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Report Highlights:

The Covid-19 pandemic is negatively impacting the Argentine biofuels sector in 2020 as long-term lockdown provisions continue to restrict the full range of personal and commercial activities. Bioethanol consumption is forecast at 880 million liters, the lowest in five years, with capacity utilization at 55 percent. Biodiesel production in 2020 is projected to drop to 1.85 billion liters, the lowest in the past decade in response to a reduction in local and export demand. The biofuels law requiring blend mandates for ethanol and biodiesel (the mandate for biodiesel has not held in 2020) will expire in May 2021, with ongoing discussions as to whether an extension or new law may be options under consideration by the government.

I. Executive Summary

In March 2020, Argentina implemented a strict national lockdown to contain the spread of COVID-19. The lockdown was gradually loosened in most of the country but not the capital of Buenos Aires and the surrounding metropolitan area where most cases have concentrated. Recently some flexibility on movement was implemented in the capital region as well for essential and commercial purposes despite rising incidences of COVID-19 related cases and deaths. As a result, demand for all fuels, including biofuels has fallen.

Looking forward, the Fernandez government has expressed support for renewable energy which follows the previous Macri government's support for private investment, especially in wind and solar energy, to reduce greenhouse gas emissions. The 2006 Biofuels Law 26093/2006, which originally mandated a mix of 5 percent of biodiesel and bioethanol, is set to expire in May 2021, with ongoing discussions on whether an extension or a new law is preferable. Recently, the Minister of Production publicly expressed a preference for a new law to stimulate the sector and attract new investment.

Bioethanol for Fuel Use:

Post projects 2020 fuel ethanol consumption at 880 million liters, a 17 percent drop from last year and the lowest in five years, as consumption patterns are affected not only by an economic recession but also COVID-19 pandemic movement restrictions. In April, under a strict nationwide lockdown, gasoline sales dropped more than 60 percent. Since then, sales have seen some recovery as some provinces are released from the strictest COVID-19 policies but consumption remains below normal volumes.

The 2006 biofuels law, which was implemented 11 years ago, has been amended by various laws and resolutions and by 2016 the mandate had been increased to an E12 blend in gasoline. The volume is to be split evenly between the corn and sugarcane ethanol industries, though in practice the exact breakdown varies annually based on the profitability of ethanol production by the sugarcane industry. The government sets company quotas and official prices which are established monthly. The effective mix for 2020 is estimated at 11.6 percent, in line with the past three years. Petroleum companies support the blending with bioethanol as its price is profitable and improves the quality of their products.

The fuel ethanol industry is protected through licensing so imports are generally zero. Exports of other industrial chemical ethanol are expected up sharply in 2020 due to strong prices and demand for medical grade ethanol.

Argentina has 22 bioethanol plants capable of producing a total of 1.58 billion liters. In 2020, the combination of additional capacity and the lower fuel demand is expected to result in a capacity utilization rate of 55 percent, the lowest since 2013, with the corn industry expected to supply 52 percent of the total during the year with the sugar industry supplying the balance.

Biodiesel:

This year has become one of the worst on record for the biodiesel industry. Argentine biodiesel production in 2020 is forecast at 1.85 billion liters, the lowest since 2009, due to the combination of low exports and a significant reduction in domestic use. The COVID-19 pandemic has negatively affected the industry in many ways. All surface transport diesel demand is projected to drop 9.4 percent as the economy is suffering the effects of the 5-month long quarantine coupled with an economic recession which began in 2018 and has intensified. In addition to a declining fuel pool, domestic biodiesel demand is weakened further still because oil companies are permitted to blend below the B10 mandate in place since 2016. The effective 2020 blend rate is expected to fall to 8.2 percent which if realized would be the lowest effective rate since 2012. The biodiesel industry is suffering low returns with biofuel prices that are fixed. Year-on-year, all things considered, biodiesel production and consumption are projected to fall an astounding 24 and 21 percent, respectively.

This industry, like fuel ethanol, is fully protected from outside competition because imports are not permitted by law to count toward the fulfillment of mandates. Exports drove initial industry growth (2007-9), and have seen considerable variability since with annual sales up to 1.8 to 1.9 billion liters (2011-12, 2014, 2016-17). Exports of biodiesel are projected at 825 million liters in 2020, 329 million liters below 2019 and the lowest in 12 years. Reduced 2020 sales are the result of smaller fuel consumption in the European Union (EU), the primary market currently for Argentine biodiesel exports pursuant to an annual quota at minimum prices shipped to ports in the Netherlands. Exports to the US and Peru are unlikely due to high import duties. Exports to the discretionary market are not expected as current world diesel prices are below those of soybean oil.

In 2020, Argentina's 33 biodiesel plants have a production capacity of 4.43 billion liters. The capacity utilization is estimated at 41.8 percent for the entire year, the lowest since 2016. Argentina almost exclusively uses soybean oil as feedstock.

II. Policy and Programs

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

Based on the Emissions Gap Report (UNEP, 2016), Argentina accounted for 0.7% of global GHG emissions in 2014. Under the UN Framework Convention on Climate Change, the country declared it would present in 2020 its long-term strategy to mitigate emissions, through sectorial plans between energy, transportation, land use, agriculture and forestry. In 2016 Argentina revised its Nationally Determined Contribution (NDC) to reduce GHG emissions by planning unconditional mitigation measures that manage to lower their target from 570 to 483 million tCO_2e by 2030. Since taking power in December 2019, the new Fernandez government has not implemented significant changes in GHG policy.

To reduce GHG emissions, Argentina has focused on diversifying its energy matrix to boost renewable energy use and improve energy efficiency. For example, in 2015 Argentina passed

Law 27191/2015, 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 originate from renewable sources and, by 2025, increase to at least 20 percent. At present, the proportion is around 9 percent and by the end of the 2020, it is expected to be closer to 10 percent.

Since 2016, the Renewable Energy Plan (RenovAR) has attracted investment worth $4.3 billion with more than 130 facilities in commercial production, 70 under construction and close to 100 projects in the planning stages, primarily for projects in wind, solar and biomass energy. Argentina is developing wind power in southern Patagonia and solar power in the northwest and west of the country. A fourth round of bids in 2019 generated significant interest with approximately 40 small projects to produce 260 MW. The government is expected to sign the contracts for these investments over the next few months.

In addition, the Ministry of Agriculture has a program called Probiomasa to encourage energy production with biogas and biomass through renewable energy tenders. This program ended in June 2020 but discussions are ongoing for an extension that would focus on agricultural and agro industrial waste.

The Biofuels Law 26093/2006, 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 lagged for three years for ethanol.

In January 2008, Congress passed Law 26334/2007, which promoted the production of bioethanol from sugarcane. This law allowed sugar mills to participate under the biofuel promotion regime, maintaining the basic norms and regulations of the biofuel law.

The Biofuels Law expires in May 2021 with ongoing discussion for next steps. Some industry leaders want the government to extend the law for 3-5 more years while others believe a new law should be passed. The new government has recently given some indication that it will work in passing a new law to continue with the benefits seen so far and to encourage further investment. Most of the provinces where biofuels are produced have formed a bioenergy league to promote the production, use and commercialization of biodiesel and bioethanol.

The promotion of biofuels is also ongoing at the provincial level. As an example, the province of Santa Fe, where a majority of the biodiesel plants are located, has conducted studies with B25 and B100 in public buses and has declared that, starting in 2020, all public buses will begin using B100. However contacts indicate that its full implementation will be delayed. A provincial bill was recently passed by which all public transportation and farm equipment will use B100 which could generate demand for 400 million liters of biodiesel a year if it passes. A few other provinces, including Tucuman, have also begun testing public buses with biodiesel. Some large farming companies are also exploring the use of biodiesel in their machinery.

At a national level, some ministers of the new government have expressed interest in utilizing electric motors or compressed natural gas (CNG) public transportation. Increased CNG usage would be in line with government efforts to expand investment and production in Vaca Muerta, one of the world's largest non-conventional oil and gas reservoirs. President Fernandez has publicly expressed the importance of the development of Vaca Muerta and has shown his support through policies which encourage the continuity of new investment despite an erratic global oil market.

Argentina does not have specific environmental or social/economic sustainability criteria for biofuels. However, as the country is a major exporter of biodiesel, the criteria and regulations of other markets are closely monitored for export compliance. This is the case of the EU's second Renewable Energy Directive (REDII) and the Environmental Protection Agency (EPA) rulemaking. CARBIO, the Argentine Chamber of Biodiesel, produced a voluntary certification scheme and biodiesel exports are accompanied by certificates granted by the International Sustainability and Carbon Certification system (ISCC) or the French 2BS biomass biofuel sustainability voluntary scheme.

Mandates, Official Prices and Taxes Since 2007

A) Blend Mandates

In January 2010, Argentina mandated 5 percent bioethanol in gasoline and 5 percent biodiesel in diesel. This ethanol mandate was increased to 9 percent in January 2014 and 10 percent in February 2014. At the same time, a10 percent biodiesel blend requirement was added for power generation plants technically able to use a biodiesel blend but it was never enforced and so far practically none has been used in this sector.

In April 2016, Resolution 37 raised the minimum blend 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. Shortly afterwards, the grain and the sugar industries were required to divide equally the total supply of bioethanol to gasoline distributors.

In 2020, the effective biofuel mix is expected to be 11.6 percent for bioethanol and 8.2 percent for biodiesel; the latter being the lowest since 2011. The biodiesel blend statistic is calculated by aggregating all fuel used in on-road transport, off-road agriculture, off-road construction, and rail. Excluded is power generation which until now has only consumed diesel, and the mining and shipping sectors which are not obliged to use biodiesel.

In May 2021, the current promotion regime for the biofuels mandate will expire. With 58 percent of idle production capacity in the biodiesel sector, the US and Peruvian markets virtually closed and the EU market limited by volume and price, the local industry and provincial governments are supporting a bill that would increase the official mandate to 15 percent. For bioethanol, to restart expansion for a market that has remained flat for the past three years, they are proposing a 15 percent mix mandate that would be increased to 27.5 percent by 2027. In both biofuels, potentially higher mix ratios would be used if market conditions make such rates

viable. However there is opposition, as oil companies fear loss of market share and auto manufacturers continues to raise concerns about the effects of blend increases to engines and 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 Energy Secretariat setting company quotas and the official prices that biofuel producers could charge fuel companies to fill the mandate. Since its implementation, the official prices of bioethanol and biodiesel under the mandate have undergone several changes in the formula established to set prices. In fact, in many periods the government fixed prices which did not follow established policies at the time. Please refer to past annual reporting for past history on biofuel price setting.

In April 2019, through Disposition 23/2019 of the Energy Secretariat, the Argentine government changed the formula for biodiesel again. It essentially considered the price of soybean oil, methanol, labor costs, plus other costs (including return on investment and taxes), and included a 3 percent return. In May 2019, under Disposition 81/2019, the Under Secretariat of Fuels published a new price formula for bioethanol from sugarcane but not from that considered the price of feedstock, inputs, maintenance and other costs (including return on investment and taxes). In July 2020, the official price of biodiesel was US$620 per ton (AR$44,121 per ton or the equivalent to US$0.70 per liter), and for grain ethanol US$420 per 1,000 liters (AR$29,808) and US$420 per 1,000 liters (AR$29,808) for sugarcane ethanol.

Table: Official Prices of Bioethanol and Biodiesel

Month/Year	Sugarcane Pesos/Lt	Sugarcane USD/Lt	Corn Pesos/Lt	Corn USD/Lt	Biodiesel Pesos/Lt	Biodiesel USD/Lt
July 2020	29.80	0.42	29.80	0.42	50.00	0.70
June 2020	29.80	0.43	29.80	0.43	50.00	0.72
May 2020	29.80	0.44	29.80	0.44	50.00	0.74
April 2020	29.80	0.46	29.80	0.46	50.00	0.77
March 2020	29.80	0.48	29.80	0.48	50.00	0.80
Feb. 2020	29.80	0.49	29.80	0.49	50.00	0.82
Jan. 2020	29.80	0.49	29.80	0.49	50.00	0.82
June 2019	24.07	0.57	21.80	0.52	34.44	0.82
June 2018	18.00	0.63	15.16	0.53	22.03	0.77
June 2017	16.07	0.96	12.94	0.77	15.75	0.94
June 2016	12.77	0.84	11.87	0.78	13.31	0.87
June 2015	8.98	0.99	7.03	0.77	7.88	0.86
June 2014	8.61	1.06	8.61	1.06	8.35	1.03

Source: Under Secretariat for Fuels

C) Taxes

In December 2017, the Argentine Congress passed the Tax Reform Law 27430/2017, 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 subject to two taxes (compared to four previously): a tax on liquid fuels and a 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 should be adjusted by inflation, although the government has postponed its adjustment several times. Biofuels, either pure or in fuel mix, are exempted.

Financial Supports for Producers and Consumers

Argentina does not provide direct incentives to biofuel producers. However, support is provided through other measures, such as tax rebates and reductions. Biofuels Law 26093/2006 provided tax incentives to encourage biodiesel and bioethanol production via the biofuels promotion regime for domestic use but it was never implemented and will expire in May 2021.

One measure designed to support biodiesel exports and/or biodiesel consumption in Argentina is the nominal 3 percent differential export tax on biodiesel relative to soybean oil. The effective differential is larger than 3 percent and is explained in the section below. The nominal and effective tax differences between the two commodities have fluctuated widely over a long period of time. In August 2018, in response to policy preferences, the government eliminated the 3 percent difference in export taxes that had given advantage to the production and export of soybean oil and soybean meal over soybean export for several decades.

Import Policy Including Duties/Export Taxes and Levies

Pursuant to the Biofuels Law, only biofuels manufactured by Argentine producers may be used in filling the official mandate – which effectively prohibits biofuel imports by fuel blenders to meet the mandate mix – unless authorized by the Secretariat of Energy.

In December 2019, the Fernandez government modified the export tax scheme established by former President Macri's administration. Pursuant to Decree 37/2019, export taxes changed from a flexible scheme adjusted by the exchange rate (an export tax on all primary agricultural products of four Argentine pesos per US dollar – at the time equivalent to 6.7 percent) to a fixed export rate. In the case of the soybean complex, the tax went from 24.7 percent (which included an additional 18 percent fixed tax) to 30 percent. The nominal export tax on biodiesel went from 15 percent (13.04 percent effective tax) plus the additional tax of 4 pesos per US dollar, for a total effective tax of 19.74 percent, to a fixed 27 percent tax (21.25 percent effective tax). In March 2020, through Decree 230, the government increased export taxes for the soy complex from 30 percent to 33 percent and biodiesel from 27 percent to 30 percent (effective tax 23.08 percent).

Table: Recent Export Tax Changes on Biodiesel, Soybean Oil, and Soybean

MONTH	BIODIESEL % Export Tax*	SOY OIL % Export Tax	SOYBEANS % Export Tax
March 2020	30.0 (23.08)*	33.0	33.0
December 2019 (Fernandez)	27.0 (21.25)*	30.0	30.0
December 2019 (Macri)	13.04 (15.0)+6.7=**19.74***	18.0+6.7=**24.7**	18.0+6.7=**24.7**

**Biodiesel export tax nominal terms, effective rate in parenthesis*
Source: Argentine Government

Table: Import/Export taxes and Rebate Rates for Ethanol and Biodiesel (July 2020)

Product	Import Duty Extra Mercosur %	Import Duty Intra Mercosur %	Export Tax %	Export Rebate %
Ethanol (2207.10 & 2207.20)	20.0	0.0	Pesos 3/USD (equiv. 4.2 percent)	1.25
Biodiesel, <B30-100 (3826.00)	14.0	0.0	30	0.0
Biodiesel, B1-B30 (2710.20)	0.0	0.0	12	0.0

Note: Applicable HTS codes in parenthesis

Research Initiatives/Alternative Energy Policies

There are few entities/organizations in Argentina involved in biofuels and non-conventional energy research. INTA, the National Institute of Agricultural Technology, is the leading research body in this field. The Institute is member of Babet-Real5, a European Union funded program, which focuses on the research of second generation ethanol on small scale plants. Argentina's research focused on the use of sugarcane as feedstock. INTA has also been researching biodiesel, bioethanol and biogas technology and on carbon and water footprints and energy balances. The Estacion Experimental Obispo Colombres, located in Tucuman province (the main sugar province in Argentina) has several lines of research under their bioenergy program, with a strong focus on the sugarcane/sugar industry. Lastly, Y-Tec is the research arm of the state-owned oil company YPF which controls more than 60 percent of the domestic fuels market. Y-Tec is collaboration between YPF and Conicet, the national science and technology agency. Y-Tec's focus is energy research, including renewable energy and sustainability.

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 will negotiate the quota distribution, with Brazil expected to take the largest portion, followed by Argentina and Paraguay. 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. Based on public information, required implementation steps prior to entering into force are moving normally.

COVID-19

Policy and programs on biofuels have so far not been explicitly altered as part of the government's response to the COVID-19. The overall decrease in 2020 of bioethanol production (and consumption as there is no trade) is the result of expected reduced demand for gasoline with no change in the blend level. In the case of biodiesel, decreased consumption resulted from a combination of lower diesel demand and a drop in the blending rate due to the lack of compliance with the official mandate. While reduced demand will negatively affect the biofuels sector, its structural problems, mentioned above, existed prior to COVID-19, and are related to the different governments' views of biofuels and fuel market policy and the country's general unstable economic situation.

III. Gasoline and Diesel Pools

Fuel Use (Million Liters)										
Calendar Year	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020f**
Gasoline Pool 1/ 2/	7,160	7,774	8,158	8,066	8,520	8,629	9,234	9,282	9,107	7,589
Diesel Pool 1/	15,468	14,776	14,615	14,234	15,053	15,025	14,512	14,269	14,133	12,893
On-road, Agriculture, Construction & Rail	13,466	12,959	12,025	12,440	12,823	12,644	13,112	13,394	13,730	12,443
Industry, Heating	2,002	1,817	2,590	1,794	2,230	2,381	1,400	875	403	450
Fuel Pools Total 1/	22,628	22,550	22,773	22,300	23,573	23,654	23,746	23,551	23,240	20,482

Notes 1/ Fuel pools are defined as fossil fuels plus all "bio-components" (biofuels) as well as MTBE if used in gasoline.
2/ Excludes 'aviation ' which is very small
f: forecast
Source:Intl Energy Agency

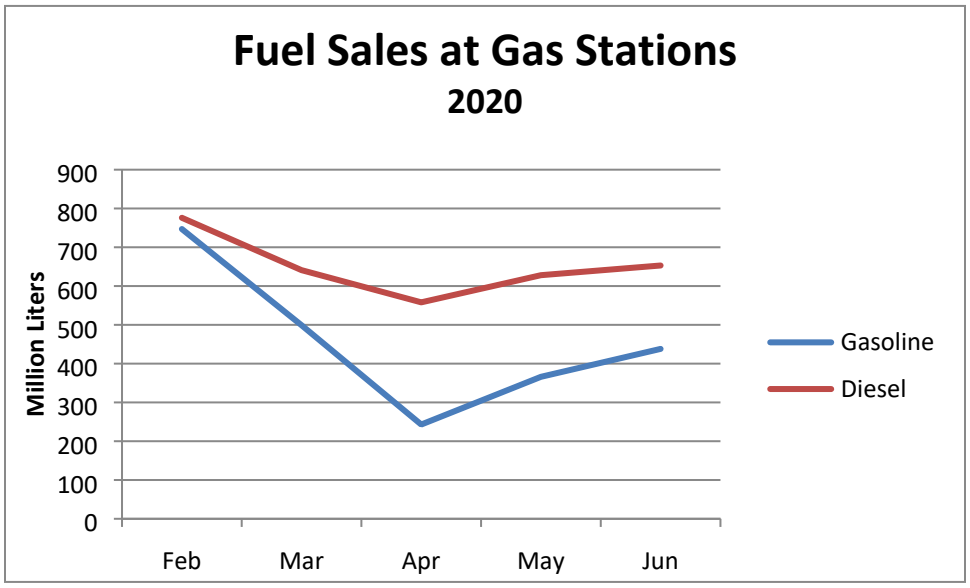
COVID-19 is having a tremendous negative economic impact on Argentina. The country's economy was already in fragile state after three consecutive years of declining GDP, a fiscal deficit, high inflation, and ongoing external debt obligations. In June 2020, the OECD projected Argentina's economy will further contract between 8-10 percent in 2020, with local economists even more pessimistic, which will impact personal and commercial activity and the consumption of fuels.

On March 3, 2020, Argentina announced its first case of COVID-19. On March 19, President Fernandez announced a national lockdown, initially for 10 days, but then extending it several times. Over the ensuing weeks, the lockdown was gradually loosened in most of the country but not the capital of Buenos Aires and the surrounding metropolitan area where most cases have been concentrated. The government banned new ticket sales of international flights entering the country until September and required arriving passengers to register with the government and quarantine for 14 days. Some sectors, like food/agriculture, were declared essential and

continued almost normal operations, but activity in most other sectors was halted. Since then, provinces and towns have been partially reopening, however, the city of Buenos Aires and its suburbs, which account for one third of the country's population and almost half of the economy, is experiencing a growing number of cases and lockdowns have been loosened and tightened repeatedly. Public opinion is mixed on finding the balance between health and economic downturn.

Under this scenario, it is difficult to forecast how fuel consumption will evolve in the near future as it will depend on how the pandemic develops and its final impact on the local economy. The International Energy Agency, in its June report, projected for Argentina a drop in gasoline consumption of 16.6 percent and 8.8 percent for diesel in 2020. Local contacts' estimates are in line with such projection, but expect a somewhat more aggressive decline. Domestic retail fuel prices have been frozen since December 2019 so consumers have not benefitted from recent sharp decline in international oil prices. Even if they had been lowered, gasoline demand would have not changed at any price under a true lockdown situation, and diesel demand is also fairly price insensitive when a severe recession is under way.

The following chart shows fuel sales at gas stations between February and June 2020. In the case of diesel it only represents a portion of the total as it does not include wholesale sales for agriculture, industry and public transport. The lockdown's strongest effects were from late March onward, bottoming in April. Since then, sales are recovering as the economy began a partial reopening, especially outside the city of Buenos Aires. The drop in gasoline use was far more dramatic due to the drop in demand for private vehicles, while diesel benefitted by some ongoing use and partial recovery for small truck and van deliveries.



These prices for gasoline and diesel include any blended biofuels.
Source: Economic Trends (with data from the Energy Secretariat)

Switching fuel to high-ethanol blends, pure ethanol or electricity remains limited. The first two would of course expand the space for ethanol, while the later would shrink the space for ethanol.

For now, the gasoline-ethanol pool is not threatened by higher efficiency standards as there are no plans to introduce any, and the electric vehicle (EV) market without meaningful consumer purchasing incentives and no supply quotas established remains no threat either. Ethanol consumption could get a big boost from demand for higher blends and a true flex fuel market but there is no policy support for that at this time. Diesel demand will grow at higher rates when Argentina stabilizes its economy given limited alternative modes of transport available to the commercial sector and lack of plans to for improved efficiency standards for heavy-duty engines.

Argentina is working to regain energy self-sufficiency by increasing domestic production of oil and gas and power generation from new renewable energy plants. However, it has not yet taken significant steps to improve energy efficiency standards for light and heavy-duty vehicle fleets. In 2019, Argentina used 403 million liters of diesel for power generation, the lowest in the past decade due to the economic recession, larger natural gas production and to the connection of new renewable plants.

Commerce is overly dependent on trucking, and changing the mode of transport for industry is a major challenge as Argentina seeks more energy efficiency. Roughly, 85-90 percent of cargo in Argentina is transported by truck which are less energy efficient than trains or barges. However, the government has recently authorized the use of B-Trains, trucks with two long trailers, that reduce costs. An ambitious project to connect the northern regions of Argentina with the key ports of Rosario and Buenos Aires continues by improving train services and modernizing highways. While this plan has received some investment, the pace has slowed due to limited government resources. If proposed expansions to rail and barge networks were implemented, demand for diesel for transportation will decline unless the upgraded networks spur much needed new economic growth.

By the end of 2019, Argentina had 14.3 million vehicles with an average age of almost 11.7 years. Roughly, 83 percent were cars with the balance being trucks and buses. Among the total, almost 52 percent were gasoline powered, 35 percent were diesel, and the remaining operated on compressed natural gas (most of which can also use gasoline). A mere 2,000 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, they are for export only and cannot be sold in locally due to a lack of government permission. 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 for the next three years to encourage sales. The government is also working with car manufacturers to provide incentives to assemble these 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 world's top lithium producers, a key element for electric batteries.

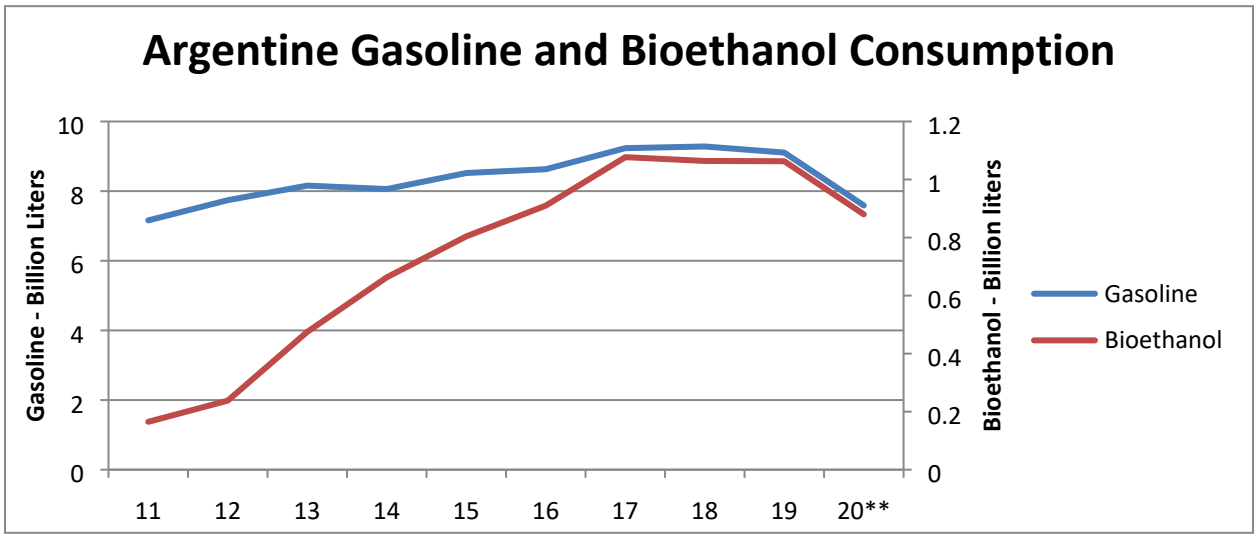
IV. Fuel Ethanol

Ethanol Used as Fuel and Other Industrial Chemicals (Million Liters)										
Calendar Year	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020f**
Beginning Stocks	0	0	0	0	0	0	0	0	0	0
Fuel Begin Stocks	27	36	48	45	53	64	44	72	126	136
Production										
Fuel Production	174	250	472	671	815	890	1,105	1,113	1,073	870
Imports										
Fuel Imports	0	0	0	0	0	0	0	5	0	0
Exports										
Fuel Exports	0	0	0	0	0	0	0	0	0	0
Consumption										
Fuel Consumption	165	238	475	663	804	910	1,077	1,064	1,063	880
Ending Stocks										
Fuel Ending Stocks	36	48	45	53	64	44	72	126	136	126
Refineries Producing Fuel Ethanol (Million Liters)										
Number of Refineries	9	9	11	12	14	14	14	17	22	22
Nameplate Capacity	355	600	680	880	950	950	1,200	1,300	1,440	1,580
Capacity Use (%)	49.0 %	41.7%	69.4%	76.3%	85.8%	93.7%	92.1%	85.6%	74.5%	55.1%
Co-product Production (1,000 MT)										
DDGS (wet/dry)*	0	15	125	280	360	370	415	440	425	345
Feedstock Use for Fuel Ethanol (1,000 MT)										
Corn**	0	49	400	890	1,150	1,175	1,325	1,400	1,330	1,085
Molasses***	705	935	1,240	1,220	1,365	1,708	2,250	2,150	2,110	1,700
Market Penetration (Million Liters)										
Fuel Ethanol Use	165	238	475	663	804	910	1,077	1,064	1,063	880
Gasoline Pool 1/	7,160	7,774	8,158	8,066	8,520	8,629	9,234	9,282	9,107	7,589
Blend Rate (%)	2.3%	3.1%	5.8%	8.2%	9.4%	10.5%	11.7%	11.5%	11.7%	11.6%

Note: 1/ Includes all biocomponents (biofuels) like ethanol and ETBE as well as MTBE if used.
f = forecast
Source: Private and Secretariat of Energy data
** On a dry basis, although some plants sell in different proportions wet distillers grains*
*** 1 MT of corn yields 417 liters of ethanol*
**** Sugar mills mostly use molasses but also can use sugarcane or even convert 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.*

Consumption

Bioethanol (or fuel ethanol) use for 2020 is expected to drop at least 17 percent to 880 million liters based on the contraction expected in gasoline consumption, with some local analysts projecting a steeper drop, depending on the economic recovery rate from the covid restrictions. Gasoline consumption is almost exclusively consumed by private cars, with the largest concentration in large cities where the concentration of covid cases and movement restrictions are occurring.



** *Post forecast*
Bioethanol is all ethanol used as fuel. Gasoline pool includes all blended ethanol.
Source: FAS with Secretariat of Energy and International Energy Agency

As reflected in the above chart, since the fuel ethanol consumption was implemented in 2010 at the initial blend rate of 5 percent, consumption has risen every year, stabilizing in 2017 at around 1.1 billion liters a year and close to the E12 mandate due to no growth in the fuel pool or blend rate. The lack of further growth in fuel pool volume is a reflection of the local economic contraction in recent years. The effective blend rate for 2020 is forecast at 11.6 percent, similar to the previous three years.

The Argentine market of industrial ethanol is normally estimated at 150 million liters per year, with approximately 40-50 million consumed by the beverage sector. In 2020, the total market is expected to grow to 200-220 million liters due to additional demand of sanitary and healthcare products as a result of the COVID-19 pandemic.

Production

Argentine bioethanol (fuel ethanol) production for 2020 is projected at 870 million liters, the lowest since 2016, due to lower local demand affected primarily by the COVID-19 pandemic, and the economic recession of the past three years. Local market participants are uncertain whether Argentina will export fuel ethanol this year since local supply and demand are so difficult to predict. Argentina is expected to export larger volumes of ethanol due to a strong

world demand, but primarily for health and sanitary products. Post maintains biofuel exports at zero.

In 2019, capacity utilization reached 75 percent serving only local fuel market. In 2020, with a projected 17 percent drop in demand and an increase in capacity of 10 percent, utilization is projected at 55 percent. In 2020, the two largest corn ethanol plants have expanded production capacity, one by 25 percent and the other by 60. Although this new capacity is not yet in production, the investment anticipated increased demand through larger fuel sales and a higher blend with a new biofuels law. With low official prices and a sharply contracting gasoline-ethanol fuel pool, bioethanol producers are studying the possibility of beginning to export to use more capacity and take advantage of a weak local currency which would allow them to be competitive.

The current official mandate is E12, to be supplied equally by the sugar and corn ethanol industries. Analysts estimate that in 2020 roughly 52 percent will be supplied by corn ethanol plants and the balance by the sugarcane industry. Argentina has 22 bioethanol distilleries which will operate in 2020. There are 5 large and 4 very small plants which use corn and 13 which use sugarcane. The total production capacity (including the latest investments) of the corn ethanol sector is around 800-850 million liters a year. These plants produce year around and normally keep 20-25 million liters of ethanol in stock at the end of the year. Plants using sugarcane/molasses as feedstock have a variable capacity of about 650-750 million liters per year, depending on the amount of days they process. These plants are located in the northwestern part of Argentina and generally produce ethanol during the sugarcane harvest which normally goes from May-October. Once the harvest is over, most mills continue to produce ethanol a couple of more months, keeping stocks to supply during December-May until the new harvest begin.

Discontent within the sector abounds due to the ongoing rule and policy changes governing their operation, especially in setting the official price. The previous government modified the formula and then set prices which did not adjust in accordance with the established policy. The current government has not updated the price since December 2019, even with inflation rising 17 percent in the past 7 months. Despite a drop in world oil prices, retail gasoline prices also remain fixed. Based on industry sources, the current price of bioethanol under the official mandate does not cover production costs for sugar mills, but it is still better business than exporting sugar. It also provides a very slim return for corn plants, in the best of the cases, but plants need to keep on running and they have other businesses like distillers' grains, corn oil and energy. Furthermore, there is a wide dispersion of profitability among producers depending on when the investments were made. For sugar mills, at current prices, the best alternative is to produce sugar for local sale. The excess sugarcane is far more profitable to process into sugar for exports to the US under the tariff-rate quota and to produce ethanol for industrial use, but this market is very small.

Corn ethanol plants produce dry and wet distiller's grains. Although it varies, based on market conditions, roughly half is sold in each form. This market has grown in such a way that sometimes ethanol plants produce to sell the byproducts. These companies have contracts to deliver distiller's grains, CO2 and corn oil which are exported or some can use it for biodiesel

but there is no official registry of it. Wet distiller's grains are normally distributed in an area no further than 100 kilometers from the plants, while dry product is sold more widely and some is exported to neighboring countries. The main consumers are feedlots, dairies, and poultry producers.

Trade

Argentina imports and exports ethanol, but it is not believed to be used for fuel. Most trade is for industrial use, but it is very difficult to establish the final use. The biofuel mandate establishes that imports of ethanol used at fuel must be authorized by the Secretariat of Energy.

Historically, Argentina's ethanol exports ranged in 40 to 80 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, Argentina's exports dropped significantly (to a 6-15 million liter/year range) as production was redirected to fill the local fuel ethanol mandate which, during the first few years, was profitable due to high official prices. Based on Argentine trade data, exports of ethanol in 2019 were about 10.5 million liters, the lowest in the past several decades. Exports in 2020 are projected to increase noticeably, driven by the strong demand because of the COVID-19 pandemic, and could total 50-60 million liters with current net export price about 20 percent above the official price under the mandate.

No fuel ethanol imports are expected in 2020 as Argentina will have an oversupply of feedstocks and processing capacity to meet the mandate plus exports. 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 2207.20), generally in small volumes. Argentine imports of ethanol totaled 3.1 million liters in 2019, the lowest since 2016. Roughly 60 percent was sourced from Bolivia and 33 percent from Brazil. In 2018, as an exception, 5 million liters of anhydrous ethanol were imported under special government authorization to fill a temporary shortage and maintain the mandated fuel mix.

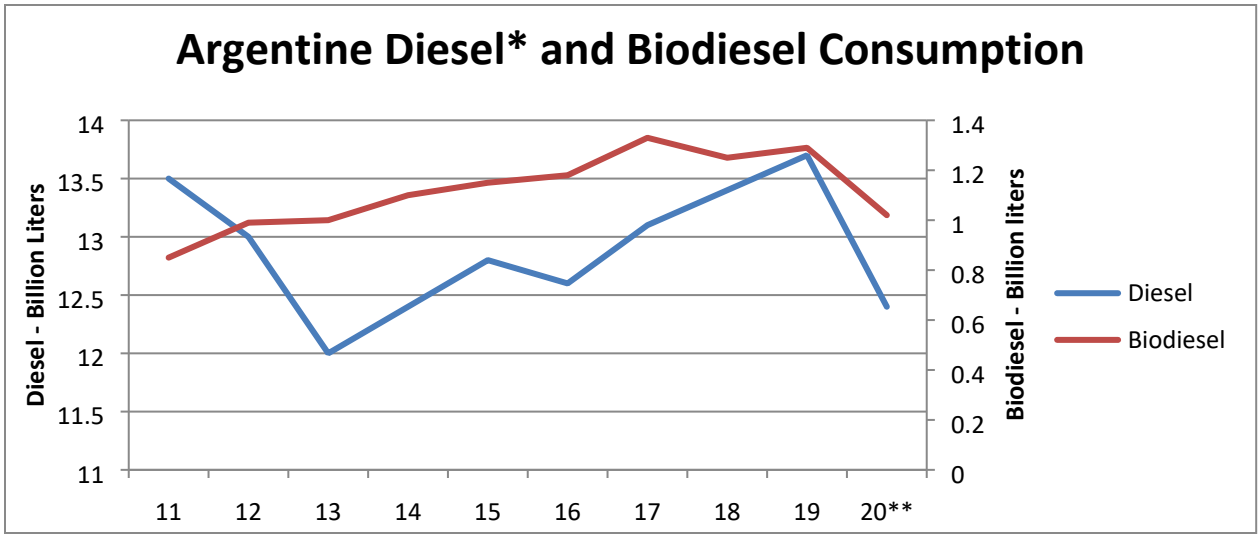
V. Biodiesel

Biodiesel (Million Liters)										
Calendar Year	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020f**
Beginning Stocks	20	20	55	24	44	59	52	102	87	81
Production	2,760	2,800	2,270	2,935	2,060	3,020	3,260	2,760	2,440	1,850
Imports	0	0	0	0	0	0	0	0	0	0
Exports	1,910	1,770	1,296	1,815	895	1,847	1,875	1,525	1,154	825
Consumption	850	995	1,005	1,100	1,150	1,180	1,335	1,250	1,292	1,020
Ending Stocks	20	55	24	44	59	52	102	87	81	86
Balance Check	0	0	0	0	0	0	0	0	0	0
Production Capacity (Million Liters)										
Number of Biorefineries	27	33	36	38	38	38	37	36	36	33
Nameplate Capacity	3,300	4,000	4,550	5,200	5,200	5,400	5,000	5,000	5,000	4,430
Capacity Use %	83.6	70.0	49.9	56.4	39.6	55.9	65.2	55.2	48.8	41.8
Feedstock Use for Fuel (1,000 MT)										
soybean oil	2,430	2,460	2,000	2,600	1,820	2,670	2,870	2,430	2,150	1,630
Market Penetration (Million Liters)										
Biodiesel, on-road use	850	995	1,005	1,100	1,150	1,180	1,335	1,250	1,292	1,020
On-road, Agriculture, Construction & Rail 1/	13,466	12,959	12,025	12,440	12,823	12,644	13,112	13,394	13,730	12,443
Blend Rate (%)	6.3	7.7	8.3	8.8	9.0	9.3	10.2	9.3	9.4	8.2
Diesel Pool, total 1/	15,468	14,776	14,615	14,234	15,053	15,025	14,512	14,269	14,133	12,893

* Note 1/Fuel pools are defined as fossil fuels plus all “bio-components” (biofuels) blended with fossil diesel.
Source: Private estimate based on official data from Secretariat of Energy.
f = forecast

Consumption

Biodiesel consumption is projected at 1 billion liters in 2020, a 21 percent drop from last year due to diesel fuel pool demand destruction related to the COVID-19 pandemic and, based on the opinion of local industry contacts, the lack of strict controls to comply with the B10 mandate. This follows immediately on the heels of very low economic growth of the country in the past ten years and recession over the past three years, reflected in the all surface transport diesel pool which has fluctuated between 12.5-13.5 billion liters per year.



** All Surface Transport*
*** Post forecast*
Source: FAS with Energy Secretariat and International Energy Agency

Although not as sharp a decline as gasoline, diesel sales in 2020 for all surface transport diesel use are forecast to drop 9 percent. Argentina, after 120 days of lockdown, is beginning to ease controls to restart the economy. In-country April 2020 diesel sales dropped more than 30 percent from last year, while in May, with more than half of the country returning to a more flexible lock down, sales were down 17 percent year-on-year. Diesel consumption is expected to continue to recover as the country removes its covid restrictions.

An additional factor driving down biodiesel consumption in 2020 is that oil companies are permitted to blend biodiesel at levels below the mandated 10 percent. With retail prices frozen, oil companies prefer to sell more fossil fuel and less biodiesel which is more expensive. On the other hand, frozen biodiesel and retail fuel prices have led to some small and medium biodiesel producers supplying lower volumes to the market, especially during the first months of the year when soybean oil prices were high and returns tight. In 2019 the average monthly consumption of biodiesel was 108 million liters, while in the first five months of 2020 it averaged 70 million liters per month, and Post estimates a noticeable drop below the B10 mandate to 8.2 percent in 2020.

There are some biodiesel sales outside the mandate tied to some provincial public transportation programs that promote blending above B10. This is primarily the case of Santa Fe province, where most of the country's biodiesel is produced. Although consumption is difficult to establish and not captured in our supply/demand table, contacts indicate it ranges between 30-50 million liters a year and that this program has recently suffered some modifications and lower consumption volumes in 2020. There is no discretionary domestic use of biodiesel as current prices of diesel are lower than those of soybean oil.

Production

This year has become one of the worst on record for the biodiesel industry. Biodiesel production is projected at 1.85 billion liters in 2020, the lowest volume since 2009. This is due to the

economic recession associated with the COVID-19 pandemic which not only saw local diesel sales drop in Argentina but also negatively affected demand in the EU, Argentina's only current export market. Biodiesel exports are forecast to be the lowest since 2008. Additionally, the government has favored oil companies, protecting their profits by permitting blending below the B10 mandate and freezing retail prices as oil priced collapse to their lowest in decades, while undermining domestic sales for the biodiesel industry.

Production in 2020 will be 1.4 billion liters lower than the record volume of 2017 which combined near record exports and the record high domestic demand. It also represents a 21 percent drop compared to 2019, with a decline of 329 million liters in exports and 272 million liters in domestic consumption. Biodiesel sales in the domestic market are expected to account for 55 percent of total production, with the balance for export.

In 2020 Argentina's biodiesel industry will have 33 plants in operation with a production capacity of 4.43 billion liters per year, the lowest in 5 years. Three medium-size plants have closed and no new investments are foreseen in the industry which has enormous idle capacity, projected at 58 percent in 2020, the second highest in the past ten years. The largest ten plants focus almost exclusively on exports and have been operating at low capacities in recent years. They account for two-thirds of the country's total production capacity. Smaller plants focus on supplying the local official mandate and tend to produce at high capacity. Their plant capacity ranges between 12-110 million liters per year.

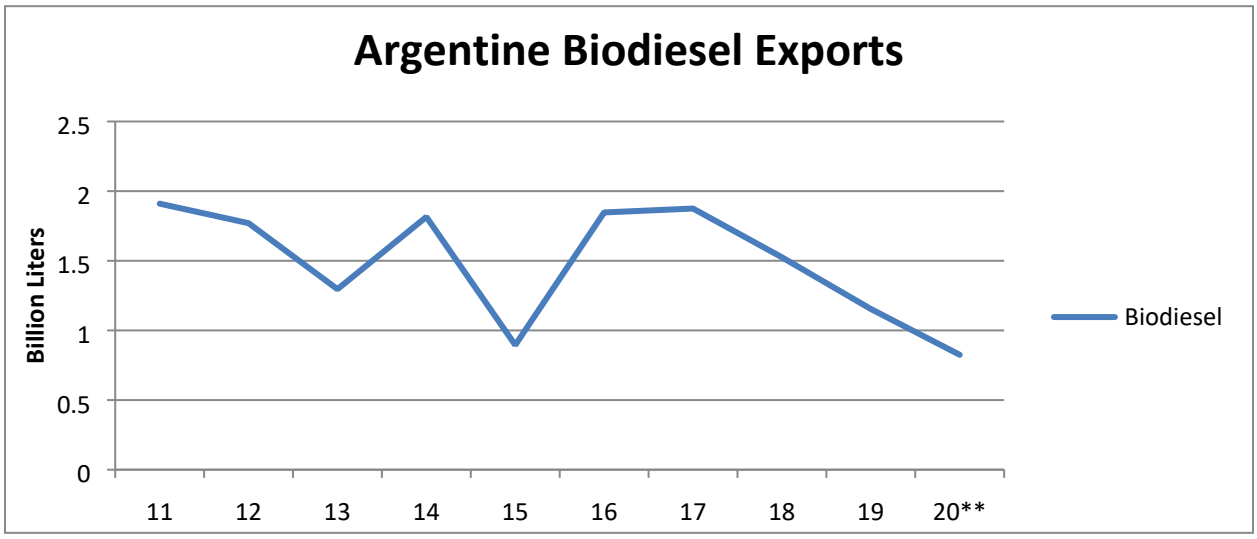
The Argentine biodiesel industry almost exclusively uses soybean oil as feedstock. Argentina is one of the world's largest soybean producers and exporters, and the largest soybean oil and meal exporter. Most of the large biodiesel export plants are owned by the large vegetable oil crushers that export more than 90 percent of production. Large external biodiesel demand helps reduce soybean oil supplies and support price. A few municipalities and small private investments produce biodiesel from used cooking oil, but volumes are insignificant.

In December 2019, the official price of biodiesel for the mandate was set at 50 ARG Pesos per liter, currently equivalent to US$0.70 per liter, and remains fixed at this price. The smaller biodiesel producers supplying the mandate report that the current price barely covers their costs of production. So far the government has not indicated plans for modification. Retail fuel prices were frozen until October 1, 2020.

Trade

Local traders indicate that, due to the current volatility in the fuel/biodiesel market from the effects of the COVID-19, final volumes are unusually difficult to forecast. This noted, Argentine biodiesel exports in 2020 are forecast at 825 million liters, the lowest in 12 years, and a 28 percent drop from 2019 due primarily to the reduction of exports to the European Union. Exports to other markets, like the US and Peru, are not anticipated nor are any expected to discretionary markets. Demand from discretionary markets in 2020 has disappeared as the international price of diesel is roughly half the price of soybean oil plus the cost of processing into biodiesel.

As in past years, biodiesel imports are not expected due to idle capacity and the special authorization required from the government. The biofuels law mandates that biodiesel feedstock must be sourced from local origin.



** *Post forecast*
Source: FAS with TDM database

Argentine biodiesel exports to the EU in 2020 are forecast down due to lower fuel consumption in that market, a direct consequence of the COVID-19 pandemic. Based on exporter data, biodiesel shipments in the first six months of 2020 accounted for 305 million liters. Brokers indicated that in the second semester a total of 205 million liters were sold for delivery for July-August. Shipping data shows that exports in July could total 177 million liters. Since the beginning of the year, the Netherlands has been the exclusive port of destination. Exports in the last trimester are expected to slow as Argentine biodiesel normally loses competitiveness to canola oil biodiesel produced in the EU. Shipments from China, incentivized by EU biofuel policy favoring waste-based fuels, will likely displace some Argentine product as well.

In February 2019, the European Commission and Argentina agreed to an annual duty-free quota for biodiesel of 1.36 billion liters at a minimum price based on Argentina's official FOB soybean oil price plus production costs and freight. Eight local biodiesel producers are authorized for export. Contacts indicate that Carbio, the Argentine Biofuels Chamber, distributes the annual quota among its members based on capacity and past export performance.

Peru began importing Argentine biodiesel in 2012 to help meet its blend mandate. However, in 2016, Peru set anti-dumping and anti-subsidy duties on Argentine biodiesel imports which curtailed exports and, in December 2018, Argentina filed a complaint at the WTO. Exports in 2019 and 2020 were zero. Local industry contacts believe that an amicable agreement should be reached with Peru in order to export a given volume at set prices.

In May 2020, the US Department of Commerce completed its review of a request from the Argentine government and its biodiesel industry for changed circumstances based on a significant reduction in the differential export tax between soybean oil and biodiesel and the

elimination of the differential export tax of 3 percentage points between soybean byproducts and soybeans. The US government subsequently announced its decision of no significant changes and reconfirmed the antidumping duty, at an average of 75 percent, and the countervailing duty, at an average of 72 percent.

As a result, Argentina is not expected to export biodiesel to the United States until these duties expire in 2023 and as long as they are not extended at similarly high rates. The Argentine biodiesel industry has proposed an agreement similar to that with the European Union that limits export volumes through a negotiated quota and a minimum price.

VI. Advanced Biofuels

Argentina does not produce nor does it have a coordinated program to commercialize advanced biofuels. However, some government, private sector and university programs are researching feedstock and conversion technologies.

Attachments: No Attachments