have demonstrated that gasoline can be blended up to 20 percent ethanol without affecting newer engines and neighboring countries Brazil and Paraguay use a 27 percent blend of ethanol in gasoline with no problem. Brazil and Argentina share the same car models with automotive plants in both countries complementing each other through large in-company trade.

B) Official Prices

In 2010, Argentina implemented the bioethanol and biodiesel mandates with the Secretariat of Energy setting the official prices producers could charge for biofuel sales to fuel companies to fulfill the mandate. In September 2014, through Resolution 44/14, the Secretariat of Energy differentiated the price for bioethanol depending on the feedstock used in which grain ethanol was priced lower than sugar cane ethanol.

In January 2018, the government removed differentiated biodiesel prices to set one price for biodiesel plants sales to fuel companies. Until then, there were differentiated biodiesel prices based on the size and production of each plant. In May 2018, the Secretariat of Energy published the formula for the price of bioethanol from sugarcane and from corn that included the cost of the feedstock, plus labor, inputs and maintenance, cost of natural gas/electricity and other costs that include roughly a 3 percent return. In November and December 2018, the government decided to lower the official price of bioethanol and biodiesel, leaving apart the use of the formulas that had been used previously.

Until mid-2018, the Argentine government had been supportive of the use of biofuels in the domestic market. However, last year's economic turbulences and the implementation of a deficit zero policy forced the government to grapple with lost revenue under its domestic fuel mix mandate that exempted biofuels from taxes paid by fossil fuels. Contacts in the biofuels industry indicate that with the strong devaluation in 2018, the price of gasoline and diesel rose significantly in peso terms, and the government, as a way to offset these increases, adjusted upwards the price of the biofuels in a much lower proportion under the mandate.

In April 2019, through Disposition 23/2019 of the Secretariat of Energy, the Argentine government changed the formula for biodiesel again. The price was adjusted upwards, but significantly lower than producers expected. Through Disposition 24/2019, the government eliminated the formulas published a year before. With Disposition 81/2019, the Under Secretariat of Fuels published a new price formula for bioethanol from sugarcane but not for corn. In July 2019, the official price of biodiesel was US$739 per ton (AR$31,549 per ton or the equivalent to US$0.65 per liter), and for grain ethanol US$528 per 1,000 liters (AR$22,564) and US$583 per 1,000 liters (AR$24,916) for sugarcane ethanol.

Official Prices of Bioethanol

Month/Year	Sugarcane in Pesos/Lt	Sugarcane in USD/Lt	Corn in Pesos/Lt	Corn in USD/Lt
July 2019	24.91	0.58	22.56	0.53
June 2019	24.07	0.53	21.80	0.48
May 2019	23.40	0.50	21.27	0.46
April 2019	22.73	0.51	20.86	0.47
March 2019	22.54	0.52	20.72	0.48
February 2019	22.54	0.57	20.72	0.53
January 2019	22.22	0.59	20.21	0.54

June 2018	18.00	0.63	15.16	0.53
June 2017	16.07	0.96	12.94	0.77
June 2016	12.77	0.84	11.87	0.78
June 2015	8.98	0.99	7.03	0.77
June 2014	8.61	1.06	8.61	1.06

C) Taxes

In December 2017, the Argentine Congress passed Law 27,430 of Tax Reform, which among many changes, modified the tax structure of fuels and, for the first time, imposed a carbon tax on fossil fuels. As of March 2018, fuels were impacted by two taxes (before there were four): tax on liquid fuels and tax on carbon dioxide (with the objective of discouraging fossil fuels use and encouraging renewable energies). Diesel and gasoline now have a fixed tax that will be adjusted by inflation. Biofuels, either pure or in fuel mix, are exempted.

Financial Supports for Producers and Consumers

Argentina does not provide any direct incentives, such production subsidies or grants, to biofuel producers. However, support is provided through other measures, such as tax rebates and reductions. Biofuels Law 26,093 provided financial incentives (tax breaks) aimed at encouraging biodiesel and bioethanol production via the biofuels promotional regime for domestic use. However, this promotional regime has never been put in practice for investments and will expire in May 2021.

One measure designed to support biodiesel exports and/or biodiesel consumption in Argentina is the differential export tax on biodiesel relative to soybean oil. The tax difference between the two commodities had fluctuated widely over a long period due to the government's monthly adjustments of biodiesel taxes. In December 2017, the government eliminated the flexible export tax on biodiesel, opting instead for an 8 percent tax as of January 2018. In July 2018, under Decree 486/18, the biodiesel export tax was set at 15 percent to reduce the gap between the differential export tax (DET) on biodiesel and soybean oil. In August 2018, in response to policy preferences, the government eliminated the 3 percent difference in export taxes that had driven production and export of soybean oil and soybean meal vis-à-vis soybeans.

Thereafter, in September 2018, Decree 793/2018 established an export tax on all primary agricultural products of four Argentine pesos per US dollar (the equivalent to 10.1 percent for that month). It also eliminated the gradual phasing out of the export taxes on the soybean complex and set an additional 18 percent export tax on soybeans, soybean oil and soymeal, for a total export tax, at that time, of 28.1 percent. The biodiesel export tax was 15 percent (13.04 percent effective tax) plus the additional tax of 4 pesos per US dollar, for a total effective tax of 23.1 percent. Based on the exchange rate in mid-July 2018 the effective export duty on biodiesel was 22.3 percent, and 27.3 percent for soybeans and soybean oil.

Import Policy Including Duties/Export Taxes and Levies

Pursuant to the Biofuels Law and its promotional regime, biofuels produced for use under the mandate should be from Argentine producers authorized to participate under the official mandate. These requirements essentially prohibit biofuel imports as a source for the mandate mix unless authorized by the Secretariat of Energy.

The following table shows ethanol and biodiesel import, export and rebate rates (July 2019):

Product	Import Duty Extra Mercosur %	Import Duty Intra Mercosur %	Export Duty %	Export Rebate %
Ethanol (2207.10 & 2207.20)	20.0	0.0	3 Pesos per dollar	1.25
Biodiesel, <B30-100 (3826.00)	14.0	0.0	15.0 + 4 Pesos per dollar	0.0
Biodiesel, B1-B30 (2710.20)	0.0	0.0	4 Pesos per dollar	0.0

Note: () HTS code

A "flexible export tax" on biodiesel was first established in August 2012 that permitted monthly modifications. In December 2015, carrying out a campaign pledge, President Macri's government eliminated export taxes on all agricultural commodities, except for biodiesel, and soybeans and soy byproducts that were lowered 5 percentage points from 35 percent to 30 percent and from 32 percent to 27 percent, respectively. In June and July 2017, the export tax on biodiesel was set at 0 percent (from 0.13 percent in May) through the end of the year. In July 2017, soybean oil exports were taxed at 27 percent and biodiesel exports at 0 percent.

Under Decree 1343/17, the export tax on soybean oil, soybean meal and soybeans was slated for a monthly reduction of 0.5 percent from January 2018 until December 2019 to bring the export tax on soybean oil and soybean meal to 15 percent and on soybeans to 18 percent. However, in need of additional government revenue, in August 2018, the government eliminated these soybeans and its by-product export taxes and instead on September 4, 2018, under Decree 793/2018, implemented an 18 percent export tax on soybeans, soybean oil, and soymeal plus an additional tax of 4 pesos per US dollar.

In January 2018, the government eliminated the flexible export tax on biodiesel and replaced it with a fixed, set amount at 8 percent (effective tax of 7.41 percent). In May 2018, the government established the export tax on biodiesel at 15 percent (effective tax of 13.04 percent).

The following table shows biodiesel, soybean oil and soybeans differential export taxes in the past 12 months:

MONTH	BIODIESEL % Export Tax*	SOY OIL % Export Tax	SOYBEANS % Export Tax
July '19	13.04 (15.0)+9.3=**22.3**	18.0+9.3=**27.3**	18.0+9.3=**27.3**
June	13.04 (15.0)+8.9=**21.9**	18.0+8.9=**26.9**	18.0+8.9=**26.9**
May	13.04 (15.0)+8.6=**21.6**	18.0+8.6=**26.6**	18.0+8.6=**26.6**
April	13.04 (15.0)+9.0=**22.0**	18.0+9.0=**27.0**	18.0+9.0=**27.0**
March	13.04 (15.0)+9.3=**22.3**	18.0+9.3=**27.3**	18.0+9.3=**27.3**
February	13.04 (15.0)+10.2=**23.2**	18.0+10.2=**28.2**	18.0+10.2=**28.2**
January '19	13.04 (15.0)+10.7=**23.7**	18.0+10.7=**28.7**	18.0+10.7=**28.7**
December '18	13.04 (15.0)+10.6=**23.6**	18.0+10.6=**28.6**	18.0+10.6=**28.6**
November	13.04 (15.0)+10.6=**23.6**	18.0+10.6=**28.6**	18.0+10.6=**28.6**
October	13.04 (15.0)+11.2=**24.2**	18.0+11.2=**29.2**	18.0+11.2=**29.2**
September	13.04 (15.0)+10.1=**23.1**	18.0+10.1=**28.1**	18.0+10.1=**28.1**
August	(15.0)=**13.04**	**23.0**	**26.0**
July ' 18	(15.0)=**13.04**	**23.5**	**26.5**

*effective tax; in (x.x) nominal terms
Source: Argentine Government

Research Initiatives/Alternative Energy Policies

Biofuels research in Argentina is limited. The Secretariat of Agriculture, through its research agency INTA, conducts and coordinates most of the research in biofuels. The latest research has focused on the carbon footprint of local gasoline that has a 12 percent content of bioethanol. The results indicate that bioethanol from corn reduces GHG emissions up to 65 percent compared to fossil gasoline, primarily due to the widespread use of no-till cropping and to the limited need to dry the corn once harvested as it is normally left to dry on the stalk. A group of Argentine state universities is collaborating with INTA to develop corn hybrids with higher ethanol production and good grain yields.

INTA has also made an agreement with the Buenos Aires Grain Exchange to provide more accurate estimates of the GHG emissions of soybean farming. The University of Buenos Aires is leading a research program on a native palm tree, Acrocomia totai, in the Northern provinces that produce large volumes of oil that could be used as jet fuel.

Trade Agreements

In late June 2019 after 20 years of negotiations, the European Union and Mercosur reached a trade agreement that appears to allow duty free exportation from Mercosur countries of about 570 million liters of ethanol for industrial use and 250 million liters of ethanol for fuel use with a small import tariff. In both cases, implementation would take place gradually over 6 years. Mercosur members would negotiate the quota distribution with Brazil expected to take the largest portion, followed by Argentina and Paraguay. Some products retain limited access through quotas. For biodiesel, the local industry expects that the agreement reached in early 2019, by which Argentina exports biodiesel to the EU under a quota and at a minimum price, will remain over the next five years.

III. Gasoline and Diesel Pools

Fuel Use (Million Liters)

Calendar Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019f**
Gasoline Total	6,240	6,970	7,470	8,160	8,080	8,545	8,665	9,300	9,345	9,150
Diesel Total	15,446	16,212	15,308	16,340	15,209	15,946	16,056	15,110	14,365	14,050
On-road + off-road ag, construction, rail, mining and shipping	13,775	14,210	13,491	13,750	13,415	13,716	13,675	13,710	13,490	13,550
Power Generation	1,671	2,002	1,817	2,590	1,794	2,230	2,381	1,400	875	500

f = forecast;
Source: Private estimate based on official data (Secretariat of Energy) and other sources

The consumption of gasoline and diesel is closely tied to the country's economic development. The consumption of liquid fuels is primarily for on-road use (cars, buses and trucks) and a smaller portion for power

generation. Although there is no official data, contacts indicate that diesel (including biodiesel in the mix) consumption by sector in 2018 was 7.5 billion liters for cargo and public transportation; 3.0 billion liters for agriculture; 2.0 billion liters for cars and light vehicles; 500 million liters for shipping; 300 million liters for trains, and 200 million liters for mining. The agricultural sector is one of the main consumers as the vast agricultural areas and the long distances to the ports and centers of consumption that cannot be covered via inland waterways require long hauls and large volumes of fuel.

Diesel sales (excluding for power generation) in 2018 dropped 1.6 percent as a severe drought during the summer crop season lowered demand for diesel to produce and transport agricultural products.

Diesel consumption in 2019 is forecast to remain practically unchanged. The fuel demand for a record (soy/corn) crop is expected to offset a decline in the movement off all goods tied to economic recession. Gasoline continues to gain market share vis-à-vis diesel but both premium gasoline and diesel consumption have slowed due to the combination of economic recession and rising fuel prices.

Fuel switching to high ethanol blends, pure ethanol and electricity remain limited. The gasoline-ethanol pool will continue to grow unhindered by higher efficiency standards and an EV market that for now has little support, but ethanol consumption could get a big boost from demand for higher blends and a pure hydrous flex fuel market but there is no policy support for that at this time. For diesel, it would grow at higher rates when Argentina stabilizes its economy given the modes of transport available to commercial sector and lack of improved efficiency goals. Either way, the economy would benefit if rail and barge networks expand, and if that were the case demand for diesel would soften all things equal.

Argentina is working to regain its energy self-sufficiency by increasing domestic production of oil and gas and raising power generation from new renewable energy plants. However, it has not yet taken important steps to improve energy efficiency, the most important for transport being to set improved energy efficiency targets for light and heavy-duty vehicle fleets. In 2018, Argentina used 875 million liters of diesel for power generation, significantly lower than previous years due to the economic recession, more gas production and to the connection of new renewable plants in production. The Secretariat of Energy, through Resolution 660/15, excludes mining and shipping from using diesel mixed with biodiesel.

Changing the mode of transport for industry is a major challenge as Argentina seeks more energy efficiency. Roughly, 85-90 percent of the cargo in Argentina is transported by truck which uses far more energy and thus less efficient than train or barge. The government has a very ambitious project to connect the northern regions of Argentina with the key ports of Rosario and Buenos Aires by improving train services and modernizing highways. Although this plan has received some investment, the pace has slowed due to reduced government resources. The government has recently authorized the use of B-Trains, trucks with two long trailers that reduce costs significantly, and the testing of biofuels in public transportation and electric buses.

Argentina had approximately 14 million vehicles in late 2018, with an average age of almost 11.6 years. Roughly, 85 percent were cars with the balance being trucks and buses. Among the total, almost 66 percent were gasoline powered, 19 percent were diesel, and the remaining operated on compressed natural gas (which most can also run on gasoline). Fewer than 1,000 hybrid cars and 40 electric cars were in use in Argentina constrained by limited availability of recharging stations and higher purchase prices. Although Argentina manufactures flex-fuel cars for export, they cannot be sold in the local market. The government is hesitant and nonetheless, important investment would be needed in logistics and fuel distribution to service flex fuel cars. Hybrid and electric cars are beginning to be sold in Argentina. In May 2017, the government reduced the import tax on hybrid and electric cars from 35 percent to 0-5 percent (depending on whether it is a finished car or the

grade of assembled parts) for the next three years to encourage sales. The government is also working with car manufacturers to provide incentives to assemble these type of cars in the country (as an example, press reports indicate that Toyota is planning to produce a hybrid pick up before 2025). Argentina is one of the top world's lithium producers, a key element for electric batteries.

IV. Fuel Ethanol

Ethanol Used as Fuel and Other Industrial Chemicals (Million Liters)										
Calendar Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019f
Beginning Stocks	na	na	na	na	na	na	na	na	na	na
Fuel Begin Stocks	20	27	36	48	45	53	64	44	72	126
Production	na	na	na	na	na	na	na	na	na	na
Fuel Production	125	174	250	472	671	815	890	1,105	1,113	1,110
Imports	na	na	na	na	na	na	na	na	na	na
Fuel Imports	0	0	0	0	0	0	0	0	5	0
Exports	na	na	na	na	na	na	na	na	na	na
Fuel Exports	0	0	0	0	0	0	0	0	0	0
Consumption	na	na	na	na	na	na	na	na	na	na
Fuel Consumption	118	165	238	475	663	804	910	1,077	1,064	1,060
Ending Stocks	na	na	na	na	na	na	na	na	na	na
Fuel Ending Stocks	27	36	48	45	53	64	44	72	126	176
Fuel BalanceCheck	0	0	0	0	0	0	0	0	0	0
Refineries Producing Fuel Ethanol (Million Liters)										
Number of Refineries	3	9	9	11	12	14	14	14	17	19
Nameplate Capacity	215	355	600	680	880	950	950	1,200	1,300	1,400
Capacity Use (%)	58.1	49.0	41.7	69.4	76.3	85.8	93.7	92.1	85.6	79.3
Co-product Production (1,000 MT)										
DDGS	0	0	15	125	280	360	370	415	440	416
Feedstock Use for Fuel Ethanol (1,000 MT)										
Corn*	0	0	49	400	890	1,150	1,175	1,325	1,405	1,330
Molasses**	510	705	935	1,240	1,220	1,365	1,708	2,250	2,150	2,250
Market Penetration (Million Liters)										
Fuel Ethanol Use	118	165	238	475	663	804	910	1,077	1,064	1,060
Gasoline Use	6,240	6,970	7,470	8,160	8,080	8,545	8,665	9,300	9,345	9,150

Blend Rate (%)	1.9	2.4	3.2	5.8	8.2	9.4	10.5	11.6	11.4	11.6

f = forecast; na: not available Source: Private estimation based on data from the Secretariat of Energy
* 1 MT of corn yields 417 liters of ethanol
**Mills mostly use molasses but also can use sugarcane or even reconvert sugar. Due to lack of data and to simplify, we assume only molasses is used with a conversion rate of 1 MT of molasses yields 246 liters.
DDGs (Dry Distiller's Grain Soluble)

Consumption

Since 2009, bioethanol consumption has increased eight times to reach 1.08 billion liters in 2017. This exponential increase was accompanied by a 60 percent increase in ethanol-gasoline demand during this period and a relatively rapid increase in the effective blending rate, which went from 1.9 percent in 2010 to 11.6 percent in 2017. Since 2017, domestic use and the blend average have remained virtually unchanged averaging 1.1 billion liters and 11.5 percent. Having essentially reached the blend mandate to E12 shortly after the requirement was put in place in April 2016, fuel ethanol consumption will only rise (or fall) with yearly changes in the size of the ethanol-blended gasoline pool. A new expansion phase is only possible with a new program of higher blending.

In mid-2018, the government launched the first meeting of the "Roundtable for the Competitiveness of the Sugar/Ethanol Sector" where public and private sectors discussed current issues and the future. At the same time, the Bioenergy League, formed primarily by the main biofuel producing provinces, has been quite active in promoting the use of biodiesel and bioethanol and providing stronger support to the industry.

Production

With no trade and virtually no change in consumption since 2017, production is expected to remain unchanged for the third year in a row in 2019 at 1.1 billion liters. With the addition of five new plants since 2017, capacity use is estimated to fall to 79 percent this year.

The production of bioethanol in 2019 is expected to be covered equally between sugarcane processors and corn ethanol plants in accordance with the requirements set in 2016. In the past five years, sugarcane ethanol supplies were somewhat lower than those of corn were.

The sugarcane harvest normally starts in May/June and ends by October/November. A significant volume of alcohol is stocked at the end of the harvest season with deliveries in the first few months of the year and prior to the new harvest. The corn processing plants work with a more stable volume throughout the year as they can stock corn year around. Argentina has sufficient supplies of sugarcane to supply the domestic sugar market, export sugar to key markets and to produce ethanol for fuel and other industrial chemical use. If the demand for fuel ethanol increases significantly in the future due to higher blending, and the sugarcane/corn split of the mandate continues unchanged, Argentina will have to expand sugarcane production through a combination of higher yields and larger planted area. Corn supplies would not be a problem as Argentina is one of the world's top producers and less than 3 percent of the corn crop is now used for ethanol.

In 2018, sugar mills and grain ethanol plants also produced 210 million liters of ethyl alcohol for industrial and potable use (not included in the ethanol table) for the domestic market, quite stable in the past few years. One plant in Cordoba that utilizes corn has a production capacity of 50 million liters a year. The main use of this alcohol is for beverages, pharmaceutical, cleaning, cosmetics, and paints.

By 2019, bioethanol production capacity will have increased by 6.5 times since 2010, driven almost exclusively by the official mandate. In 2019, the number of processing plants will increase from 17 to 19, taking the capacity to 1.4 billion liters. With capacity rising 200 million liters and production unchanged from 2017 through 2019, capacity use is falling from 92 percent (2017) to an expected 79 percent this year. These two new plants received almost 90 million liters of the official mandate. One will use sugarcane as feedstock and the other is a dehydrator supplied by a number of very small corn ethanol plants. Two other corn-based plants, which expanded their capacity, got an additional 32 million liters each under the mandate.

In the past year, the government has changed the formula three times by which the monthly price is set, but currently, corn ethanol does not have one but the government still sets a monthly price. These modifications have seen producer's profitability drop significantly. Despite the changes in prices and tighter returns, three corn ethanol companies will expand production capacity by 170 million liters in 2020.

In March 2019, Argentina had 12 sugar mills, located in the northwestern provinces of Tucuman, Salta and Jujuy, that had an official quota to supply bioethanol to fuel distributors under the mandate. The new plant, located in the northeastern part of the country, is expected to come online during this year. Current regulations establish that bioethanol for the official quota has to be dehydrated. Mills commonly use molasses but also use sugarcane, depending on the convenience and profitability of their different businesses (typically sugar exports).

Under current market and government pricing conditions, mills prefer to sell sugar to the domestic market, followed by bioethanol and lastly, sugar exports. In the past few months, though, returns between exporting sugar and selling bioethanol in the domestic market have narrowed. Sugar mills continue to make improvements in reducing the negative impact of vinasse, a byproduct of ethanol production whose disposal has caused environmental issues.

Argentina's five corn bioethanol plants are distributed in the main crop area in the center of the country. Although most of the plants can use different grain feedstocks, they almost exclusively use corn as the most efficient source under current market conditions. Argentina produces, consumes and exports significant volumes of sorghum, but so far, its use for bioethanol production remains insignificant. This year, a sixth plant is expected to be added as a corn bioethanol producer under the mandate.

The corn ethanol plants determine the volume of distilled grains to dry based on market opportunity, and sometimes, the availability of natural gas, especially in winter. DDGS are currently sold domestically to feed mills, feed additive companies, hog producers and feedlots although located far from bioethanol plants. In 2019, roughly 70 percent of the distiller's grains are expected to be marketed as dried, with the balance being wet. A few plants are exporting dried distiller's grains to neighboring Uruguay and Chile.

Trade

Argentina is not expected to export bioethanol in 2019. Contacts indicate that Argentine exports are constrained by limited export infrastructure and few trade agreements that facilitate competiveness with global competitors.

Historically, Argentina's ethanol exports ranged from 50 to 100 million liters a year. Chile, the United States, Uruguay, the EU and Japan were, at times, major buyers. Once the biofuel mandate came into place in early 2010, Argentine's exports dropped significantly (to the 6-22 million liter/year range), as most production was

redirected to the domestic fuel ethanol market, which was more profitable due to official price setting. Exports of ethanol in 2018 were about 1.5 million liters, the lowest in the past several decades.

Argentina is not expected to import ethanol for use as fuel in 2019 because feedstock supplies and production capacity are expected to meet the local mandate. Argentina normally imports ethanol for industrial use and some beverage ethanol. Most of the product is undenatured (hydrous) shipped under HTS 2207.10, but denatured ethanol is also imported (HTS 21207.20). Ethanol imports totaled 26 million liters in 2018, all sourced from Bolivia. In that same year, 5 million liters of anhydrous ethanol were imported under special government authorization for the first time, to fill a temporary shortage to maintain the E12 target.

Bioethanol imports (HTS 2207.10 and 2207.20) from member countries of Mercosur (the Southern Cone Common Market) are duty free, while imports from countries outside Mercosur are taxed at 20 percent.

Since September 2018, ethanol exports are being taxed at 3 pesos per US dollar (roughly 6.5 percent at the current exchange rate) with a 1.25 percent rebate.

V. Biodiesel

Biodiesel (Million Liters)										
Calendar Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019f**
Beginning Stocks	75	20	20	55	24	44	59	52	102	20
Production	2,070	2,760	2,800	2,270	2,935	2,060	3,020	3,260	2,760	2,500
Imports	0	0	0	0	0	0	0	0	0	0
Exports	1,545	1,910	1,770	1,296	1,815	895	1,847	1,875	1,592	1,200
Consumption	580	850	995	1,005	1,100	1,150	1,180	1,335	1,250	1,300
Ending Stocks	20	20	55	24	44	59	52	102	20	20
Balance Check	0	0	0	0	0	0	0	0	0	0
Production Capacity (Million Liters)										
Number of Biorefineries	24	27	33	36	38	38	38	37	36	36
Nameplate Capacity	2,800	3,300	4,000	4,550	5,200	5,200	5,400	5,000	5,000	5,000
Capacity Use %	73.9	83.6	70.0	49.9	56.4	39.6	55.9	65.2	55.2	50.0
Feedstock Use for Fuel (1,000 MT)										
soybean oil	1,820	2,430	2,460	2,000	2,600	1,820	2,670	2,870	2,430	2,200
Market Penetration (Million Liters)										
Biodiesel	580	850	995	1,005	1,100	1,150	1,180	1,335	1,250	1,300
Diesel*	13,775	14,210	13,491	13,750	13,415	13,716	13,675	13,710	13,490	13,550
Blend Rate %	4.2	6.0	7.4	7.3	8.2	8.4	8.6	9.7	9.3	9.6
Diesel, total use	15,446	16,212	15,308	16,340	15,209	15,946	16,056	15,110	14,365	14,050

f = forecast

* Covers the biodiesel-diesel pool (on-road and off-road agriculture, construction, mining, shipping and rail) except

for power generation (which should use 10 percent mix but was never enforced)

Source: Private estimate based on official data from Secretariat of Energy

Consumption

Argentine biodiesel consumption for 2019 is forecast at 1.3 billion liters, a 4 percent increase from the previous year and very near record levels but little changed since 2017 when the B10 mandate was essentially met. Supply under the mandate is marginally higher this year due to sales outside the mandate tied to some provincial public transportation programs that promote blending above 10 percent.

Domestic diesel-biodiesel consumption in 2018 was negatively affected by the worst drought in the past 50 years, which resulted in significantly smaller fuel demand to service diminished corn and soybean crops. In 2019, crop production has recovered, but higher fuel prices and an economic recession play against a larger recovery in fuel consumption.

The average blend rate is projected to be 9.6 percent (excluding diesel use in power generation), marginally higher than the previous year and just below the record set in 2017. With production capacity use running at 50 percent, and as exports remain limited and expected to continue a downward trend this year, the domestic biodiesel chain is looking for alternatives to increase demand. The Bioenergy League, created in 2018 by the provincial governments of the main producing biofuels provinces to promote its use, is working hard to expand the use of biodiesel in public transportation.

Total diesel-biodiesel consumption in 2019 is forecast at 14.0 billion liters, the lowest in the past decade. The diesel pool is made up of on-road plus off-road agriculture, construction and rail plus diesel consumed for power generation. While the consumption of on and off-road has remained stable in the past decade, diesel used for power generation rose from 2010-16. Since then, consumption has fallen due to the combination of larger gas supplies from Argentina's new shale reservoirs, new renewable power production and lower demand because of the economic recession.

Since early 2014, government policy requires B10 use in power plants (if technically feasible, especially related to higher quality biodiesel), but practically none has been used and most contacts believe this will continue for the next few years as most companies prefer not to risk any impact on their equipment from changing fuel sources. If diesel for power generation is added to diesel use in other sectors, the estimated blend rate in 2109 falls from 9.6 percent to 9.3 percent.

Production

Argentina continues to be one of the world's largest biodiesel producers due to plentiful feedstock supplies, a domestic program mandating B10, and success as a major exporter. Practically all biodiesel produced in Argentina is made from soybean oil. Some municipalities and private investments produce biodiesel from used cooking oil, but volumes are insignificant. The industry is currently running at 50 percent capacity and could easily expand production if market conditions were more favorable.

Biodiesel production in 2019 is forecast at 2.5 billion liters, down from last year and sharply down from a record 3.26 billion liters in 2017 and the lowest since 2016. No exports to the US are expected in 2019 as was the case in 2018, and those to the EU are limited through a quota that most contacts do not expect to fill this year due to

current market conditions. With exports down two years in a row, domestic consumption should account for 52 percent of production in 2019 while exports account for 48 percent, marking the second time in a decade where production for the domestic market exceeds that for export.

Biodiesel production capacity is estimated at 5 billion liters, flat since 2017. Most small plants are operating at a high capacity to fill the mandate, while much larger, almost exclusively export-oriented plants are operating at low use rates. Argentina has thirty-six biodiesel plants, 33 of which are currently operating, with the largest plants capable of producing up to 700 million liters per year. Ten large capacity plants account for two-thirds of the total production capacity with the balance covered by 26 small and medium plants with a capacity that ranges between 12-110 million liters per year. Three of the larger companies that cannot sell under the mandate, supply biodiesel for public transportation in different provinces.

Since December 2018, the official price of biodiesel has fluctuated with much smaller increases than expected by the local industry. In April 2019, the government announced a modification in the formula used to set the monthly price for biodiesel plants to sell to oil companies under the mandate. The change eliminated a clause that updated the price with the fluctuation of the exchange rate. Small and medium biodiesel producers were disappointed that the measure lowered the price to levels considered unprofitable.

Trade

Argentine biodiesel exports in 2019 are forecast at 1.2 billion liters, the lowest volume in the past 3 years, and a significant drop from 2018 that in turn was sharply down from the previous year. This year, roughly 95 percent of the total should be shipped to the EU. Argentina never imported biodiesel because it has plenty additional capacity to increase supply if demanded. Furthermore, the domestic market is regulated through mandate mixes and official prices. Imports would need to have previous authorization from the government.

On December 2018, the European Commission proposed countervailing duties of 25-33 percent, depending on the company, following an anti-subsidy investigation. However, in February 2019, the European Commission and Argentina agreed to an annual duty-free quota of 1.36 billion liters of biodiesel per year, at a minimum price based on Argentina's official FOB soybean oil price plus production costs and freight. Eight local biodiesel producers are authorized to export. Contacts indicate that Carbio, the Argentine Biofuels Chamber, will distribute this quota among its members based on past performance. There were no exports in the first two months of 2019 pending a resolution to the investigation, but shipments resumed in March 2019 with 68 million liters exported to the Netherlands. Exports through June 2019 totaled 540 million liters of which the Netherlands accounted for 82 percent, followed by Malta with 13 percent and Canada with 5 percent. Exporters indicate that the export price is currently too low due to strong competition from inexpensive palm oil as well as large biodiesel stocks in the EU. Although exports are expected to be slower than earlier expected, they are projected to recover in the last quarter.

Exports to Peru were curtailed after June 2018 and Argentina filed an official complaint against Peru at the WTO in December 2018. In 2016, Peru set anti-dumping and anti-subsidy duties on Argentine biodiesel imports. In 2012-16, Peru imported between 155-280 million liters a year for its official mandate. Imports in 2017 dropped to 50 million and in 2018 fell to 17 million liters with the last shipment in June 2018. Exports to Canada are expected to fall between 70-100 million liters in 2019. The export window to Canada is limited due to weather factors.

United States applied AD and CV duties on Argentina's biodiesel effectively curtailing all shipments after August 2017 with no further shipments to date. In September 2018, the Argentine government, together with biodiesel

exporters, requested that the U.S. Department of Commerce (DOC) initiate a changed circumstance review of the AD and CV duty orders. The basis for these reviews were the changes in export taxes Argentina had made in the soybean value chain. Since August/September 2018, the differential between biodiesel and soybean oil export taxes have been substantially reduced (see *Import Policy Including Duties/Export Taxes and Levies section).* The government also eliminated the differential export tax of 3 percentage points between soybean byproducts and soybeans.

In July 2019, the DOC determined that changed circumstances did not exist warranting changes under the AD duty on Argentine biodiesel. The DOC did however determine that changed circumstances exist warranting a change to the cash deposit rates under the countervailing duty CV duty order. Following this determination, the CV duty on biodiesel imports from Argentina was drastically reduced from an average 72 percent to 10 percent. However, the AD duty remains unchanged, at an average 75 percent. The CV duty was published in January 2018 and the AD duty in April 2018 to be applicable over the next 5 years.

Despite the sharp reduction in CV duties, AD duties remain at a level that exporters believe are too high and unless they are lowered shipments of Argentine biodiesel to the United States are expected to remain zero. Argentina now proposes an agreement similar to the one reached with the European Union that limits export volumes through a negotiated quota and a minimum price.

VI. Advanced Biofuels

Argentina does not produce advanced biofuels. However, some government, private sector and university programs are researching feedstock and conversion technologies.

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