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Report Highlights:

With a new government in place since December 2023, the biofuels sector is projected to move on to a freer business environment through less limitations and official controls. Changes are expected to come through a new biofuels law or reforms to the current one in place since 2021. Bioethanol consumption in 2024 is projected at 1.12 billion liters, unchanged from the previous two years. A higher effective blend rate offsets lower gasoline sales. Roughly 60 percent of production is expected to be supplied by corn ethanol with the balance by the sugar industry. Bioethanol trade is forecast to remain minimal. Production of biodiesel in 2024 is forecast at 1.65 million liters, 75 percent higher than 2023 because of larger domestic consumption and exports. An increase in the effective blend at 6 percent is expected to more than offset a drop in domestic diesel sales. Biodiesel exports are projected up at 800 million liters, with nearly all exports headed to the EU.

I. Executive Summary

In December 2023, Javier Milei took office after being elected President of Argentina as a self-described libertarian and promising to fix the long economic woes of the country. His government inherited an economy in a weak condition, crossed by deep inconsistencies and a strong fiscal deficit. The economy continues to be in a delicate situation, with scarce reserves in the Central Bank, large debts, and high inflation. The government is working hard to regularize the macroeconomy, focused primarily on reducing inflation through the cutting of the state's deficit, which is provoking an economic recession.

Early on, Milei's government passed the bill "Omnibus Law" with a bundle of changes, eliminations, and new policies to make the Argentine economy operate freer and with less controls. With scarce representation in Congress, typical of newcomers in the political arena, the bill was finally turned into the Bases Law plus a Fiscal Reform section and passed six months later in June 2024. A section devoted to biofuels, proposing higher blending rates and a more flexible mandate program was included in the original bill but was later eliminated and not included in the law. The recently passed Bases Law is expected to provide the bioenergy sector with significant advantages for new investments to reconvert and expand its capacity.

A group called Liga Bioenergetica, formed by the six provinces which have an important role in biofuels production in the country, is expected to soon present a bill focused exclusively on biodiesel and bioethanol which aligns with the vision the government has for the sector. If passed, the new law would revamp the biofuels sector, with an increase in production and use, while reducing gasoline and diesel imports. Importantly, it would allow Argentina to advance its environmental and climate change commitments. Industry players believe if it is not through this law, the government will incorporate significant reform to the current biofuels law in line with the soon to be presented bill.

Argentina's economy is very dependent on its agricultural sector, namely oilseeds and grains exports. The country is currently focusing on expanding its energy sector, specifically in the important and large shale gas and oil reservoir in Neuquen province called Vaca Muerta with the idea of supplying the domestic market and exponentially increase exports of gas and oil.

The production of renewable energy is expanding primarily through large investments in the wind and solar sectors. Argentina is close to reaching its goal of supplying 20 percent of demand with renewable energy by 2025. The development of biofuels has been quite stagnant in the past several years because of official policy and decisions.

In mid-2021 Argentina passed Biofuels Law 27640, to replace the expired Biofuels Law 26093 of 2006. The law, which is still in place, reduced biofuel consumption. It maintained the mandated blend rate for bioethanol at 12 percent and reduced that of biodiesel from 10 to 5 percent. In June 2022, the government passed Resolution 438/2022 permanently increasing the biodiesel mandate to B7.5.The effective average blend rate for biodiesel in 2023 was 4.4 percent and it is projected at 6.0 percent in 2024. The bioethanol mix in 2023 was 11.2 percent and it is projected up at 11.8 percent in 2024.

The motivation for the Biofuels Laws (2006 and 2021) was a mix of environmental concerns and commitments and a desire to support rural economic development. The partial offsetting of finished fuel

imports (primarily diesel) is also an important goal to support the country's balance of payments. Biofuel policy is strongly contested on one side by the farm sector and biofuels producers and on the other by oil companies and most local car manufacturers. Policymakers are in between the two, shifting from one side to the other depending on their beliefs, political obligations, and changing economic conditions.

While Argentina actively uses blending as a supply and price management tool responding to changes in feedstock supply and oil prices, biofuels continue to play only a small role supporting Argentina's commitment to reduce greenhouse gas emissions by 2030. The program in essence has stagnated and not advanced in meaningful ways to achieve program goals more effectively. Biofuel's potential as a climate change mitigation tool can and should be more effectively supported through policy change, moving beyond the limitations that have been placed on blending and the prohibition placed on imports to participate in the program. Surprisingly, there is no greenhouse gas (GHG) full life-cycle maximum emission criteria applied to biofuels. At the same time, there are no policies in place to advance commercialization of new biofuels, fuels like renewable diesel than can further advance the decarbonization of the diesel pool with no blending limits. Sustainable Aviation Fuel (SAF) which significantly decarbonizes air transportation also lacks supporting policies, despite growing interest, and there is no market presence. Another and important missed opportunity to decarbonize transport is the absence of improved light and heavy-duty engine fuel efficiency standards that many other countries have had in place for years. Advancing all such policies would effectively achieve all goals mentioned and reduce harm to human health caused by fossil fuel emissions. Most in the sector are optimistic such changes and opportunities could come if the biofuels bill, to be soon presented, finally becomes law.

The domestic biofuels sector does not have direct financial support for its development nor expansion. The policy in practice is a mandated blend rate requirement which saw back peddling in recent years for biodiesel. Official prices are set for biofuels but the system works imperfectly in a high inflation environment due to insufficient revision frequency resulting in financial stress to biofuel producers. Both biodiesel and bioethanol are supported to some degree due to exemptions from paying the tax on liquid fuels and the tax on fossil fuel carbon emissions applied to fossil fuels.

Biodiesel exports are a main pillar of the local industry but significantly vary year to year based on policies and conditions in place in different export destinations and the price of diesel and biodiesel and its relationship with the price of soybean oil. The EU continues to be the main market for Argentine biodiesel. The Argentine fuel ethanol market is expected to continue to be isolated from world markets with only marginal volumes being traded.

Fuel Bioethanol Market 2024 Summary:

Consumption of bioethanol in 2024 is forecast at 1.12 billion liters, practically unchanged from the previous two years. An expected higher effective mandate mix at 11.8 percent would offset a decline in gasoline consumption because of an economic recession and lower fuel sales in border towns. The production of bioethanol is expected to be supplied 60 percent by the corn industry and the balance by the sugar industry. However, these percentages could change depending on the level of damage to the sugarcane crop. A very cold winter is affecting sugarcane plantations, particularly in Tucuman province. There are 19 local sugar mills, but only 12 produce bioethanol in Tucuman, Salta, and Jujuy provinces. The corn ethanol industry is essentially comprised of five large plants located in the main agricultural

production areas. Exports of ethanol for fuel use are projected at 40 million liters, with the EU and the UK as main destinations.

Biodiesel Market 2024 Summary:

Production of biodiesel in 2024 is forecast at 1.65 million liters, 75 percent higher than in the previous year due to larger domestic consumption and exports. Despite projected lower diesel sales in the domestic market, the larger effective blend mandate, at 6 percent, raises biodiesel use. Exports are estimated up at 800 million liters, with the EU as the top destination. There are 32 biodiesel plants in Argentina which all utilize vegetable oil from soybean crushing as feedstock.

II. Policy and Programs

Argentine biofuel policies are set at the national level by the Biofuels Law 27640. The province of Cordoba has Law 10721 and the province of Santa Fe Law 14010 which focus on biofuels. There are three other provinces currently analyzing the success of Cordoba's policies and are considering adopting similar programs in the future. Provincial programs create geographical pools of demand but do not impact overall national use for ethanol and impact on biodiesel use has remained very small. Policies at national and provincial levels to incentivize the use of biofuels have stagnated in the recent years, with the exception of Cordoba province. They have the environmental goal of lowering the carbon intensity (CI) of transport fuels in the aggregate, but biofuels lack specific targets to limit and reduce their CI score (typically measured as gCO2e/MJ). From an economic perspective, policymakers believe biofuels can be beneficial by encouraging further rural development and adding value to local agricultural production, such as soybeans, corn, and sugarcane. The local sector is enthusiastic about the possibility of introducing new policies to incentivize the production and consumption of biofuels through a new biofuels law or through reforms to the current law. This could become a game changer.

** *Biofuels Law 27640 (National Level) - July 2021*

On July 16, 2021, the Argentine Congress passed Law 27640, entitled "Regulation and Promotion Regime for the Production and Sustainable Use of Biofuels" replacing the original Biofuels Law 26093 of 2006, which expired in May 2021. Law 27640 will expire on December 31, 2030, and may be extended 5 more years. To date, not all provisions of the law have fully passed through the rule-making process. Key points of the law and latest regulations include:

- The mandated bioethanol blend rate with gasoline is a minimum of 12 percent, with a potential reduction to 9 percent. The bioethanol market is intended to be split evenly between sugarcane and corn feedstocks, but in the case where high commodity prices are deemed to negatively affect fuel prices, all reductions in blending will come from bioethanol produced from corn. In mid-2023 the Secretariat of Energy opened bids to increase the production of bioethanol by 250 million liters, later increased to 413 million liters, to meet a growing gasoline demand and a possible increase in the mandate mix. To date, these additional quotas are yet not operational as gasoline sales dropped and the mandate continues at 12 percent.
- The Law mandated a biodiesel blend rate with diesel at a minimum of 5 percent, but which could be reduced to 3 percent when prices of feedstock increase in such a way that is deemed to distort fuel

prices. However, in June 2022, Resolution 438/22 established that diesel be permanently mixed at 7.5 percent supplied exclusively by small and medium plants under the mandate.
- Only bioethanol and biodiesel produced in plants in Argentina using locally produced feedstock of agricultural origin or organic waste may be used to meet mandates.
- Biofuels are exempted of the tax on liquid fuels and the tax on carbon dioxide which are applied to fossil fuels.
- The Secretariat of Energy will be the authority with the power to regulate and control biofuels (it will determine official prices, quality, blend rates and sanctions for non-compliance).
- Companies producing fossil fuels cannot own nor participate in companies producing biofuels under the mandate. If petroleum companies would in the future convert old refineries to produce Renewable Diesel and participate of the official mandate, they would have a limit of production capacity as only small and medium companies are eligible and the biofuels policy should be amended to consider RD a biofuel.
- The Secretariat of Energy could allow, if market conditions permit, the substitution of imported fossil fuels with local biofuels.
- The Secretariat of Energy will set and establish conditions for entities to consume internally produced biofuels, such as those used by bus companies, truck transportation and companies operating farm machinery and equipment.

** *Biofuels Law 10721 (Cordoba Province) - November 2020*

In late 2020 the Congress of Cordoba province passed the Law of Promotion, Development and Consumption of Biofuels and Bioenergy. Its goal is to promote the consumption of biofuels produced in the province through the use of biofuels in cargo and public transportation, official fleets, and farm equipment. Cordoba is one of Argentina's leading producers of corn and soybeans, and the number one producer of corn bioethanol. The main points of the biofuels law/program are:

- Create a B100 program for the provincial fleet. The government is supporting the financing of the construction of 20 small biodiesel plants. At least two biodiesel plants of 6,000 liters-day were already built to supply the companies' own fleets.
- Implement E85 and E100 for own fleet. Adjust the technology to incorporate flex fuel vehicles (Cordoba has several car manufacturers which produce flex fuel cars to export to Brazil).
- In 2023 the province inaugurated three gas stations to supply more than 6,000 official vehicles which should be running with biofuels.
- Since 2023 the first provincial laboratory is certifying biofuel quality.

** *Biofuels Law 14010 (Santa Fe Province) - October 2020*

Santa Fe is the other province that currently has a biofuels law, but it has been slow to issue implementing regulations and has had little success raising usage rates above national averages. Santa Fe's law encourages biofuel usage in the farm sector, transportation, logistics, governmental fleets, heat and power, and bunker use. In 2018, the largest city in Santa Fe Province, Rosario, ran a three-year long program to evaluate more than 1,000 city buses on B25 and B100 with encouraging results, but this has not yet led the city to add more vehicles running on biodiesel. In early June 2024 the provincial Senate passed a bill by which article 1 of the above law is modified to make extensive the use of biofuels (biodiesel, bioethanol or any other biofuel) to maritime, air, train and private vehicles to increase its use

to lower GHG emissions. Santa Fe province is expected to make big strides in the use of biofuels in the short term. The Province of Santa Fe is where 80 percent of the nation's biodiesel is produced because it is home to large soybean crushing facilities, biodiesel facilities, and export terminals.

Issues currently at play: As mentioned above, the Liga Bioenergetica, formed by the six main biofuels producing provinces have prepared a bill to present in Congress, with good prospect to become law. The key points are:

- Increase bioethanol mandate from the current 12 percent to E13 in October 2024, E14 in October 2025, and E15 in October 2026. The Secretariat of Energy in the meantime will work on the approval of flex fuel engines.
- Biodiesel mix is set at 10 percent, increasing 1 percentage point each 6 months to reach 15 percent in January 2027.
- Oil companies can participate in sector when blending above the volumes of B15 and E18.
- Large vegetable oil crushers (most have large biodiesel plants) can participate in the offering under the mandate.
- Deregulation of prices, eliminate official mandate prices. Establishes a competitive scheme through bids in tranches.
- No more quotas distributed among companies supplying under the official mandate. In the case of biodiesel, small companies which do not have crushing plants, will be reserved 3 percent of the mandate mix, and will be distributed equally among participants.
- In the case of bioethanol, up to E12 bids will be assigned half to sugarcane producers and half to corn producers of ethanol. Above this threshold, percentages available to either.
- The law would not have an expiration date.
- The use of imported feedstock or biofuels for the mandate is deferred 18 years.
- Does not prohibit the use of imported feedstock or biofuels to be used outside the official mandate.

Industry contacts indicate that if a new law is not passed, important changes and reforms to the current law will be done in a similar direction of the above proposed bill.

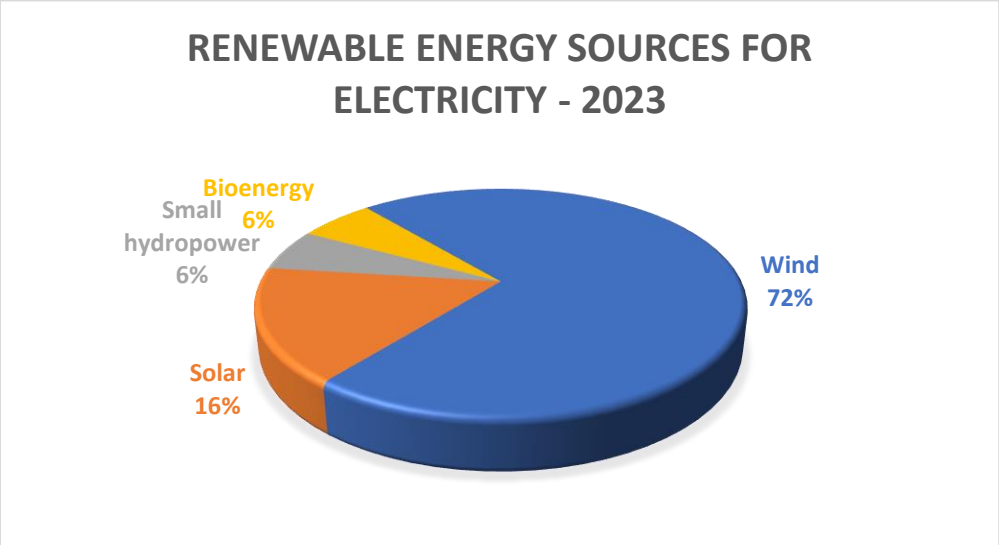
Renewable Energy, Greenhouse Gas (GHG) Emissions

Based on the Emissions Gap Report (UNEP, 2016), Argentina accounted for 0.7 percent of global GHG emissions in 2014. In late 2021, at the UN Climate Change Conference, Argentina announced an additional reduction from its Nationally Determined Contribution (NDC) presented in 2016, lowering it from 483 to 349 MtCO2e by 2030. The main tools to reach this goal are the expansion of renewable energies (by 2030 at least 30 percent of the total energy matrix will have to be from renewable sources), financing, lower subsidies to fossil fuels, expansion of protected areas, and improved efficiency in industry, transportation and construction. Additionally, there is currently renovated interest from an Australian company and the European Commission in projects on production and exports of hydrogen, especially after the Bases Law which recently passed providing stability and tax advantages for investments over $200 million.

In 2015 Argentina passed Law 27191/2015, the National Support for the Use of Renewable Sources of Energy, which requires that by 2025 at least 20 percent of Argentina's total electricity consumption should originate from renewable sources. In 2023 it accounted on average for 16.4 percent. After a slow

pace in the sector in recent years, the newly Laws of Bases and Fiscal Reform, which provide strong advantages to large investments in the energy sector, among others, is expected to accelerate the country's capacity to produce electricity from renewable sources. Contacts indicate that some $5 billion could be invested in solar and wind power plants in the short/medium term.

Figure 2: Renewable Energy Electricity Sources in Argentina



Source: FAS Buenos Aires with Cammesa data – excludes large hydropower

Argentina continues to develop wind and solar power in many different regions with a focus mainly on wind in the south of the country and solar in the northwest and west of the country.

The Biofuels Law 26093/2006, which mandated the initial obligatory mix of a five percent blend of ethanol in gasoline and five percent blend of biodiesel in diesel in 2010, was an important part of the country's early efforts to reduce GHG emissions. This goal was largely met on schedule for biodiesel but lagged for three years for ethanol. The first biofuels law expired in May 2021 and was replaced by Biofuels Law 27640. Biofuels are part of Argentina's latest NDC presented in November 2021, encouraging the use of biofuels. The goals described in the Second National Plan of Adaptation and Mitigation to Climate Change (April 2023) report indicate the support to the adoption of biofuels taking into account competitive fuel prices, strengthen the country's trade balance, regional development, and taking into account the capacity of fuel refinement and the supply of feedstock. There is criticism pointing out the lack of details in the lines of actions, timeframe and quantitative targets by 2030. The country is not taking steps needed to meet these aspirational goals, but players in the local biofuels sector are optimistic that a new biofuels law, or reforms to the existing law, would enhance the role of them in fuel transportation and help the country meet its GHG emission targets.

Biofuel Blending Mandates

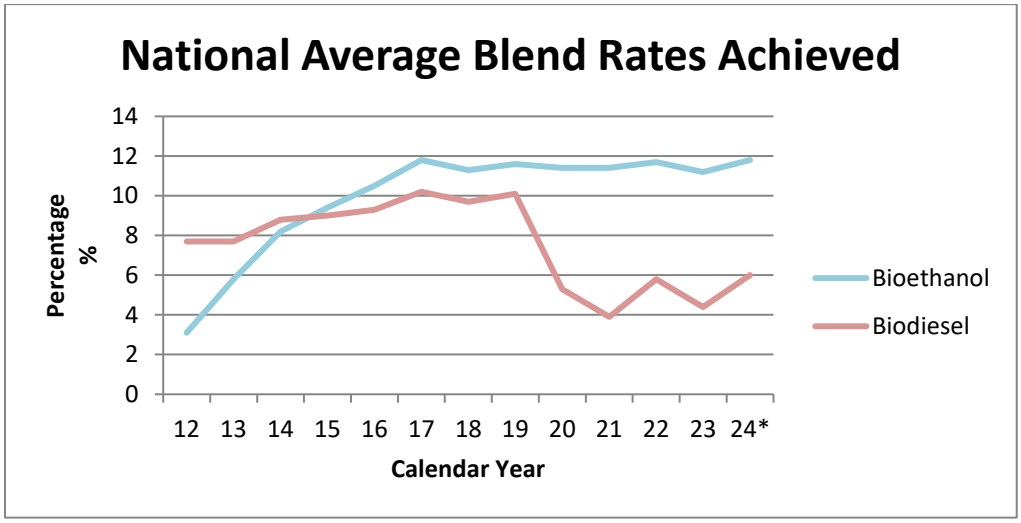
The Biofuels Law of 2021, the one currently in place, mandates biodiesel blend rate with diesel at a minimum of 5 percent but can be reduced to 3 percent when prices of feedstock increase in such a way that is deemed to distort fuel prices. However, in June 2022, Resolution 438/22 of the Secretariat of Energy established that the mandate mix of biodiesel in diesel be increased to 7.5 percent and could only

be supplied by small and medium plants. At the same time, Decree 330/22 established an additional 5 percent mix for a temporary period of 60 days (then renewed for a couple of more months) that could be supplied by any local biodiesel plant, including the large companies which until then were only eligible for export. This was an exemption due to the shortage of diesel in the market and it is no longer in place.

Biofuels Law 27640 passed in July 2021 maintains a 12 percent rate for bioethanol and the even split between corn and sugarcane but gives the Energy Secretariat the power to reduce the blend rate to 9% if economically necessary, and all reductions are to be taken from the share provided by corn ethanol. In early July 2022, congressmen from Cordoba Province presented a bill to authorize flex fuel cars to run in the country. This province also has a specific provincial biofuels Law by which it is developing a network of producers and distributors. To date, several thousand official vehicles are running at B20 and E17. The program is expected to continue to expand and have more consumers use higher-content biofuels fuel. As mentioned earlier, Santa Fe province is also expected to incorporate the use of biofuels more aggressively.

In January 2010, with the first biofuels law in place, Argentina mandated a blend rate of 5 percent bioethanol in gasoline and 5 percent biodiesel in diesel. The ethanol mix was increased to 9 percent in January 2014 and 10 percent in February 2014. At the same time, a 10 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, very little has been used in this sector.

Figure 3: Bioethanol & Biodiesel Blend Rates



*Source: FAS Buenos Aires *Projection*
Covers all Diesel Pool for On/Off-road Use and excludes stationary power.

1) Official Biofuel Purchase Prices

Monthly official prices are set by the Secretariat of Energy for biodiesel and bioethanol that fuel blenders must pay to producers. In theory these prices should cover production costs and provide producers a small return. However, due to high inflation and delays in updating official prices, biofuels producers lose money when official prices don't rise quickly enough to cover production

costs. In the past years, and depending on market conditions and official prices, some small and medium plants which participate of the official mandate program have temporarily or permanently closed their plants.

With the recent biofuels law, the Secretariat of Energy sets prices for the three biofuels (bioethanol prices are split in two depending on the feedstock used) under the mandate. These prices are periodically updated. The following table shows the official prices for sugarcane bioethanol, corn bioethanol and biodiesel since June 2023:

Table 1. Official Biofuel Prices June 2023-July 2024

Month/Year	Sugarcane Pesos/Lt	Sugarcane USD/Lt	Corn Pesos/Lt	Corn USD/Lt	Biodiesel Pesos/Lt	Biodiesel USD/Lt
Jul 2024	635	0.70	582	0.64	837.7	0.92
Jun 2024	635	0.70	582	0.64	837.7	0.92
May 2024	622	0.70	570	0.64	826.5	0.92
Apr 2024	584.2	0.67	536.9	0.61	828.0	0.95
Mar 2024	584.2	0.68	536.9	0.63	828.0	0.97
Feb 2024	584.2	0.69	536.9	0.64	828.0	0.98
Jan 2024	465.8	0.56	463.9	0.56	813.3	0.99
Dec 2023	348.5	0.43	361.2	0.45	604.9	0.75
Nov 2023	310	0.84	303	0.83	457.9	1.25
Oct 2023	237.7	0.67	224.3	0.63	382.2	1.08
Sep 2023	237.7	0.67	224.3	0.63	382.2	1.08
Aug 2023	199.1	0.56	199.1	0.56	318.5	0.90
Jul 2023	172.7	0.61	172.7	0.61	291.6	1.03
Jun 2023	165.4	0.62	165.4	0.62	280.3	1.06

Source: Argentine Under Secretariat for Fuels

For information on earlier pricing history, see past reports. Last year's report found here.

Exemption for Biofuels of Taxes on Liquid Fuels and Fossil Fuel Carbon Emissions

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. Since March 2018, fuels have been subject to two taxes: on liquid fuels and on carbon dioxide (with the objective of discouraging fossil fuel use and encouraging renewable energies). Biofuels, either pure or in fuel mix, were exempted. In July 2021 the previous government suspended the collection of the two taxes to try to control inflation. In February 2024 the new administration began to update these taxes in tranches which are expected to be fully regularized during 2024.

Impacting Fuel Pool Size through Other Incentives/Disincentives Targeting Demand

With the creation of the Biofuels Law in 2010 Argentina began to use bioethanol and biodiesel produced at commercial scale and blended in fossil fuels. Official mandates increased over time until the Law expired and was replaced by a new one passed in 2021 which reduced mandate mixes, especially biodiesel. As mentioned earlier, 6 provinces will present a biofuels bill which promotes a

significantly larger use and a freer business environment. For the first time, flex fuel engines could be authorized.

The introduction of hybrid, gasoline/electric and electric cars is growing, but at a very slow pace due to the lack of meaningful consumer purchasing and tax incentives. The infrastructure to charge these types of vehicles is slowly expanding through oil companies. Initiatives to incorporate energy efficiency standards in new vehicles and machinery (which in themselves lower demand for biofuels) are moving slowly, which means the engine efficiency of light and heavy-duty vehicles will remain low in comparison with many other countries with initiatives. Lack of progress to transition the vehicle fleet to electric or partial-electric or increase the fuel efficiency of road vehicles are two import factors preserving demand for biofuels. Lack of movement transitioning the fleet to flex fuel (E85) vehicles has severely limited uptake opportunity for ethanol.

Diesel (and biodiesel) demand will grow at higher rates when Argentina's economy stabilizes, with limited alternative modes of transport to trucking in the commercial sector and little to no improvement in engine efficiency. Freight railroad capacity is slowly expanding, primarily in tracks going north and west from Buenos Aires and the ports near Rosario, where more than 80 percent of agricultural exports are shipped.

Environmental Sustainability and Certification

Argentina does not have specific environmental or social/economic sustainability criteria for biofuels used in the domestic market; none specific to the cultivation of feedstock, nor minimum Lifecycle Analysis (LCA) derived CI values for biofuels. However, as the country is a major exporter of biodiesel, , the criteria and regulations of other markets are closely monitored and applied when biofuels are exported. This is the case for the EU's second Renewable Energy Directive (REDII) and US Environmental Protection Agency (EPA) rulemaking. CARBIO, the Argentine Chamber of Biodiesel, together with INTA, the National Institute of Agricultural Technology, produced a voluntary certification scheme which was approved by the EU which also accepts the value of emissions of Argentine soybean-based biodiesel certification by province. To achieve tax cuts, biodiesel needs to show a reduction of GHG emissions of at least 60 percent as from 2018. Argentine plants on average show 70 percent of reduction. In the case of Argentine bioethanol from corn, the average reduction of GHG emissions of those plants analyzed is between 70-75 percent. Biofuel exports to the EU are accompanied by certificates granted by the International Sustainability and Carbon Certification system (ISCC) and/or the French 2BSvs biomass biofuel voluntary sustainability scheme.

Import Policy Including Duties/Export Taxes and Levies

Pursuant to the current Biofuels Law 27640 (July 2021), only biofuels manufactured by Argentine producers using domestically-produced feedstock may be used to fill the official mandate – which effectively prohibits use of biofuel imports.

Since the passage of the original biofuels law, the export tax differential between biodiesel and soybean oil has fluctuated widely. Currently there is a nominal 2 percent differential export tax on biodiesel relative to soybean oil and the effective differential is now 8.52 percent. The effective rate for biodiesel

is lower because it enjoys an export tax reduction granted to most manufactured products, but it is not provided to soybean oil and raw agricultural commodities.

Table 2: Recent Export Tax Changes on Biodiesel, Soybean Oil, and Soybean

MONTH	BIODIESEL % Export Tax*	SOY OIL % Export Tax	SOYBEANS % Export Tax
January 2023 – July 2024	29.0 (22.5)*	31.0	33.0
March 2022 (Decree 131/22)	30.0 (23.07)*	33.0	33.0
January 2021 (Decree 790/20)	29.0 (22.5)*	31.0	33.0

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

Table 3: Import/Export Taxes and Rebate Rates for Ethanol and Biodiesel (July 2024)

Product	Import Duty Extra Mercosur %	Import Duty Intra Mercosur %	Export Tax %	Export Rebate %
Ethanol (2207.10 & 2207.20)	20.0	0.0	0.0	1.25
Biodiesel, <B30-100 (3826.00)	12.6	0.0	29	0.0
Petroleum Oil containing 1-30% biodiesel, B1-B30 (2710.20)	0.0	0.0	12	0.0

Note: Applicable HTS codes in parenthesis
Source: Government of Argentina

See previous Biofuel Annual Reports for earlier export tax rates.

III. Fuel Ethanol

Table 4: Ethanol Used as Fuel

Ethanol Used as Fuel and Other Industrial Chemicals (Million Liters)										
Calendar Year	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024f**
Beginning Stocks		0	0	0	0	0	0	0	0	0
Fuel Begin Stocks	53	64	44	72	126	128	151	144	144	121
Production										
Fuel Production	815	890	1,105	1,113	1,073	809	1,008	1,159	1,157	1,175
Imports										
Fuel Imports	0	0	0	5	0	0	0	0	0	0
Exports										
Fuel Exports	0	0	0	0	8	22	16	33	40	40
Consumption										
Fuel Consumption	804	910	1,077	1,064	1,063	764	999	1,126	1,140	1,120
Ending Stocks										
Fuel Ending Stocks	64	44	72	126	128	151	144	144	121	136
Refineries Producing Fuel Ethanol (Million Liters)										
Number of Refineries	14	14	14	17	22	22	22	22	22	22
Nameplate Capacity	950	850	1,200	1,300	1,440	1,555	1,560	1,580	1,580	1,630
Capacity Use (%)	85.8%	104.7%	92.1%	85.6%	74.5%	52.0%	64.6%	73.4%	73.2%	72.1%
Co-product Production (1,000 MT)										
DDGS*	360	370	415	470	450	330	400	530	580	505
Feedstock Use for Fuel Ethanol (1,000 MT)										
Corn**	1,150	1,175	1,325	1,400	1,330	1,020	1,280	1,685	1,860	1,610
Molasses***	1,365	1,708	2,250	2,150	2,110	1,565	1,910	1,855	1,545	2,040
Market Penetration (Million Liters)										
Fuel Ethanol Use	804	910	1,077	1,064	1,063	764	999	1,126	1,140	1,120
Gasoline Pool 1/	8,520	8,629	9,137	9,453	9,176	6,698	8,733	9,643	10,200	9,500
Blend Rate (%)	9.4%	10.5%	11.8%	11.3%	11.6%	11.4%	11.4%	11.7%	11.2%	11.8%
Note: 1/ Covers gasoline and all additives including any biocomponents (biofuels) when used like ethanol.										f = forecast

Source: Private and Secretariat of Energy data, Gasoline Pool: International Energy Agency, local private sources
** Calculated on a dry basis (1 mt of corn = 0.313 mt of DDGs (assumes no oil extraction). Some plants sell in different proportions wet distiller's grains.*
*** 1 MT of corn yields 417 liters of ethanol*
**** Sugar mills use molasses but several also use sugarcane or convert sugar to ethanol. To simplify, we assume only molasses is used with a conversion rate of 1 MT of molasses yields 246 liters.*

Consumption

Bioethanol consumption for 2024 is estimated at 1.12 billion liters, practically unchanged from the previous two years. Gasoline sales for the current year are expected to drop 7 percent, but the compliance of the official mandate is expected to increase to 11.8 percent, offsetting lower fuel sales.

Gasoline sales in 2024 are down at 9.5 billion liters due to a strong economic recession and a significant drop in fuel sales in most border cities. Several sources are predicting a GDP contraction of 3 to 4 percent this year. The new government inherited a complicated macroeconomic situation and has implemented, since December 2023, a stabilization plan to put order in the domestic economy, with a strong focus in primary surplus with the need of tight fiscal policies. After a high spark of inflation due

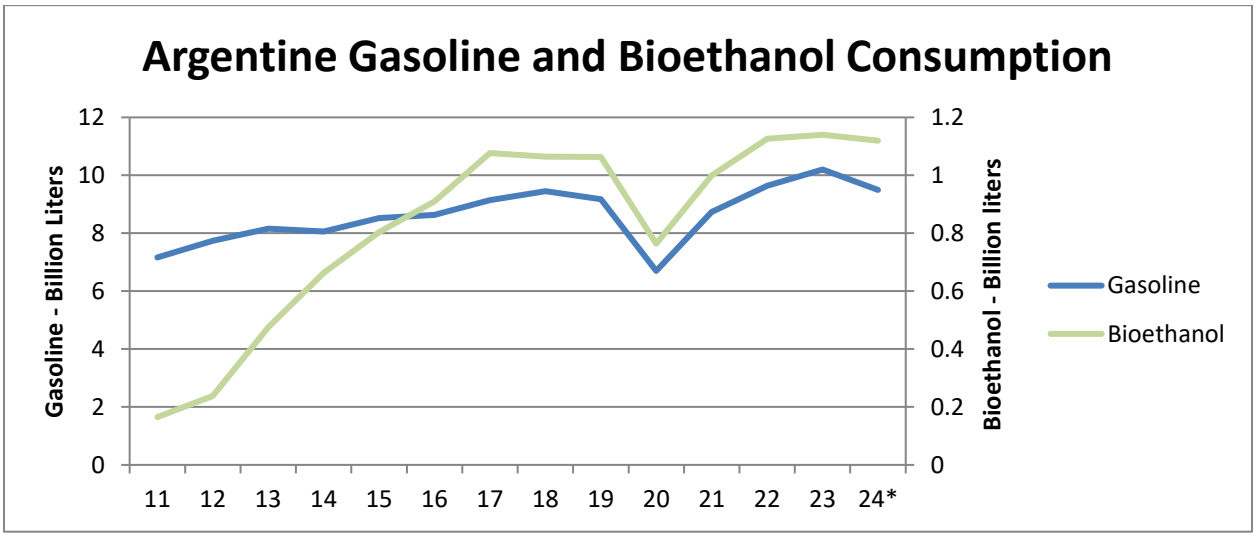
to strong currency devaluation, the economy is going through a rapid disinflation stage. The economy, plus real wages strongly hurt during this early process are expected to begin to recover late this year.

The new government rapidly updated fuel prices, which in the past few years were significantly lower than world prices and that of Argentina's neighbors. Higher prices drastically reduced "unofficial exports" of fuel primarily to Uruguay and Paraguay, which in some cases were resold in 10 to 20 liter containers by the side of highways.

The bioethanol mix rate in 2024 is expected to increase to 11.8 percent from the 11.2 percent in 2023, partially offsetting lower gasoline demand. The official mandate is 12 percent, but it has never been totally fulfilled. The 6 percentage points allocated to the sugar industry every year have not always been filled either, depending on prices of sugar and bioethanol and the production of sugarcane. Corn bioethanol is a more stable sector which produces ethanol all year and in recent years has complemented the volume that the sugar industry was not able to supply. In the current cane crop season, sugar cane production was initially projected to be very large, but unusually harsh frosts in mid-July are expected to negatively impact cane and sugar production. However, if ethanol official prices maintain a reasonable profit, the sugar industry is expected to fulfill a larger portion of the blend than in recent years.

Biothanol producers continue to press the government to increase the official mandate from the current 12 percent to 15 percent, with the idea of reaching 27 percent over the next few years, partially mirroring Brazil's blending program (with its duel E27 and E100 fuel pools). This would help the country replace even more gasoline imports which in 2023 accounted for about 1 billion liters. Blends above E15 will most likely face opposition from local car manufacturers as they are concerned about engine warrantees. There is currently no discretionary use of bioethanol as it is a highly controlled market by official policy and the current supply and demand is quite balanced.

Figure 4: Argentine Gasoline and Bioethanol Consumption



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

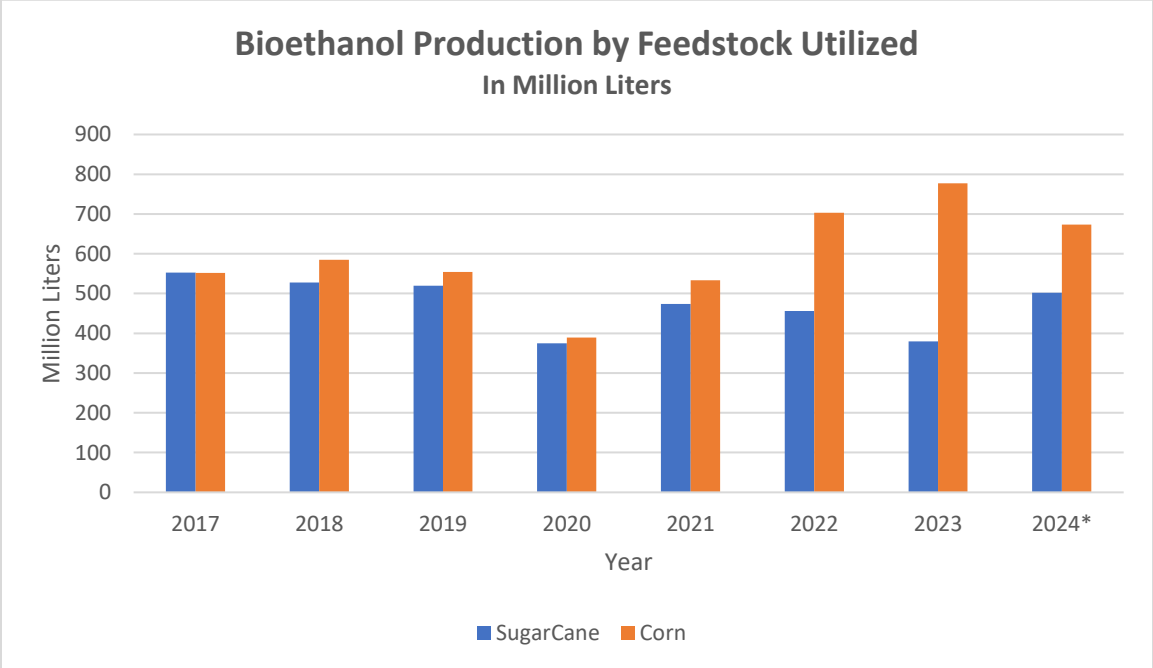
There are already some gas stations in Cordoba Province supplying official vehicles with E17 and some tests with E70 have been made under the provincial Biofuel Program. The province projects to have more pumps available to supply not only official fleet vehicles, but private cars.

Production

Argentine bioethanol production in 2024 is expected at 1.175 billion liters, marginally higher than in the past two years. The production responds to blending demand driven by the official mandate to supply ethanol to the local gasoline market. As mentioned above, a higher mix ratio is expected to offset reduced gasoline consumption. Ethanol exports are marginal.

The biofuels law mandates a 12 percent mix of bioethanol in gasoline, split between the sugar sector and the corn industry. In 2021 the sugar sector accounted for 47 percent of the total production, but in the following two years its participation fell to 39 and 33 percent. In 2024, the sugar industry is expected to account for approximately 40 percent of the total. The corn harvest in 2024 is in its final stages and production is also projected to be abundant. Argentina is one of the world's top four corn exporters, normally shipping 60-70 percent of its crop.

Figure 5: Argentine Bioethanol Supply by Feedstock Utilized



Source: Secretariat of Agriculture, Livestock, and Fisheries
** Post's projection*

Sugarcane production in marketing year (MY) 2024/2025 was projected at a record 23-24 million tons, but recent frosts will cut production quite significantly. The initial large volume was a combination of high investment in cane plantations, and continued expansion in area, especially replacing lemon plantations close to the mountains and soybeans in the eastern region in Tucuman. This year the

sugarcane harvest started in May and is expected to end in October. Until the recent harsh frosts, the cane harvest was expected to be abundant which together with large sugar stocks carried in from the previous crop season was putting downward pressure on sugar prices for the domestic market, the main driver of the industry. Sugar mills were seeing that the most profitable business, based on prices and market conditions, was to produce bioethanol for the official mandate, followed by the exportation of sugar and lastly supply sugar to the domestic market. The late sugar production cut may change these dynamics, but ethanol production is still expected to be good.

All sugar mills produce a small part of ethanol from molasses as part of their production of sugar but there are three large production groups which also have a strong focus on producing bioethanol and renewable energy. They are expected to direct part of their cane harvest to produce bioethanol. In total there are 19 sugar mills distributed between Tucuman, Salta, and Jujuy provinces but only 12 produce ethanol. There is discussion of the production capacity of the sugar sector as it can vary depending on how profitable the business is as sugar mills could put more focus on its production if convenient. Industry contacts indicate that the production capacity is estimated between 600-700 million liters a year. Mills typically produce ethanol during the sugarcane harvest (May-October) and continue to produce a few more months and carry ethanol stocks to supply during the first months of the year until the new sugarcane harvest begins.

Through mid-July, the MY 2023/2024 corn crop harvest was 80 percent complete. The final production is still to be seen as there is a lot of discussion on the level of damage that an unusually severe corn stunt disease caused to fields in the central and northern regions of the country. Private and official estimations range between 45-55 million tons of corn. Nonetheless, the supply of corn will be more than abundant to meet the domestic demand which is estimated at roughly 15 million tons, including bioethanol production, and large export programs. The corn used for ethanol production typically accounts for 3-4 percent of the total output.

Argentina's bioethanol production capacity utilizing corn as feedstock is approximately 850 million liters a year. There are 5 big companies with capacity ranging between 100-290 million liters and all of them are located in the local "Corn Belt", sourcing feedstock from nearby farms. The largest plant is owned by a local agricultural cooperative which has plans to revamp their facility by 2026. Two other plants are expanding their capacity and are expected to be in full production by the end of 2024 to early 2025. In addition, one company, a dehydrator which processes the ethanol produced by 5 very small corn-based plants owned by large farmers which has access to the mandate as well. The industry could meet demand for an E13 mandate without additional investment, but above that level significant investment would be needed to increase capacity. The corn bioethanol industry is currently operating at relatively high capacity with profitable business as the official mandate price provides positive returns. The corn ethanol industry is expects to process 1.6 million tons of corn in 2024, 13 percent lower than in 2023 as ethanol production is expected to be similar, but bioethanol from sugarcane would increase its participation in the blending mandate. The corn ethanol industry has a capacity to stock product of about 15 to 30 days of production.

Corn ethanol plants produce wet distiller's grains and depending on market conditions, dry part of it as most large plants have drying capacity. Industry contacts estimate that currently 60 percent of the total is marketed as wet to feedlots, dairies, and poultry producers. Companies have contracts to deliver distiller's grains, CO2, and corn oil which in some cases are exported. Wet distiller's grains are

normally distributed in an area no larger than 150 to 200 kilometers from the plants, while dry product is sold more widely, especially to balanced feed plants. Small volumes are typically exported to neighboring countries.

Although there are no official data, contacts estimate that roughly 215 million liters of non-fuel ethanol was produced in Argentina in 2023 by the sugarcane and corn industries. The main users were the chemical/agricultural chemical industry, followed by the beverage and cosmetics sectors. Pharmacy and other minor uses accounted for the balance.

Trade

Argentine bioethanol exports (fuel use only) for 2024 are forecast at a minimum of 40 million liters, similar to the volume exported in 2023. Argentine official trade data does not identify fuel-grade ethanol exports as such. Post utilizes information from different contacts involved in this trade, all producers of bioethanol from corn plants. Practically all bioethanol exports go to the UK and EU with a 72 percent of GHG emissions reduction. Exports are accompanied by certification of 2BSvs (Biomass Biofuel Sustainability voluntary scheme) and ISCC (International Sustainability and Carbon Certification).

Argentina normally imports very small volumes of ethanol for industrial use and some beverage ethanol. Most of the product is generally un-denatured (hydrous) shipped under HTS 2207.10 and comes primarily from Bolivia and Brazil. Denatured ethanol is also imported (HTS 2207.20) primarily from Brazil.

IV. Biodiesel

Table 5: Biodiesel

Biodiesel (Million Liters)										
Calendar Year	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024f**
Beginning Stocks	44	59	52	102	27	28	98	120	90	18
Production	2,060	3,020	3,260	2,760	2,440	1,315	1,962	2,170	944	1,650
Imports	0	0	0	0	0	0	0	0	0	0
Exports	895	1,847	1,875	1,585	1,147	675	1,440	1,388	346	800
Consumption	1,150	1,180	1,335	1,250	1,292	570	500	812	670	840
Ending Stocks	59	52	102	27	28	98	120	90	18	28
BalanceCheck	0	0	0	0	0	0	0	0	0	0
Production Capacity (Million Liters)										
Number of Biorefineries	38	38	37	36	36	33	33	33	32	32
Nameplate Capacity	5,200	5,400	5,000	5,000	5,000	4,430	4,430	4,430	4,400	4,400
Capacity Use (%)	39.6%	55.9%	65.2%	55.2%	48.8%	29.7%	44.3%	49.0%	21.5%	37.5%
Feedstock Use (1,000 MT)										
Soybean oil*	1,820	2,670	2,870	2,430	2,200	1,180	1,750	1,930	840	1,460
Market Penetration (Million Liters)										
Biodiesel, On-road use	1,150	1,180	1,335	1,250	1,292	570	500	812	670	840
Diesel Pool, On & Off road use 1/	12,801	12,623	13,147	12,952	12,845	10,794	12,685	14,058	15,064	14,000
Blend Rate (%)	9.0%	9.3%	10.2%	9.7%	10.1%	5.3%	3.9%	5.8%	4.4%	6.0%
Diesel Pool 2/	15,001	15,023	14,547	13,826	13,248	11,646	14,710	16,494	16,364	15,085

Note: 1/ Covers diesel and all biocomponents (biodiesel). Diesel Pool 2 minus stationary power (source Cammesa)
Note: 2/Source International Energy Agency (IEA), Covers Diesel and any biofuels used in the diesel pool, all transport plus stationary power: Covers all on-road transport plus off-road in construction and agriculture, rail and marine.

**1 MT of soybean oil (1x refined) yields 1,128 liters of biodiesel*

Consumption

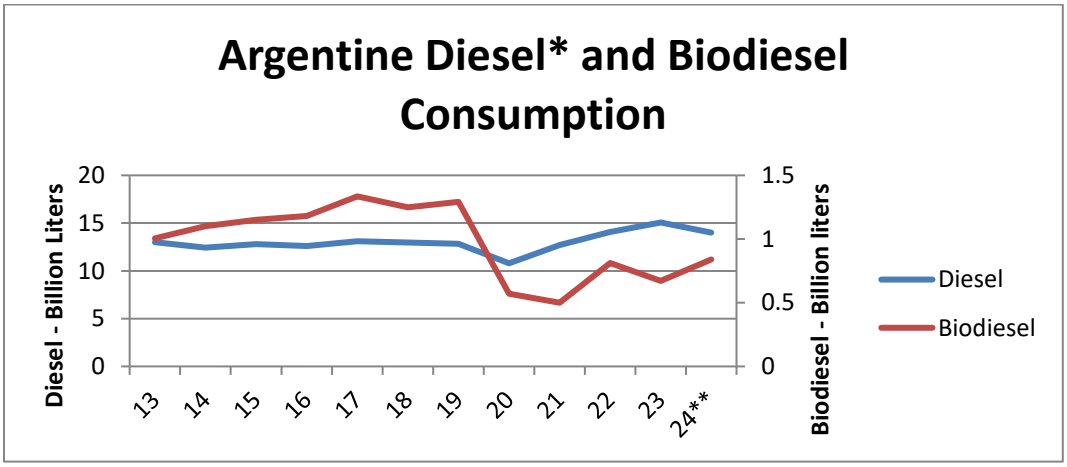
Biodiesel consumption in 2024 is forecast at 840 million liters, the highest since 2019. A greater blend rate at 6 percent is expected to more than offset a drop in diesel sales.

Under the new government, the blend rate this year increased closer to the current mandate of 7.5 percent but still falls short. In the past four years the mix was well below the official blend rate. Industry contacts indicate the state oil company, which has more than 50 percent of the local fuel market, was somewhat reluctant to fulfill the official mix as they claim biodiesel is more expensive than diesel and the blending demands additional logistics. Other fuel distributors try to comply more closely with the mandate. During January to May 2024, the average mandate was 6.3 percent, but it is expected to drop slightly throughout the year. This mix blend at 6.0 percent is expected to be the highest of the past 5 years but significantly lower than the period 2014 to 2019 in which the blend rate fluctuated between 8 to 10 percent.

There is a very small, but growing use of biodiesel outside the official national mandate. There is some demand in a few provinces which have their own biofuels law such as Cordoba and Santa Fe. In addition, several small companies produce and consume their own biodiesel. Official data indicates that roughly 10 million liters of biodiesel were sold outside the official mandate in 2023.

Despite a recovery in agricultural production after a severe drought in 2023, diesel pool sales in 2024 are projected to drop 7 percent because of three reasons: 1) last year's Presidential election made the government at the time inject money in the economy to encourage economic activity, building up demand artificially, 2) since the new government took office in December 2023 state expenditure was cut drastically while Argentina's purchasing power dropped quite significantly, resulting in a strong economic recession, and 3) higher and updated fuel prices, more in line with world prices, have made sales of diesel in border cities drop considerably. Until late last year, fuel prices in Argentina were less than half the price than that in neighboring countries.

Figure 6: Argentine Diesel and Biodiesel Consumption



** All On and Off-Road Surface Transportation, includes biodiesel ** Post forecast*
Source: FAS with Energy Secretariat, International Energy Agency, and private sources

Vehicle manufacturers are in general against high blending as they are concerned about engine damage and claims against them. That said, in the past years, several companies and institutions tested the use of biodiesel in different higher blend rates and under varying operational conditions and tests in most cases have not shown negative results. The vehicle industries in Argentina and Brazil are closely integrated with the manufacturing and trade of models in each side of the border. Until 2023 Brazil had a 12 percent biodiesel mandate, which in 2024 will increase at 14 percent.

Production

Biodiesel production in 2024 is projected at 1.65 billion liters, 75 percent higher than last year but remains the lowest level since 2009. Larger exports and domestic use drive the year-over-year change. A 6 percent blend rate given the projected fuel pool size equates to 840 million liters of use, 25 percent higher than in 2023. Biodiesel exports are forecast to recover from the very low levels of last year with 800 million liters in 2024, an increase of 130 percent because of improved market conditions. The EU continues to be the main destination for Argentine biodiesel, and exporters hope the minimum import price Argentine product could enter in the last part of 2024 is competitive enough to allow additional exports. Argentine biodiesel exports in January to May 2024 totaled 155 million liters.

Production capacity in 2024 has remained practically unchanged for the past 5 years, with no new investment in the foreseeable future. In fact, recently there has been concentration in the small-medium size plants which supply the local mandate as few groups own more than one plant but currently concentrate the production in just one or two plants for efficiency. The use of capacity this year is estimated at 37.5 percent, higher than last's year but one of the lowest on record.

There are currently 32 plants which could operate. The government divides the total biodiesel plants into three different categories based on production capacity to determine if they are eligible to participate of the official mandate:

Table 6: Biodiesel Plants by Production Capacity

Size/Capacity	9-23 Million Liters	54-110 Million Liters	136-690 Million Liters
Small	8		
Medium		15	
Large			9

Source: Argentine Secretariat of Energy

Soybean oil is almost the sole feedstock used in biodiesel production in Argentina. It is mostly supplied by large exporting companies that have crushing plants to export biodiesel, meal, and oil when not used for biodiesel. Medium and small companies normally buy vegetable oil from the large crushers. Feedstock availability is normally plentiful as Argentina is one of the world's top soybean producers and exporter of meal and oil. The harvest of the soybean marketing year 2023-2024 finished recently with production at 50.5 million tons, double from last year's crop season which was severely damaged by drought. The production of soybean oil in 2023/2024 is also forecast up from the previous year. The Argentine biodiesel industry is forecast to use in 2024 approximately 1.46 million tons of soybean oil to meet its needs for the local and export markets.

Trade

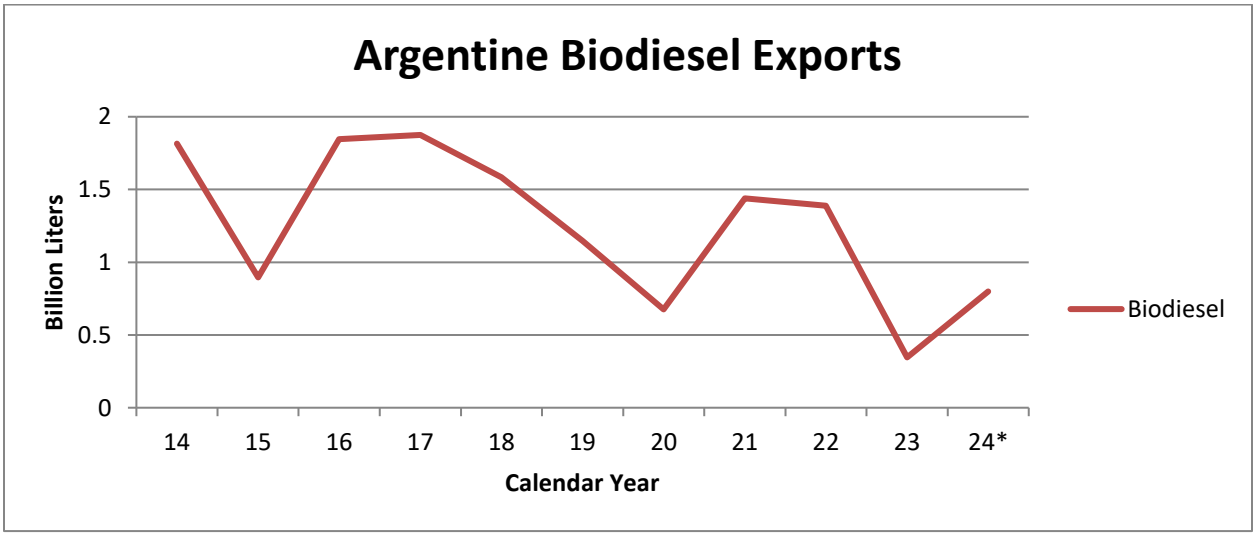
Biodiesel exports in 2024 are projected up at 800 million liters. In the first quarter Argentina did not export biodiesel as market conditions were not favorable primarily due low biodiesel prices in the EU. Shipments in the second quarter are expected at roughly 200-220 million liters and a minimum of 600 million liters are projected to be exported in the second semester.

Argentina's current export markets are basically limited to the EU, UK, and Canada. Shipments to discretionary markets seldom take place, only when biodiesel made from soybean oil is cheaper than fossil diesel. The EU remains the major market by far due to its size and the 1.2-million-ton yearly quota in place. The U.S. market remains blocked by high duties.

Local exporters project higher biodiesel prices in the EU in the last half of 2024 as they foresee inexpensive biodiesel imports from China dropping significantly. In July 2024, the European Commission announced that in August it will impose provisional anti-dumping duties on Chinese HVO and FAME imports following an anti-dumping complaint made by the European Biodiesel Board against Chinese biodiesel flooding the market.

There are no exports projected to the United States, Peru, or other discretionary markets. The United States and Peru both retain high retaliatory anti-dumping and anti-subsidy duties applied to Argentine biodiesel. Discretionary blending markets in North Africa have on occasion imported soybean oil biodiesel but are not expected in the short term as the current world price of soybean oil is significantly higher than the ICE Gasoil price.

Figure 7: Argentine Biodiesel Exports



Source: FAS Buenos Aires with Secretariat of Energy database
** Post's forecast*

The European Union continues to be the main and practically exclusive market for Argentine biodiesel. In February 2019, the European Commission and Argentina agreed to an annual duty-free quota for biodiesel of 1.36 billion liters subject to a minimum import 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. There are some concerns in the local biodiesel sector as the EU analyzes further restrictions to soybean oil as a feedstock for biodiesel production due to environmental concerns related to deforestation. Local biodiesel exporters indicate that to date they have shown and certified that their shipments are environmentally eligible.

Since early 2018, the United States (Argentina's main biodiesel export market in 2016 to17 following retaliatory import tariffs placed by the European Union to protect its market) continues to apply high anti-dumping and countervailing duties (AD/CVD) which, when combined, average over 140 percent. This makes it impossible for Argentine product to reach the U.S. market. In May 2023 the U.S. International Trade Commission announced the extension of the AD/CVD measures.

Peru began importing Argentine biodiesel in 2012 to help meet its blend mandate by backfilling its exports to Europe. However, in 2016 and after Argentina product had directly undermined Peruvian production, Peru set anti-dumping and anti-subsidy duties on Argentine biodiesel imports that effectively curtailed trade. These expired in early 2021 and were renewed for five more years until 2026.

As in past years, biodiesel imports are not expected since the biofuels law requires all biodiesel placed on the market be produced in domestic plants with locally produced feedstock.

V. Advanced Biofuels

Argentina does not commercially produce renewable diesel or sustainable aviation fuel (SAF). A few local oil companies have some projects and there are a few old oil refineries which could be adapted to produce renewable diesel and SAF, but there are no actions or policies to commercialize these fuels because critical changes to biofuels policy have not been forthcoming to advance the biofuels industry including the introduction of new biofuels. Vegetable oil crushers and local oil companies are closely monitoring this business and waiting for market opportunities. Argentina would naturally use soybean oil as the main feedstock if a renewable diesel/SAF industry were to emerge. A new law or reforms to the current biofuels law could include these advanced biofuels and attract future investment.

There is growing interest in the production of crops to produce more sustainable biofuels, with lower GHG emissions. A few multinational grain exporters, petroleum and seed companies are investing in the expansion of production, processing and exports of Carinata and Camelina.

There is no commercial production or use of cellulosic biofuels due to program stagnation and lack of any forward-thinking policy support, and the production or research of such fuels is practically non-existent.

Attachments:

No Attachments