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Prepared By: Thiemi Hayashi

Approved By: Joseph Taylor

Report Highlights:

Brazil has raised its mandatory anhydrous ethanol blend in gasoline to 32%, a temporary measure designed to reduce gasoline imports and absorb the country's growing ethanol surplus amid rapidly expanding corn ethanol production. The biodiesel blend mandate remains steady at 15%, though ongoing testing under the Fuel of the Future law signals potential increases in the future. In August 2026, Brazil formally launched its sustainable aviation fuel program, establishing a book-and-claim mechanism and a certification system to ensure compliance with national air transport decarbonization targets, as airlines will face mandatory greenhouse gas emissions reductions beginning in 2027. In response to rising global oil prices, the Brazilian government introduced a series of fuel subsidies aimed at curbing inflation and reducing fuel price volatility. Meanwhile, the 18% tariff on ethanol imports, in effect since 2024, remains unchanged.

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I. Executive Summary

Brazil's gross greenhouse gas emissions fell 16.7 percent in 2024, the second-largest annual drop since 1990, driven by reduced deforestation and lower transport emissions. In 2025, deforestation fell to under one million hectares for the first time since 2019, though agriculture and livestock activities still are responsible for almost all native forest losses. In February 2026, Brazil published the country's Climate Plan, with guidelines for the implementation of the climate targets to achieve net zero emissions by 2050 and reducing emissions between 59 percent and 67 percent by 2035.

Brazil's National Biofuels program (RenovaBio) is undergoing regulatory updates, with long-awaited new technical report drafts providing guidance on biofuels certification, producer accreditation, Renovacalc new parameters, among other issues. As of July 2026, the program has certified 315 biofuels plants to participate in issuing Decarbonization Credits (CBios), with biomethane plants gaining visibility under a new framework that offers greater legal certainty and incentives for its production and commercialization. Currently, only one U.S.-based corn ethanol producer participates as a foreign producer, partnering with a Brazilian company that serves as importer. RenovaBio continues to face compliance challenges, as some distributors fail to meet their obligations, risking undermining the progress of the decarbonization targets and reducing credit prices in the market.

Brazil raised its mandatory anhydrous ethanol blend in the gasoline from 30 percent to 32 percent as of August 2026, as a temporary measure aimed at reducing gasoline imports and absorbing ethanol surplus, though it faces questioning over vehicle safety for older, imported and non-flex fuel cars. Corn ethanol production continues to expand rapidly, with new plants in Bahia and Maranhão strengthening ethanol supply in Brazil's traditionally lower-producing North and Northeast regions.

Ethanol imports continue to face an 18 percent tariff, in place since 2024. Meanwhile, ethanol exports are declining amid weaker international competitiveness, prompting Brazilian producers to pursue new markets and alternative uses for domestic ethanol. The EU-Mercosur trade agreement, effective May 2026, offers an avenue in this effort, opening new duty-free and preferential quotas for Brazilian ethanol.

The biodiesel blend mandate remains at 15 percent, with ongoing tests of higher blend rates according to the Fuel of the Future law. Updated rules essentially prohibit biodiesel imports for on-road use and require that 80 percent of biodiesel to be blended into diesel comes from Social Fuel Seal-certified producers, favoring domestic producers.

Decree 13,094/2026 signed on August 12, 2026, formally launched Brazil's sustainable aviation fuel program (ProBioQAV), establishing a book-and-claim mechanism and a certification system to ensure compliance with the country's air transportation decarbonization targets, with airlines facing greenhouse gas emissions reduction mandates starting in 2027. Major companies have announced projects to produce sustainable aviation fuel, with Brazil targeting full domestic self-sufficiency by 2029. On maritime biofuels, the International Maritime Organization (IMO) approved Brazil's corn ethanol footprint for shipping use.

Rising global oil prices and geopolitical tensions prompted the Brazilian government to introduce a series of subsidies for diesel, gasoline, and jet fuel, funded partly through oil export taxes, aimed at

curbing inflation and shielding consumers from higher fuel prices. As a result of these subsidies, hydrous ethanol has struggled to remain price-competitive with gasoline C.

II. Policy and Programs

A. Renewable Energy and Greenhouse Gas Emissions

For more information on Brazil's historical greenhouse gas emissions reduction policies, please refer to [Brazilian Biofuels Annual Report 2025](#).

Greenhouse Gas Emissions

In November 2024, at the 29th Conference of the Parties (COP29), Brazil delivered an updated Nationally Determined Contribution (NDC), committing to reduce between 59 percent and 67 percent of its greenhouse gas (GHG) net emissions by 2035, compared to 2005 levels, and net zero emissions by 2050.

[In February 2026](#), Brazil's Ministry of Environment (MMA) published the National Plan on Climate Change (Climate Plan) 2024–2035, consolidating the country's national strategy for implementing its climate targets. The Plan is one of the key instruments of the National Policy on Climate Change, established in 2009, and is organized into three complementary axes: Adaptation, Mitigation, and Cross-Cutting Strategies for Climate Action. The Climate Plan will undergo periodic reviews every two years, with more comprehensive structural revisions conducted every four years.

In [March](#), the Interagency Committee on Climate Change (CIM) approved the Climate Plan on Mitigation and Adaptation ([Resolution CIM/CC/PR number 9, of March 23, 2026](#)), with their respective National Strategies and Sectoral Plans. The Climate Plan focuses on controlling illegal deforestation and reducing legal deforestation by 2035. It establishes sectoral pathways for reducing emissions across key sectors such as energy, industry, transport, cities, waste, and land use, while also introducing adaptation plans for areas including agriculture, water resources, and infrastructure.

For agriculture and livestock, the Climate Plan includes strategies to implement production systems with lower GHG emissions, such as the recovery of degraded pastures and the integration of crops, livestock, and forestry systems. However, the Plan applies different mitigation and adaptation strategies to public and private land. It imposes strict emissions-reduction targets on public lands, with a primary focus on curbing deforestation, while assigning private lands (such as rural properties and cities) responsibility for transition, regeneration, and resilience strategies.

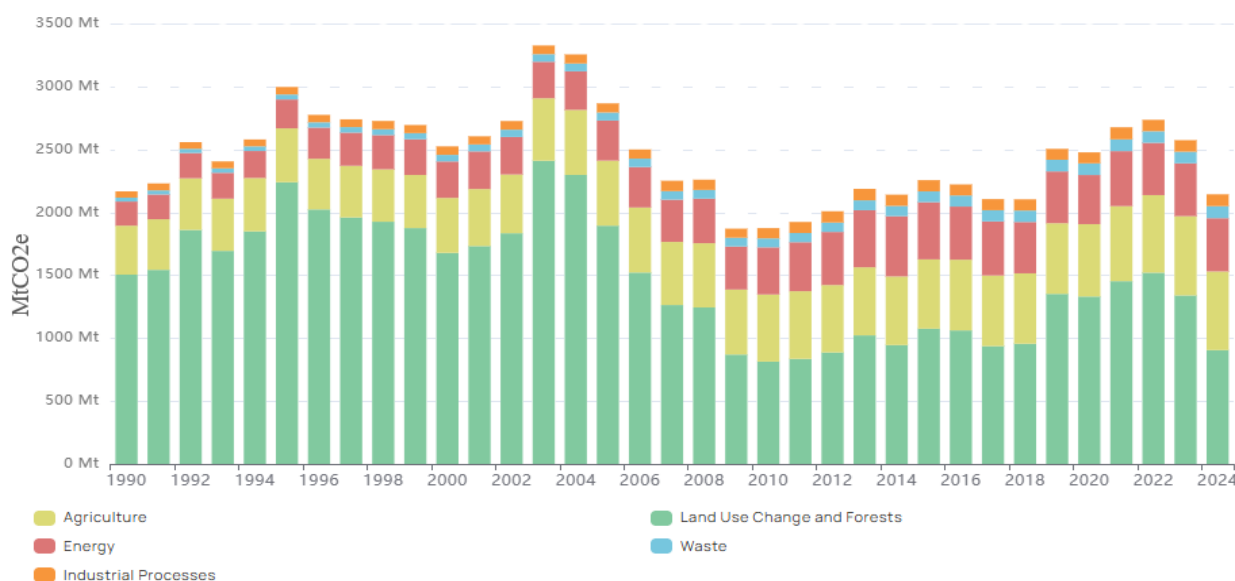
For 2026, the Climate Plan has a [budget](#) of R\$27.5 billion, refundable by the Climate Fund, to invest in actions for adaptation and mitigation. Since 2023, the Climate Plan has implemented R\$52.4 billion in projects related to climate change.

According to the Greenhouse Gas Emissions and Removals Estimating System¹ ([SEEG](#)), Brazil's gross GHG emissions fell by 16.7 percent in 2024, reaching 2.1 billion tons of carbon dioxide equivalent (GtCO₂e), compared to 2.5 GtCO₂e in 2023. The result is the second-largest annual drop in the country's GHG levels since the beginning of the historical series in 1990, and the largest since 2009, when the decrease was 17.2 percent. All Brazilian biomes recorded reduction in GHG emissions, except the Pampa, which registered a 6 percent increase.

In 2024, Brazil registered a reduction in deforestation, which decreased gross emissions from the land-use sector from 1.3 GtCO₂e to 906 million tons of carbon dioxide equivalent (MtCO₂e), representing 42 percent of total emissions. In the agriculture and livestock sectors, emissions in 2024 totaled 626 MtCO₂e, representing 29 percent of the country's gross total. Agricultural activity, considering direct sector emissions plus deforestation, continues to account for approximately 71 percent of Brazil's gross emissions.

Figure 1

Total Greenhouse Gas Emissions by Sector, 1990 to 2024



Source: [Greenhouse Gas Emissions and Removals Estimating System \(SEEG\)](#)

According to SEEG, ethanol consumption in Brazil led to a decrease of 3 percent in transport emissions, from 106 MtCO₂e in 2023 to 103 MtCO₂e in 2024. It was the first time since the Covid pandemic that passenger transport emissions fell in Brazil.

In 2025, according to MapBiomass², Brazil's total deforested native area reached 984,794 hectares, falling below one million hectares for the first time since 2019. This marks a 20.6 percent reduction

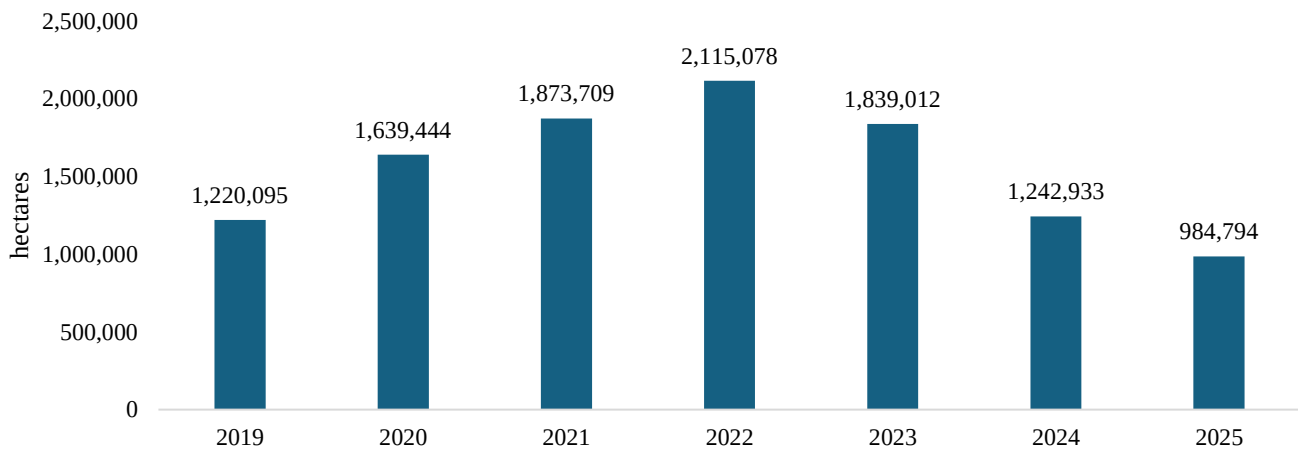
¹ The Greenhouse Gas Emissions and Removals Estimating System (SEEG) is an initiative of the Climate Observatory, a network comprising more than sixty civil society organizations, aimed at monitoring Brazil's emissions trajectory through a comprehensive greenhouse gas emissions database.

² MapBiomass is a collaborative network comprising non-governmental organizations, universities, and technology companies that analyze data on Brazil's biomes and related cross-cutting topics.

compared to 2024. Over the past seven years, Brazil has lost a total of 10.9 million hectares of native vegetation.

In 2025, the Cerrado remains the country's most heavily deforested biome, accounting for 55 percent of the national total (540,614 hectares), despite a 16.9 percent decline compared to 2024. The Amazon registered 289,478 hectares of deforested area, a reduction of 23.5 percent from the previous year. The Pantanal recorded the largest proportional reduction among all biomes, with a 48.4 percent drop in deforested areas compared to 2024, totaling 12,260 hectares lost throughout 2025.

Figure 2
Brazil's Deforested Area, 2019 to 2025, in hectares



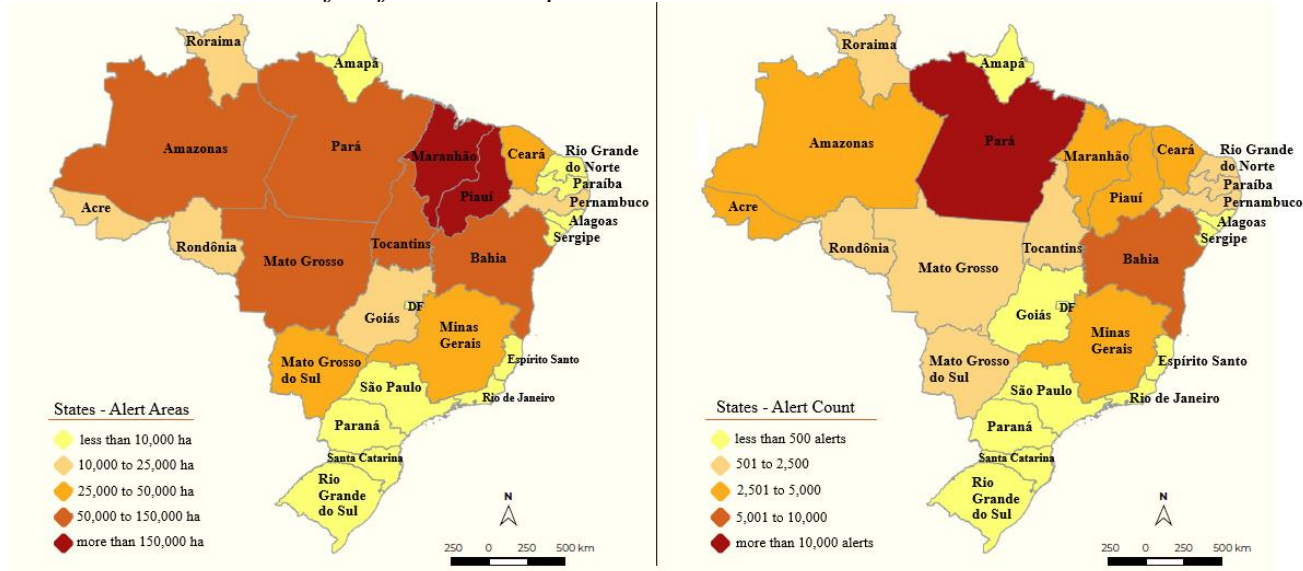
Source: [MapBiomas](#); Chart Post Brasilia

In 2025, 3,053 municipalities in Brazil registered deforested alerts, corresponding to 55 percent of the country's total municipalities (5,569). Among the municipalities with deforestation alerts, 50 municipalities comprised 30 percent of all the deforested area in Brazil, from which 11 municipalities are in Maranhão and 8 are in Bahia.

The four MATOPIBA states (Maranhão, Tocantins, Piauí, and Bahia) rank among the states with the largest deforested area in 2025, amounting to 40 percent in total (392,929 hectares). Together with Mato Grosso, they account for more than 63 percent of Brazil's total deforested area in 2025. MATOPIBA states are the latest agricultural frontier in Brazil, producing mainly soybeans, corn, and cotton. Mato Grosso is Brazil's largest agricultural-producing state in terms of gross value of agricultural and livestock production (VBP), and it is also the country's leading producer of soybeans and corn.

Figure 3

Amount and Total Area of Deforestation Episodes in Brazil, 2025



Source: [MapBiomass](#); Adapted by Post Brasilia

According to MapBiomass, expansion attributed to agriculture and livestock has accounted for over 97 percent of Brazil's native vegetation loss over the past seven years. In 2025 alone, agriculture/livestock-driven deforestation represented 99 percent of the total deforested area, totaling 974,469 hectares.

Table 1

Deforestation Drivers, 2019 to 2025, in hectares and percentage, respectively

	2019		2020		2021		2022		2023		2024		2025	
	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%
Agriculture and Livestock	1,201,284	98.46	1,616,216	98.58	1,821,059	97.2	2,026,656	95.8	1,813,695	98.6	1,223,019	98.6	974,469	99.0
Urban Expansion	1,079	0.09	2,504	0.15	6,308	0.3	3,457	0.2	5,659	0.3	2,732	0.2	2,916	0.3
Renewable Energy	1,132	0.09	1,258	0.08	1,973	0.1	4,516	0.2	6,945	0.4	4,502	0.4	1,375	0.1
Illegal Mining	9,172	0.75	9,488	0.58	10,079	0.5	7,647	0.4	4,399	0.2	3,307	0.3	1,877	0.2
Water Reservoirs	-	-	63	0.00	15	0.0	52	0.0	1,955	0.1	546	0.0	518	0.1
Mining	1,395	0.11	1,449	0.09	1,746	0.1	1,787	0.1	1,974	0.1	1,651	0.1	864	0.1
Roads	-	-	9	0.00	96	0.0	87	0.0	1,133	0.1	961	0.1	577	0.1
Extreme Weather Events	-	-	25	0.00	475	0.0	654	0.0	276	0.0	3,041	0.2	246	0.0
Aquaculture	-	-	-	-	1	0.0	-	-	201	0.0	216	0.0	60	0.0
Others	6,034	0.49	8,433	0.51	31,956	1.7	70,223	3.3	2,773	0.2	958	0.1	1,892	0.2
Total	1,220,096	100	1,639,445	100	1,873,708	100	2,115,079	100	1,839,010	100	1,240,933	100	984,794	100

Source: [MapBiomass](#); Chart Post Brasilia

In 2025, approximately 70 percent of the total deforestation in Brazil occurred within private areas, amounting to 688,056 hectares, which occupy 37 percent of the Brazilian territory (including *quilombola* communities, rural settlements, and private rural properties). Public land represents 22

percent of the territory and registered 11 percent of total deforestation in 2025 (111,583 hectares, including traditional communities, public land plots, and military areas). Approximately 4.7 percent of deforestation was registered in conservation units (46,257 hectares), which represent 11 percent of the Brazilian territory.

According to Brazil's National System Operator (ONS), renewable sources supplied more than [88 percent](#) of Brazil's electricity in 2025, including hydropower (58 percent), wind (17 percent), and solar (13 percent). As detailed by the [National Energy Balance](#) (BEN), renewable content in the transportation sector accounted for approximately 26 percent of energy supply, comprising 6 percent biodiesel and 20 percent ethanol. The agricultural sector relies primarily on diesel oil (47 percent), followed by firewood (24 percent) and electricity (22 percent).

Renewable Energy Policy Mandate and Certification

RenovaBio is Brazil's National Biofuels Policy, established in 2017 under [Law No. 13,576/2017](#), designed to increase biofuel production and consumption while reducing GHG emissions in the transport sector. Rather than mandating fixed blending ratios, the policy relies on a market-based approach built on three main mechanisms: annual national carbon intensity reduction targets, biofuel certification, and decarbonization credits (CBios).

The National Energy Policy Council (CNPE) establishes the annual carbon intensity reduction targets for Brazil's overall fuel matrix, measured in grams of carbon dioxide per megajoule (gCO₂/MJ). These targets increase progressively over a ten-year horizon and are divided among fuel distributors according to market share.

The second mechanism, biofuel certification, enables producers of ethanol, biodiesel, biomethane, and other biofuels to voluntarily certify their production facilities through an energy-environmental efficiency scoring process (Energy-Environmental Efficiency Score - EEES). This process evaluates the full production lifecycle to determine the extent to which a given biofuel reduces GHG emissions relative to the fossil fuel it replaces.

The third mechanism, decarbonization credits (CBios), rewards certified producers with tradable digital certificates based on their efficiency score and sales volume, with each CBio representing one ton of avoided CO₂ equivalent. These credits are issued electronically, traded on Brazil's stock exchange, and acquired primarily by fuel distributors to fulfill their annual regulatory obligations.

For historical information, please refer to [Brazilian Biofuels Annual Report 2025](#).

The Brazilian Agricultural Research Corporation (Embrapa) developed the methodology for calculating biofuels carbon intensity based on a "well-to-wheels" life-cycle assessment (LCA) compared to fossil fuels. To calculate this carbon intensity, producers must report data on input use and fuel consumption both during the industrial phase of biofuel production and during the agricultural phase in which feedstocks are converted into energy biomass.

Other feedstocks used in biofuel production, such as palm oil and grain sorghum, used respectively for biodiesel and ethanol, do not yet have dedicated fields in RenovaCalc for reporting agricultural-phase

data as of this report's publication. Certain feedstocks, such as those used in biomethane production, require no data prior to the industrial phase since all substrates used for biomethane are classified under RenovaBio as waste, and GHG emissions during the generation stage are not counted.

The ANP [Resolution No. 758/2018](#), which regulates the certification of efficient biofuel production and imports, as well as the accreditation of inspection firms under RenovaBio, firstly established typical production profile data for each biomass along with corresponding penalization factors for each parameter. These standard datasets were intentionally based on penalized averages to prevent producers with weaker environmental performance from benefiting from more favorable data.

Between 2020 and 2021, the RenovaBio Technical Group studied the impact of agricultural data penalization on CBio issuance, along with the data and penalization applied to the typical profile for U.S. corn ethanol. Embrapa's Environment unit subsequently conducted evaluation studies to update the typical data used as benchmarks for default penalized values in RenovaCalc, prompted by industry demand for a single, equitable penalization factor across biofuel production routes.

Between December 2025 and February 2026, ANP held a public consultation on a proposed update to RenovaCalc's penalization factors. For reporting agricultural-phase data, RenovaCalc recognizes two rural producer profiles: a primary profile, requiring detailed input data (fertilizer and soil-conditioner use, seeds, fuel consumption, and other inputs), and a default profile, requiring only area and output data. Under the default profile, all remaining parameters needed to calculate GHG emissions rely on penalized average data, resulting in higher estimated emissions and greater carbon intensity.

As a result, the studies proposed a penalization factor of 1.7 times the typical carbon intensity value for both domestic soybean and sugarcane, a factor of 2.0 for domestic corn, and the same 2.0 factor for imported corn and both domestic and imported sorghum. The U.S. Department of Energy's GREET model (Greenhouse gases, Regulated Emissions, and Energy use in Technologies) was used as reference for the agricultural profile of U.S. corn and sorghum production.

Table 2

Proposed Updated Penalization Factors for Biomass in RenovaBio

Biomass	Biofuel Production Route in RenovaCalc	Current Penalization Factor	Updated Penalization Factor
Sugarcane	- First Generation Ethanol from Cane - First Generation Ethanol from Flex Plants	1.94	1.7
Soybean	- Biodiesel - Alternative Fuels	1.84	1.7
Domestic Corn	- First Generation Ethanol from Cane - First Generation Ethanol from Flex Plants	2.2	2.0
Imported Corn	Imported First Generation Corn Ethanol	2.3	2.0
Sorghum	-	-	2.0

Source: [National Agency of Petroleum, Natural Gas and Biofuels \(ANP\)](#); Chart Post Brasilia

As of the publication of this report, ANP had not published the final report on the proposed modification of RenovaCalc's penalization factors.

In June 2025, [Resolution 984/2025](#) supersedes Resolution 758/2018 and introduces updated requirements covering the biomass custody chain, certification of foreign producers, and biomass eligibility criteria, among other provisions.

Resolution 984/2025 requires ANP to publish technical reports that provide further clarification and operational guidance, complementary to the procedures established in the resolution itself. These reports must be observed in the processes of biofuel certification, accreditation of vegetable oil producers, and accreditation of foreign producers. The publication of new technical reports will be preceded by workshops or discussion meetings to address questions and ensure social participation from interested parties.

In August 2025, ANP submitted draft updated versions of six of the seven technical reports for public consultation. The drafts were open for comment between August and September 2025. The topics covered were as follows:

1. [Accreditation](#) of inspection firms
2. [Procedures](#) for certifying the production or import of biofuels
3. [Guidelines](#) for completing RenovaCalc
4. [Documentation](#) requirements for biofuel certification and foreign producer accreditation
5. [Procedures](#) for annual monitoring and renewal of biofuel production certificates
6. [Procedures](#) for implementing and verifying the chain of custody for grains and vegetable oils

[Technical report number 7](#), addressing procedures for the certification of biofuel importers, specifically first-generation corn ethanol imported from the United States, was not included in this initial round of public consultation, and ANP has not yet set a date for its release.

As of the publication of this report, ANP has not published the updated versions of any of the technical reports.

Separately, ANP has [opened a public consultation](#), running from August 17 to September 16, 2026 (30 days), to update the RenovaCalc tool and its associated technical documentation. The proposed updates include the incorporation of new databases, a revision of GHG emission factors, updated energy parameters, and refinements to methodological procedures.

These changes aim to more accurately reflect different production conditions across biofuel supply chains and improve the calculation methodologies of the RenovaBio program. ANP has released 10 technical documents for public comments.

The [documents](#) are:

1. Biodiesel Pathway
2. Biomethane Pathway
3. First- and Second-Generation Ethanol Pathway

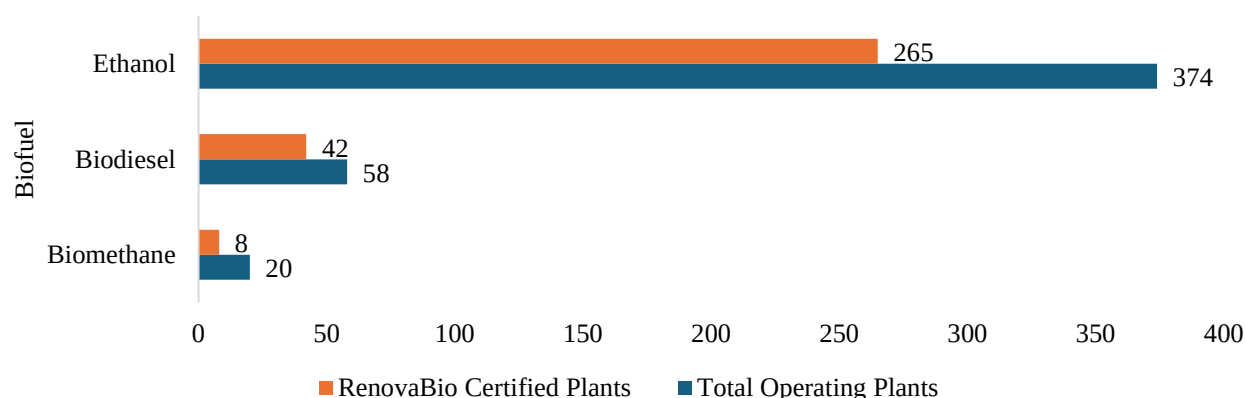
4. Second-Generation Ethanol Pathway
5. First-Generation Sugarcane Ethanol Pathway
6. Imported Corn and Sorghum Ethanol Pathway
7. Soybean Molasses Ethanol Pathway
8. Corn and Sorghum Ethanol Pathway
9. Soybean HEFA Pathway
10. Methodological Assumptions for NEAA Calculation

RenovaBio's Milestones

As of July 28, 2026, ANP authorized 452 biofuels plants to operate. Of the total, 315 biofuels plants are certified under the RenovaBio program, including 265 ethanol units, 42 biodiesel plants, and 8 biomethane units. In total, 70 percent of the biofuel producing units in Brazil are certified to participate in RenovaBio and issue CBios.

Figure 4

Biofuels Plants Certified RenovaBio, 2026



Source: [National Agency of Petroleum, Natural Gas and Biofuels \(ANP\)](#); Chart Post Brasilia

Regarding certified routes under RenovaBio, it is worth noting the increase in biomethane plants, which grew from 5 biomethane units in 2025 to 8 units in 2026.

The Fuel of the Future Law (Law [14,993/2024](#)) established the National Program for the Decarbonization of Natural Gas Producers and Importers and the Incentive for Biomethane, aiming to encourage the research, production, marketing, and use of biomethane and biogas in Brazil's energy matrix while decarbonizing the natural gas sector.

The law incentivizes the use of biomethane in heavy-duty vehicles, agricultural machinery, and other methane-powered vehicles, as well as the conversion of vehicles powered by other fuels to methane and the replacement of used diesel engines with new methane-powered engines. It also sets gradual targets for reducing GHG emissions among natural gas producers and importers, starting at 1 percent and capped at 10 percent. However, given the early stage of biomethane supply, CNPE set a reduced initial target of 0.5 percent for 2026 ([CNPE 04/2026](#)).

[Decree 12,614/2025](#) regulated the rules of the National Program for the Decarbonization of Natural Gas Producers and Importers and the Incentive for Biomethane. ANP has issued two resolutions addressing mandatory annual [decarbonization targets](#) and the issuance of the Biomethane Origin Guarantee Certificate ([CFOB](#)).

As of July 2026, Brazil had 20 biomethane plants in total, concentrated in the Southeast, Northeast, and South regions, with an installed production capacity of 78.6 million cubic meters per day (m³/day). The main feedstocks are biogas from solid waste, agroforestry residues, and other waste.

The potential for biomethane use lies in replacing diesel fuel in heavy-duty vehicles and fossil fuels in hard-to-abate sectors such as industry and chemicals, as well as enabling the production of green ammonia and fertilizers. According to the [GRI Institute](#), Brazil has the potential to produce 120 million m³/day of biomethane, enough to supply 32 percent of thermal power generation or 62 percent of national diesel consumption. Among the main challenges cited by the sector for biomethane's limited share in the energy matrix are regulatory uncertainty, environmental licensing hurdles, and a lack of financial incentives.

Table 3
Certified Routes and Units in RenovaBio

Certified Route	2025		2026	
	Certified Units	Percentage of the total	Certified Units	Percentage of the total
1st Generation Cane Ethanol	274	81.28%	247	78.41%
Biodiesel	41	12.16%	42	13.33%
1st Generation Cane and Corn Ethanol (Flex)	8	2.38%	8	2.54%
1st Generation Corn Ethanol	7	2.08%	8	2.54%
1st Generation and Cellulosic Ethanol	1	0.30%	2	0.63%
Biomethane	5	1.48%	8	2.54%
First Generation Corn Ethanol Imported	1	0.32%	-	-

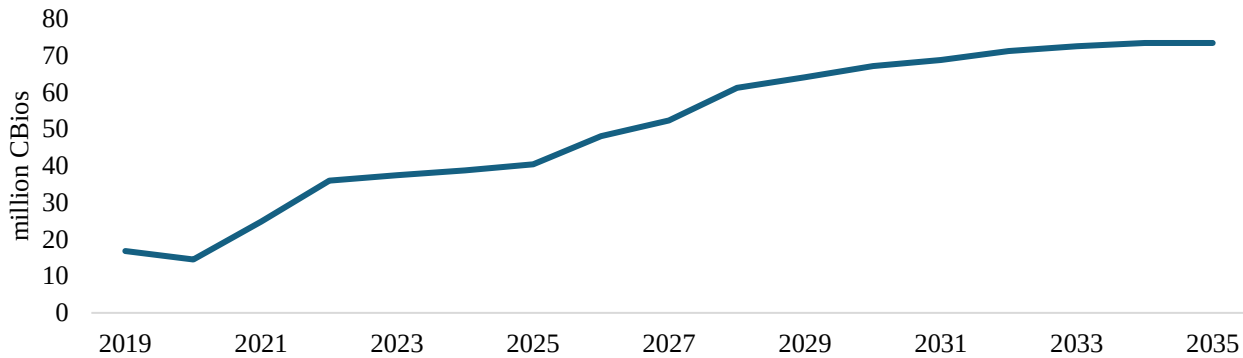
Source: [National Agency of Petroleum, Natural Gas and Biofuels \(ANP\)](#); *Chart Post Brasilia*.

Plymouth Energy LLC, based in Merrill, Iowa, is the only foreign facility certified for first-generation corn ethanol imports to Brazil. In August 2025, ANP authorized Plymouth as the [first foreign producer](#) to participate in RenovaBio. Copersucar S.A. serves as the importer of the anhydrous ethanol produced by Plymouth. The Energy-Environment Efficiency Score (EEES) attributed to Copersucar/Plymouth is [23.91 gCO₂e/MJ](#), the lowest among all other agents certified under RenovaBio. The eligible volume is also the lowest, 0.87 percent.

On December 23, 2025, [CNPE Resolution 21/2025](#) set the annual mandatory GHG reduction target for fuel commercialization in 2026 at 48.09 million CBios. ANP [Dispatch 464/2026](#) subsequently established individual targets for fossil fuel distributors, allocated according to each distributor's market share. The 2025 target was set at 40.39 million CBios.

Figure 5

Annual Target of Decarbonization Credits (CBios) – million CBios



Source: [National Energy Policy Council](#) (CNPE); *Chart Post Brasília*. NOTE: Each CBio is equivalent to 1 ton of CO₂ equivalent avoided.

[CBios not retired](#) by distributors that failed to demonstrate full compliance with their 2025 targets were carried forward and added to their respective 2026 targets. Similarly, CBios retired during 2026 in connection with prior-year targets will count toward fulfillment of the current year's target.

According to ANP, [167 fuel distributors received](#) individualized decarbonization targets for 2026. Of this total, 28 distributors retained outstanding CBio obligations stemming from long-term contracts that expired in 2025, while 12 distributors had pending judicial injunctions related to their 2025 compliance obligations.

RenovaBio enforces compliance through penalties on distributors that fail to meet at least 85 percent of their annual CBio purchase targets, with Brazil's [2024 CBios Law](#) classifying non-compliance as an environmental offense subject to fines and trading restrictions. However, enforcement has faced repeated judicial and administrative setbacks. In August 2025, a court order temporarily shielded 33 non-compliant distributors from ANP sanctions, though the [Superior Court of Justice](#) reversed this protection in February 2026, strengthening ANP's enforcement authority amid roughly 43 pending RenovaBio-related lawsuits.

In May 2026, however, Brazil's [Federal Court of Accounts](#) (TCU) again suspended penalties for non-compliant distributors, claiming structural distortions in the CBio market, including governance failures, manipulation risk, and price volatility. In its report, TCU identified market concentration as a key driver, noting that three distributors control roughly 55 percent of purchase obligations, enabling them to accumulate credits and disadvantage smaller competitors. In June 2026, ANP issued a [dispatch](#) maintaining the suspension of penalties for non-compliance tied to cycles ending on or before December 31, 2024.

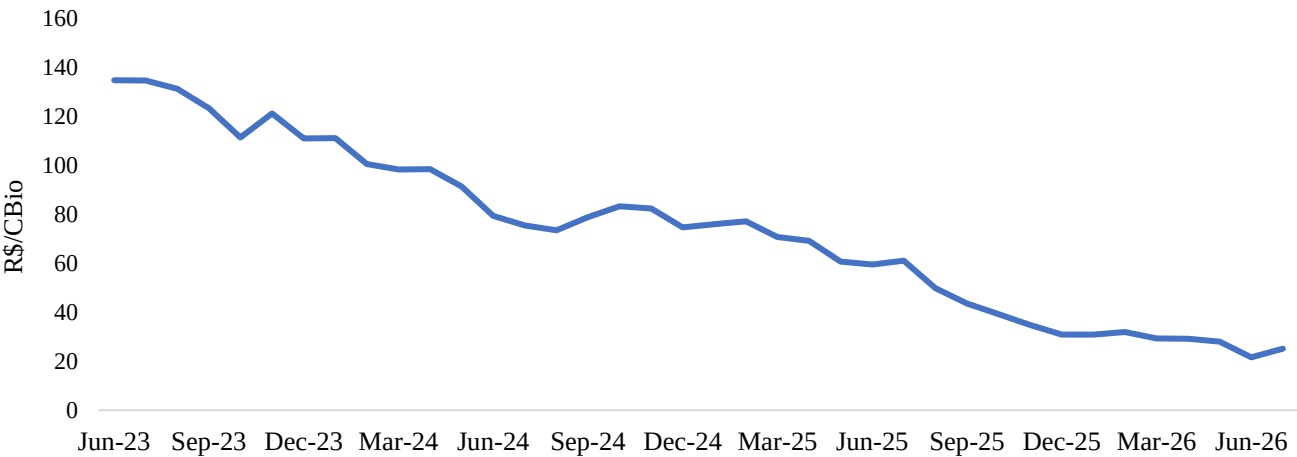
Industry experts caution that persistent non-compliance within RenovaBio destabilizes CBio pricing, undermines achievement of environmental targets, and introduces legal uncertainty through sustained litigation. When non-compliant distributors fail to acquire the volume of decarbonization credits the program requires, they contribute to market oversupply or temporary liquidity shortfalls.

From [January to July 2026](#), the average daily traded price of CBios was R\$27.97, and obligated parties retired 18.3 million CBios, corresponding to 38 percent of the total target established for the year. The

CBio inventory held by obligated parties (distributors) stood at 13.8 million credits. In 2025, the average daily traded price during the same period was R\$67.67, and obligated parties retired 11.8 million credits, or 29.1 percent of the total target (40.39 million CBios) set for the year.

According to specialists, the increase in CBios retirements in 2026 indicates stronger year-over-year compliance progress. However, this trend has not translated into higher prices, as CBios remain at a record low since June 2026. Post contacts also note that potential mid- to long-term movements in CBios prices will likely depend on continued compliance levels with the obligations established by law. Additionally, the biofuels covered under RenovaBio benefit from well-established domestic demand. Looking at sustainable aviation fuel (SAF) and renewable diesel specifically, their international market exposure suggests that CBios prices could eventually develop a degree of correlation with international credit prices.

Figure 6
Average Monthly Decarbonization Credit (CBio) Price, in Brazilian Reais



Source: Brazilian Stock Exchange Market (B3); Chart Post Brasília

By comparison, carbon prices in other markets on July 21st, 2026, including California's Low Carbon Fuel Standard at US\$72 per ton of CO2 equivalent (t/CO2e), Oregon's Clean Fuels Program (CFP) at US\$158/t CO2e, and the European Union's carbon price at US\$94.32/t CO2e. Brazil's CBio carbon price, by contrast, stood at just US\$5.70, with Brazil's currency rate at R\$5.07.

B. Policy and Program Mandates Aimed at Biofuels

Ethanol and the Gasoline Market

In 2025, Brazil produced 33.5 billion liters of gasoline A (before blended with anhydrous ethanol), an increase of 3 percent from 2024 (32.5 billion liters) and imported 3.4 billion liters, an increase of 26 percent from 2024 (2.7 billion liters). The United States supplied the largest share at 26.4 percent (684 million liters), followed by Russia, with 25.2 percent (653 million liters), and the Netherlands, with 23.5 percent (609 million liters). Total gasoline C (including anhydrous) amounted to 47.7 billion liters, an increase of 7 percent compared to the previous year (44.5 billion liters).

As of August 1, 2026, the anhydrous ethanol content blended into gasoline temporarily increased from 30 percent to 32 percent, for an initial period of 180 days, extendable once for an equal period. Brazil's CNPE announced the decision on [July 14, 2026](#), and ratified it on [July 30, 2026](#). To make the increased mandatory blend permanent, CNPE must deliberate and approve the change again.

Table 4

Anhydrous Ethanol Use Mandate

Year	Month	Mandate
2006	Jan-Feb	E25
	Mar-Oct	E20
	Nov-Dec	E23
2007	Jan-May	E23
	Jun-Dec	E25
2008	Jan-Dec	E25
2009	Jan-Dec	E25
2010	Jan	E25
	Feb-Apr	E20
	May-Dec	E25
2011	Jan-Sep	E25
	Oct-Dec	E20
2012	Jan-Dec	E20
2013	Jan-Apr	E20
	May-Dec	E25
2014	Jan-Dec	E25
2015	Jan-Mar 15th	E25
	Mar 16th - Dec	E27
2025	Jan-Jul	E27
	Aug	E30
2026	Aug	E32

Source: Ministry of Mines and Energy (MME); Chart Post Brasília

The resolution conditions the permanent adoption of the E32 blend or higher blends on the completion of testing for E35, the maximum blend limit that the Fuel of the Future Law establishes. [Technical studies](#) conducted by Mauá Technology Institute, under the coordination of the Permanent Technical Committee for the Fuel of the Future (CTP-CF), supported CNPE's approval of the E32 blend increase. According to CNPE, laboratory and real-world tests of technical performance, fuel consumption, and emissions showed that E32 performed comparably to lower-ethanol-content blends, without significantly impacting vehicle operation, including in vehicles with non-flex-fuel engines. CNPE's decision maintained the ethanol content in premium gasoline³ at 25 percent.

³ The gasoline types available in Brazil are: regular gasoline A, premium gasoline A, regular gasoline C, and premium gasoline C. Refineries, petrochemical plants, and blending facilities are authorized to produce gasoline A, which is gasoline without the addition of anhydrous ethanol. Gasoline A is then sold to fuel distributors, who add anhydrous ethanol at the level

The increase in the ethanol blend will require an additional 500 million liters of anhydrous ethanol between August and December 2026, and approximately 1.2 billion liters cumulatively over the year from August 2026 to August 2027. According to the Ministry of Mines and Energy (MME), E32 will prevent the need to import approximately 290 million liters of gasoline A per month, and the Ministry expects it to reduce the price of gasoline by approximately 2 percent (R\$0.03 per liter).

According to experts, international geopolitical pressures drove [CNPE](#) to raise the ethanol blend, aiming to lower gasoline import volumes and costs while reducing external dependence. The decision also allows Brazil to absorb an expected ethanol surplus, caused by strong sugarcane harvests and the growing corn-based ethanol industry.

While the sugar-energy sector welcomed the increase, consumers and [automotive-sector](#) critics reacted [cautiously](#), warning of potential engine damage and reduced fuel efficiency, especially for the [18 percent of Brazil's fleet](#) (about 9 million vehicles) that are non-flex-fuel gasoline-burning models. Critics argue the E32 tests only validated the E30 two percent margin of tolerance, not the new blend's one percentage margin, and affirm that higher ethanol content could increase maintenance needs and fuel consumption, particularly in older, imported, and non-flex-fuel vehicles.

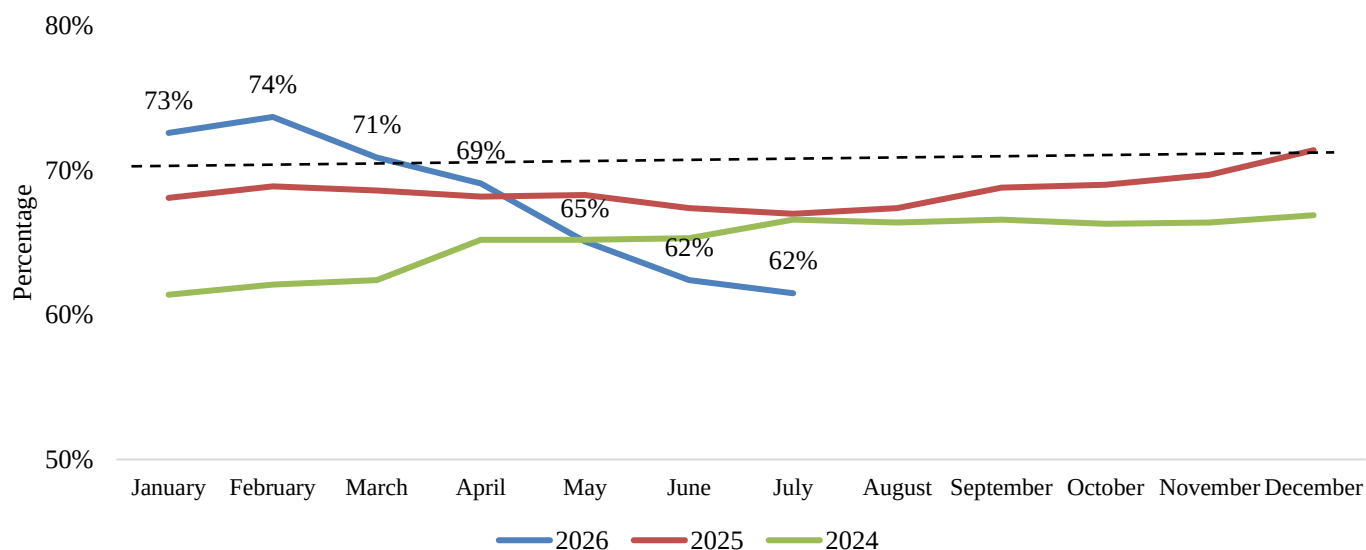
The [Public Prosecutor's Office](#) filed a civil public action, along with a request for injunctive relief, to suspend the blend increase and halt the change until technical studies confirm that the new fuel is safe for vehicles operating in the country. As of August 16, the case was still awaiting further proceedings.

The consumption of gasoline C (blended with anhydrous ethanol) and hydrous fuel ethanol (E100) are usually negatively correlated given that approximately 73 percent of the Brazilian light duty vehicle fleet is flex-fuel and consumers choose one or another fuel depending on the price parity. Consumers' decision to use E100 or gasoline C in vehicles is mainly driven by the 70 percent ratio between E100 and gasoline C prices.

E100 is more advantageous if the price ratio is below 70 percent, and gasoline C is more attractive if the price ratio is above 70. The calculation refers to the energy content of each fuel, in which ethanol's energy content is approximately 36 percent lower than pure fossil gasoline (gasoline A).

established by law to produce gasoline C, the only type available at retail gas stations. Premium gasoline has higher octane ratings (RON) than regular gasoline. It is intended for vehicles that require higher-octane fuel to achieve optimal engine performance. Additive gasoline is simply gasoline C (regular or premium) with a detergent/dispersant additive included.

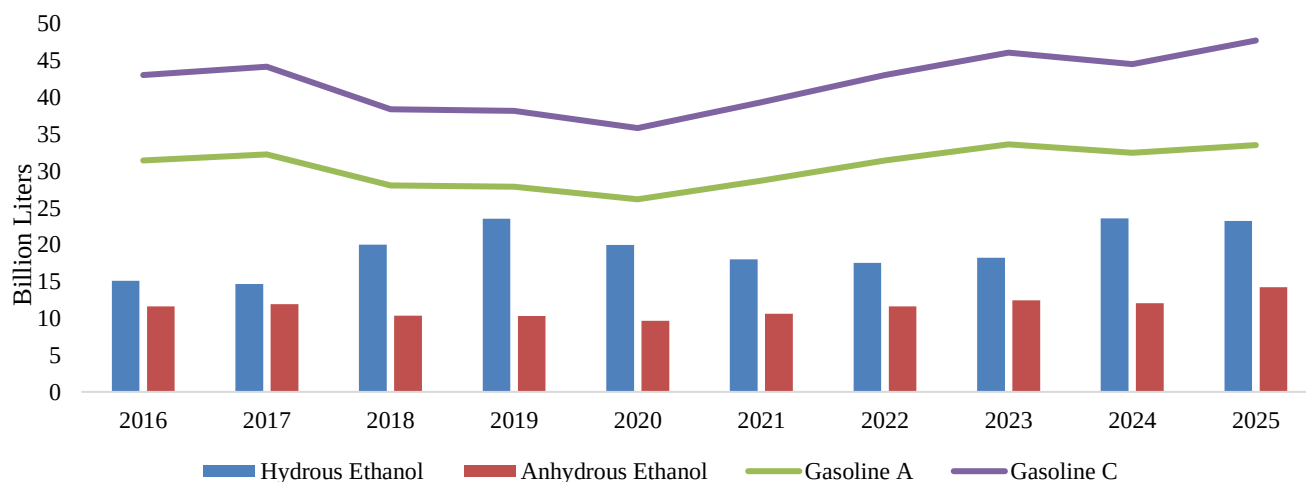
Figure 7
Parity Between Hydrous Ethanol and Gasoline C, in percentage



Source: [National Agency of Petroleum, Natural Gas and Biofuels \(ANP\)](#); Chart Post Brasilia

In 2025, total sales of gasoline C reached 47.7 billion liters, an increase of 7 percent from the previous year. Sales of hydrous ethanol, however, fell by 1.5 percent, reaching 23.2 billion liters in 2025. The decline was driven by hydrous ethanol's reduced competitiveness in price compared to gasoline C. The average price parity of hydrous ethanol compared to gasoline C began 2026 at 73 percent, the highest level since 2022, when it reached 76 percent. The lack of competitiveness was due to low hydrous ethanol supplies during the sugarcane off-season, along with price adjustments in producing regions.

Figure 8
Sales of Ethanol and Gasoline, calendar year, in billion liters



Source: [National Agency of Petroleum, Natural Gas, and Biofuels \(ANP\)](#); Chart Post Brasilia

The size and composition of the Brazilian light duty vehicle fleet affect the opportunity for ethanol consumption depending on the hydrous ethanol and gasoline C price ratio. According to the [Ministry of](#)

Transportation, Brazil registered a total fleet of 129 million vehicles in December 2025, from which 64 million are light-duty vehicles, and 57 million are flex-fuel.

Data from the National Association of Vehicle Manufacturers (ANFAVEA) shows that the licensing of new electric, hybrid, and plug-in hybrid vehicles grew by 7,090 percent between 2018 and 2025. The Brazilian Electric Vehicle Association (ABVE) estimates that Brazil now has 836,000 electric, hybrid, and plug-in hybrid vehicles, representing 1 percent of the light-duty vehicle fleet.

Experts predict that the electrified fleet will reach nearly 2 million units, between 4 and 5 percent of the total fleet, by 2030. In 2025, electric vehicles are estimated to have replaced about 0.7 billion liters of liquid fuels (ethanol and gasoline), approximately 1 percent of domestic fuel demand.

The long-term growth of vehicle electrification in Brazil could affect the fuel market and reduce demand for gasoline and ethanol, according to specialists. Conventional hybrid vehicles (HEVs) and plug-in hybrid vehicles (PHEVs) will be the main drivers of this impact, since they account for most electrified vehicle sales in Brazil. On average, HEVs are about 14 percent more fuel-efficient than conventional flex-fuel vehicles, reducing, but not eliminating, gasoline and ethanol consumption.

Despite projected growth in the electrified fleet, Brazil's vehicle fleet turnover remains slow, with an annual scrappage rate of 2 to 4 percent. The slow turnover should sustain demand for liquid fuels in the short and medium term. In addition, electrification is uneven across Brazil, concentrating mainly in the Southeast and South regions, which have higher income levels and more charging infrastructure.

Projections indicate that by 2030, increased electrification will offset about 2.46 percent of Otto-cycle fuel consumption, equivalent to 902,000 fewer vehicles demanding liquid fuels compared to a scenario without electrification. This shift could reduce demand for liquid fuels by up to 5 billion liters, or 8 percent of gasoline and ethanol consumption under the baseline scenario, rising to 14 percent by 2040, or about 9 billion liters. These projections assume electric vehicles will account for up to 47 percent of new vehicle sales in Brazil by 2035, in line with the global average.

Table 5

Licensing of New Light-Duty Vehicles (Units)

	2018	2019	2020	2021	2022	2023	2024	2025
Flex Fuel	2,168,173	2,328,650	1,664,999	1,624,348	1,633,280	1,809,864	1,967,294	1,897,593
Gasoline	81,935	73,854	58,930	53,588	48,804	60,569	102,444	114,263
Diesel	221,260	251,222	211,145	264,185	226,783	215,889	240,460	255,000
Electric, Hybrid, Hybrid Plugin	3,970	11,858	19,687	34,990	49,261	93,908	177,338	285,436

Source: National Association of Vehicle Manufacturers (ANFAVEA); Chart Post Brasília

In June 2026, the Executive Management Committee of the Foreign Trade Chamber (Gecex) renewed the tax-free import quota for semi-assembled and unassembled electric vehicles, exempting a volume of

US\$463 million during the six-month exemption period beginning July 1, 2026. The previous temporary import tax exemption for unassembled electric vehicles ended on January 31, 2026.

In July 2026, the tax on imported electric and hybrid vehicles reached its maximum rate of 35 percent, completing the gradual increase established by the federal government through the Mover program, which standardizes import taxation for all electrified vehicles entering the country. Although the tax applies directly to imported vehicles, prices of components and replacement parts may also rise indirectly.

Biodiesel/Renewable Diesel and Diesel Markets

According to [ANP](#), Brazil's total diesel B (including biodiesel) consumption amounted to 69.4 billion liters, an increase compared to the previous year (67.5 billion liters). Domestic production of diesel oil (excluding biodiesel) totaled 47.3 billion liters, a reduction of 3 percent compared to the previous year (49 billion liters). [Imports](#) reached 17 billion liters, 19 percent higher compared to 2024 (14.3 billion liters). Russia was Brazil's main diesel oil supplier, with 6.7 billion liters, followed by the United States, with 4.7 billion liters, and India, with 1.3 billion liters.

Diesel and biodiesel represent about 48 percent of the [fuel used by the transportation sector](#), followed by automotive gasoline at 26 percent and ethanol at 20 percent.

Brazil currently maintains a mandatory minimum biodiesel blend of 15 percent (B15) in fossil diesel sold nationwide. On July 13, 2026, authorities announced the start of the operational testing phase of the National Biodiesel Testing Program, to be conducted by the Mauá Technology Institute in São Paulo. The tests will evaluate the feasibility of biodiesel blends ranging from 16 percent (B16) to 25 percent (B25) in fossil diesel, divided into two phases: the first will assess blends from B15 to B20, and the second will assess blends up to B25, the maximum limit established under the Fuel of the Future Law.

Table 6

Biodiesel Use Mandate

Biodiesel Use Mandate		
Year	Month	Mandate
2003	-	optional
2008	January	B2
	July	B3
2009	July	B4
2010	January	B5
2014	August	B6
	November	B7
2017	March	B8
2018	March	B10
2019	September	B11
2020	March	B12

	September	B10
	November	B11
2021	January	B12
	March	B13
	May	B10
	September	B12
	November	B10
2022	January	B10
2023	April	B12
2024	March	B14
2025	August	B15

Source: National Agency of Petroleum, Natural Gas and Biofuels (ANP); Chart Post Brasilia

Experts believe regulators will authorize the blend increase in 2027, and industry groups argue that current technical and economic conditions support raising the blend directly to [17 percent](#) (B17).

Technical feasibility studies for expanding the biodiesel blend involve R\$30 million in investment over three years through the National Fund for Scientific and Technological Development ([FNDCT](#)), with participation from the Ministry of Science, Technology, and Innovation (MCTI), the [ANP](#), and universities and research centers. The resources will fund laboratory testing, engine and vehicle analysis, and studies on fuel quality, performance, energy efficiency, and emissions. Twelve mechanical laboratories and six physical-chemical laboratories are participating in this phase. The primary goal is to ensure that higher biodiesel proportions do not cause mechanical failures or reduce vehicle performance.

On April 1, 2026, CNPE approved [Resolution number 5](#), establishing that at least 80 percent of the total biodiesel volume sold in Brazil to meet the mandatory blend requirement must come from producers holding the Social Fuel Seal (SBS). The SBS was created in 2005 by the Ministry of Agrarian Development (MDA) to certify biodiesel producers that purchase a minimum percentage of raw materials from family farmers.

Brazil has 58 authorized biodiesel plants, of which [56 \(96 percent\) held the SBS in 2025, according to the MDA. Together, these 56 plants accounted for approximately 9.4 billion liters of production.](#)

On July 10, ANP announced it would begin [internal proceedings](#) to revise Resolution 910/2022, which governs prior ANP authorization for the experimental or specific use of B100 biodiesel, or its blend with fossil diesel at percentages above the current mandatory blend, known as diesel BX. The Fuel of the Future Law eliminated the need for prior ANP authorization, in certain cases, for some voluntary uses of biodiesel at percentages above the mandatory blend requirement.

In the interim, until ANP completes its revision of Resolution 910/2022, certain uses, though not all, may proceed by notifying the ANP of their interest in using B100 or BX, while still requesting prior authorization. These uses include public transportation, rail transportation, inland and maritime navigation, dedicated corporate or institutional fleets, equipment and vehicles used in mineral extraction and electric power generation, and agricultural machinery.

ANP has published a [list of users](#) who [have received authorization](#) to use B100 or BX on an experimental or specific basis. Users on this list may purchase biodiesel directly from ANP-authorized biodiesel producers, liquid-fuel distributors, or importers, as well as BX diesel from liquid fuel distributors authorized by ANP.

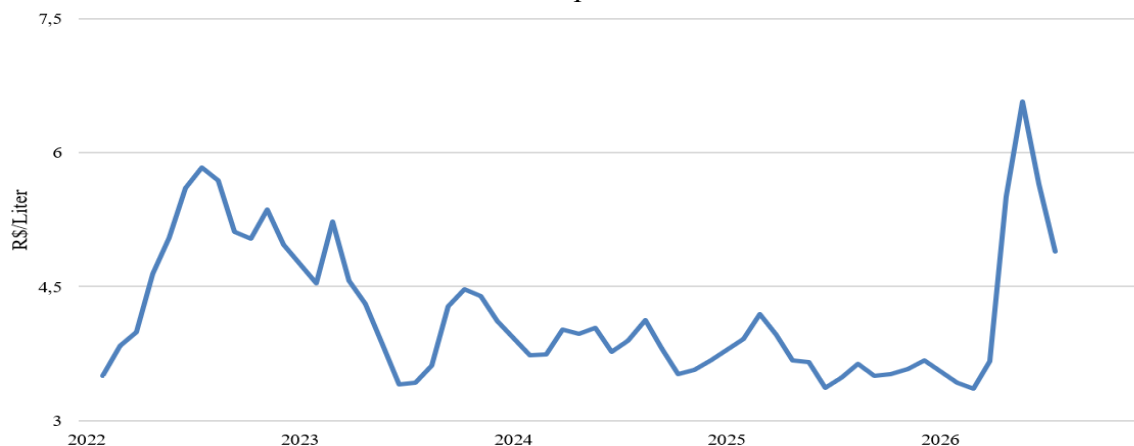
Sustainable Aviation Fuel and the Jet Fuel Market

In 2025, Brazil produced 5.8 billion liters of aviation kerosene (QAV) and imported 1.6 billion liters. Total jet fuel commercialized amounted to [7.4 billion liters](#), an increase of 6 percent compared to 2024 (6.9 billion liters). The Energy Research Company (EPE) anticipates that the demand for jet fuel will reach approximately [7.5 billion liters in 2026](#).

About 99 percent of the jet fuel commercialized in Brazil is QAV (used in jet turbines and large-size turbo prop) and one percent is aviation gasoline (GAV, used in small-size aircrafts). On average, costs with fuel and lubricants represent approximately 30 percent of air carriers' total costs and follow international prices dynamics, influenced by the U.S. Gulf prices and domestic refining costs.

Figure 9

Aviation Kerosene Domestic Prices, in Reais per Liter



Source: [National Agency of Petroleum, Natural Gas and Biofuels \(ANP\)](#); Chart Post Brasilia

Between [January and July 2026](#), aviation kerosene prices at domestic refineries registered a cumulative increase of over 40 percent, equivalent to R\$1.39 per liter. Petrobras produces approximately 85 percent of Brazil's total aviation kerosene. The state-owned company sells the product to distributors, which in turn sell it to airlines via airport-based facilities. Vibra, the fuel distributor, holds 60 percent market share.

The Fuel of the Future Law established a decarbonization schedule requiring airlines to reduce their GHG emissions starting with 1 percent in 2027 through the use of SAF, reaching up to 10 percent by 2037.

In November 2025, the federal government made available for public consultation a draft decree to regulate the National Program for Sustainable Aviation Fuel (ProBioQAV). The draft decree was jointly drafted by the ministries and agencies involved in the issue.

On August 12, 2026, the SAF decree was signed into law ([Decree 13,094/2026](#)) and detailed the criteria for SAF sustainability certification, defined the methodologies for the Lifecycle Analysis (LCA) to measure GHG emissions, specified the mechanisms for commercialization of traceability of environmental attributes and established the rules for the mandate to reduce GHG by air carriers, including market-based instruments and alternative options.

Because SAF and fossil jet fuel become physically combined once blended, it is not possible to separate the renewable fuel volume from the fossil volume in practice. To address this, the decree adopts the book-and-claim mechanism, which separates the physical fuel from its environmental attribute, allowing the environmental attribute to be traded among agents outside the physical fuel supply chain.

Under this approach, SAF producers generate a SAF Sustainability Certificate (CS-SAF) for each unit of fuel produced, reflecting the GHG emissions reduction achieved relative to fossil jet fuel. Airlines purchase these certificates, rather than the physical fuel itself, to demonstrate compliance with their decarbonization targets. The primary issuer must submit the request for CS-SAF issuance to the registering entity.

All SAF sold in Brazil for use in domestic and international flights must be linked to a CS-SAF. Each certificate remains valid for eighteen months from the date of issuance for purposes of demonstrating compliance with the regulatory target. Airlines must retire the certificate to demonstrate compliance with the National Civil Aviation Agency (ANAC).

Airlines may comply with up to 5 percent of their mandatory annual target through alternative compliance instruments, including the Low Carbon Aviation Fuel (LCAF), CBios, Verified Emission Reduction or Removal Certificate (CRVE), and SAF sustainability certificates issued by other countries, provided Brazil maintains reciprocity with that country and the certificates derive from CORSIA-certified fuels.

ANP will establish the National Program for Certification of SAF Produced in Brazil, aligned with definitions set by CORSIA and the most recent RenovaBio determinations. ANP will also set procedures to ensure the traceability, transparency, and credibility of the certificate. The decree prohibits the issuance of CBios for SAF production, to prevent double counting of the environmental benefit associated with SAF.

CNPE will monitor compliance with regulatory targets, including adequate SAF supply, market conditions, and impacts on the air transportation sector. ANAC will establish the calculation methodology for verifying SAF-related emissions reductions, monitor airlines' compliance with regulatory targets, and determine administrative measures for cases of non-compliance.

ANP and ANAC will jointly develop specific implementation guidelines and submit them for public consultation by December 18, 2026.

Maritime Sustainable Fuel

ANP opened a [public consultation](#), running from July 28 to September 10, on a [proposed](#) revision to [ANP Resolution No. 903/2022](#), which governs specifications for maritime fuels and commercialization rules within the national territory. ANP will hold a public hearing on September 23.

The proposal also seeks to align Brazilian regulations with international technical standards, facilitating the incorporation of new fuels, including renewable and synthetic fuels, into the national market, particularly the 7th edition of [ISO 8217](#), published in 2024, and the International Maritime Organization's (IMO) regulations on maritime transport decarbonization.

Key elements of the proposal include:

- Restructuring fuel specification tables for marine fuels, adding new classes for fuels containing biodiesel.
- Recognizing biodiesel blends of up to 100 percent for regular marine use, while preserving the voluntary nature of adding renewable components.
- Treating Hydrogenation-Derived Renewable Diesel (HDRD) and synthetic fuels as drop-in components (chemically similar to fossil fuels), allowing them to replace fossil fuels without requiring engine or distribution-infrastructure modifications.
- Defining which agents are authorized to blend fuels, and permitting the sale of B100 biodiesel to corporate users for their own vessels' consumption.
- Strengthening quality-control rules, including documentary traceability, sampling, certification, and identification of supplied fuels, in line with Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL).

The proposal further allows ANP to grant prior authorization, on an experimental basis, for alternative fuels not yet covered by ISO 8217, such as ethanol, methanol, ammonia, and hydrogen. It also establishes specific regulatory treatment for liquefied natural gas (LNG), subject to prior ANP authorization and accounting for the early-stage development of Brazil's transport and supply infrastructure for this fuel.

Fuel Subsidies in Response to Geopolitical Tensions

Rising global tensions and higher oil prices drove up fuel costs in Brazil at the beginning of 2026. Prices for both gasoline types (A and C), as well as diesel, biodiesel and jet fuel, underwent adjustments starting in February 2026, when geopolitical conflicts disrupted global oil flow.

To prevent sharp price increases, the federal government introduced a series of subsidies and tax reductions for diesel, gasoline, and aviation fuel starting in March. Under the model adopted, producers and importers grant a discount equivalent to the federal taxes levied on these fuels, with the government reimbursing the difference afterward.

In early March, the government introduced its first measures to address rising fuel costs. It eliminated two federal taxes (PIS/Cofins) on diesel, reducing the price by R\$0.32 per liter, and introduced a new tax on oil exports to increase government revenue and finance the subsidies on fuel prices ([Complementary Law 114/2026](#)).

Another measure established a subsidy of R\$0.32 per liter for imported diesel, conditioned on importers increasing supply to distributors and passing the discount on to consumers. To support airlines facing higher fuel costs, the government created two credit lines: a R\$2.5 billion line for financial restructuring,

and a R\$1 billion line for short-term working capital. The government also eliminated taxes on aviation kerosene jet fuel, saving airlines an estimated R\$0.07 per liter.

As oil prices continued rising, the government expanded its response on April 7. It added a subsidy of R\$1.20 per liter for imported diesel, split evenly between federal and state governments, bringing the total subsidy on imported diesel to R\$1.52 per liter when combined with March's measure. This subsidy was scheduled to run through April and May, at an estimated total cost of R\$4 billion.

For domestically produced diesel, the government added a separate subsidy of R\$0.80 per liter, funded entirely by federal resources, bringing the total subsidy on domestic diesel to R\$1.12 per liter, at an estimated cost of R\$3 billion per month. The government also submitted a bill to Congress requesting authorization to use additional oil export revenue to lower fuel taxes.

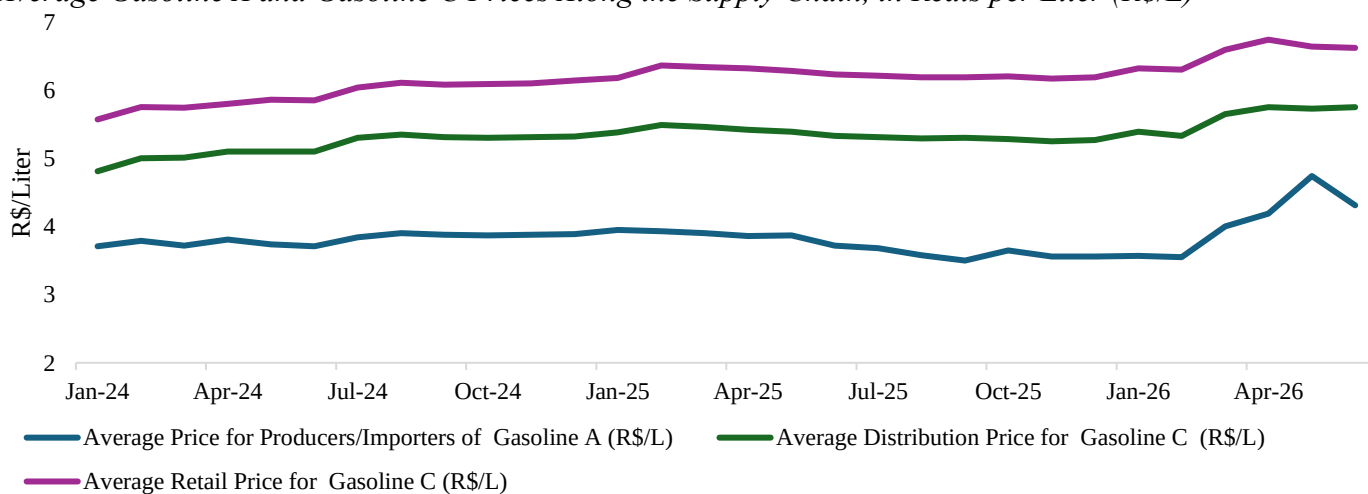
On [May 25](#), the government introduced a gasoline subsidy, set at R\$0.44 per liter for an initial period of two months. The subsidy covered approximately half of the total federal taxes charged on gasoline (R\$0.89). ANP pays this subsidy directly to gasoline producers and importers, at an estimated cost of R\$1.2 billion per month. That same day, the government also introduced a temporary diesel subsidy of up to R\$0.35 per liter, which was revoked on July 1 following a decline in oil prices.

On May 28, Petrobras raised gasoline prices by [R\\$0.48 per liter](#), which was compensated by the government's subsidy, and the net price for consumers was approximately R\$0.04 per liter.

[Experts](#) state that, despite Petrobras being a publicly traded state-owned company with international shareholders and a board of directors with a certain degree of autonomy, the government exerts influence over its fuel pricing policy, which generates uncertainty for investors and distorts its incentive structure.

Figure 10

Average Gasoline A and Gasoline C Prices Along the Supply Chain, in Reais per Liter (R\$/L)

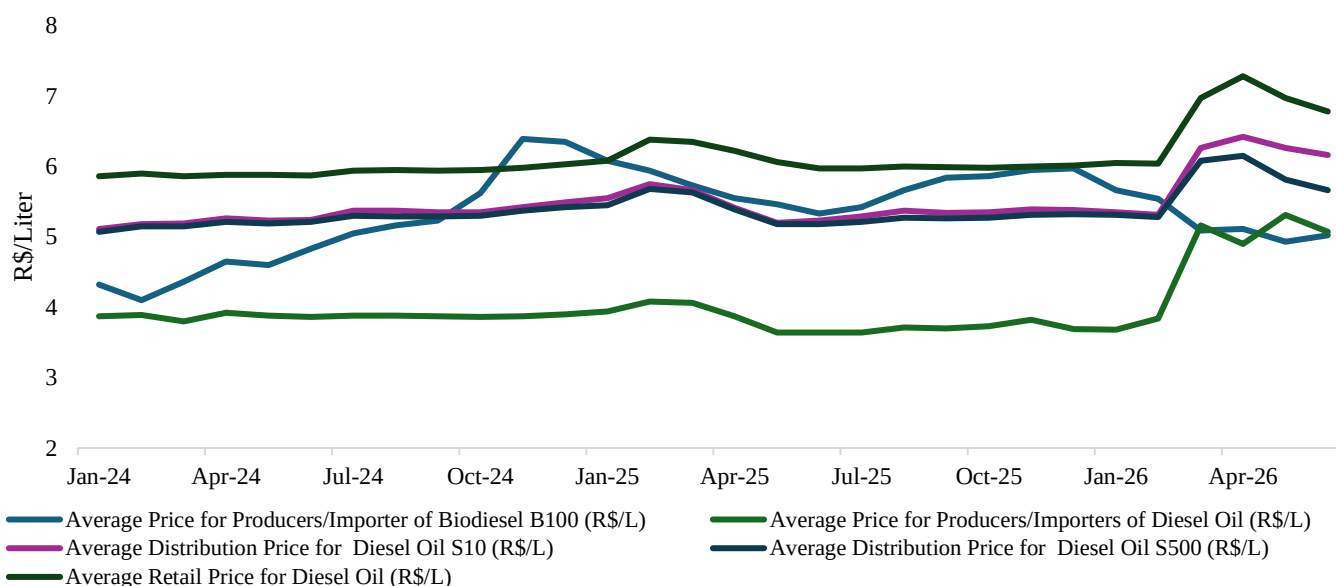


Source: [National Agency of Petroleum, Natural Gas and Biofuels \(ANP\)](#); [Chart Post Brasilia](#). NOTE: Gasoline A refers to pure gasoline sold to distributors, prior to blending with anhydrous ethanol, and does not contain additives.

In July, Congress voted to extend the R\$1.12 diesel subsidy for 60 days and the Minister of Finance signed the extension of the R\$0.44 gasoline subsidy for additional 30 days. Under current rules, the Minister of Finance may maintain, modify, or terminate the gasoline subsidy at the end of each two-month period, provided beneficiaries receive at least 15 days' advance notice.

Figure 11

Average Diesel Oil Prices Along the Supply Chain, in Reais per Liter (R\$/L)



Source: [National Agency of Petroleum, Natural Gas and Biofuels \(ANP\)](#); *Chart Post Brasilia*. NOTE: Diesel Oil refers to the various types of automotive diesel oil sold in Brazil prior to the addition of biodiesel. Diesel Oil S10 has an ultra-low sulfur content (10 ppm), and Diesel Oil S500 has a sulfur content of 500 parts per million (ppm); both are sold with biodiesel content added and contain no additives.

According to the ANP, subsidies for diesel producers and importers have cost the government a total of [R\\$7 billion](#) between March and July. Petrobras received the largest share, at R\$6.2 billion. In July 2026, factoring in fuel subsidies, gasoline prices remained 39.3 percent below import parity, while diesel showed a 38.3 percent gap relative to the same benchmark.

Table 7
Fuel Subsidy Provisional Measures Adopted in 2026

Provisional Measure (MP)	Date	Description
MP 1340	March 12	Established a subsidy of R\$0.32 per liter for producers and importers of diesel fuel, and expired before Congress could review it. The government maintained the 12% Export Tax on oil, also established under this measure, until early September
MP 1344	March 19	Allocated R\$10 billion to fund the diesel subsidy created by MP 1340. The Chamber of Deputies approved it, but it expired before the Senate could vote on it.
MP 1349	April 7	Created a subsidy of R\$850 per ton of imported LPG (85 cents per kilogram). It also increased the subsidy for domestic diesel by R\$0.80 and granted an additional R\$1.20 exclusively for imported diesel, equivalent to the ICMS tax charged by the states. Its subsidies are no longer in effect, but Congress may still vote on the measure until August 4.
MP 1351	April 27	Allocated R\$330 million to fund the LPG subsidy created by MP 1349. The measure awaits a vote in Congress by September 10.
MP 1358	May 13	Established a subsidy of R\$0.3515 per liter of diesel and R\$0.44 per liter of gasoline. The diesel subsidy was revoked on July 1, while the gasoline subsidy was extended through the end of August. Congress may review the measure until September 9.
MP 1363	May 30	Created a subsidy of R\$1.12 per liter of diesel and was extended through mid-September. It replaces the diesel subsidies established under MPs 1340 and 1349, and Congress may vote on it until September 26.
MP 1372	June 26	Allocated R\$550 million to fund the diesel subsidy created by MP 1349. Congress may vote on the measure until August 27.
MP 1380	July 23	Allocated R\$1.23 billion to fund MP 1358 and R\$2.1 billion to fund MP 1363. Congress may vote on it until September 20.
MP 1381	July 30	Allocated R\$1,243 billion to fund MP 1358 and R\$2.23 billion to fund MP 1363. Congress may vote on it until September 28.

Source: [Eixos](#); Chart Post Brasilia. NOTE: Provisional measures (MP) allow the Brazilian Presidents to enact a law without prior congressional approval, in urgent cases. The MP takes effect upon the publication date, but is valid for only 60 days, extendable once for another 60, during which Congress must vote to convert it into permanent law, or it expires.

On August 12, Congress approved [Complementary Law 114/2026](#), which now goes to the President for signature. As of the publication of this report, presidential action has not yet occurred. Members of Congress added new provisions, including a requirement that any federal tax reduction on fossil fuels, including through subsidies, must preserve the existing competitive advantage held by the corresponding biofuel. In practice, this would require the government to create a subsidy for ethanol, since gasoline already benefits from one. The text further stipulates that if taxes on the fossil fuel are reduced by 30 percent or more relative to pre-March levels, federal tax rates on hydrous ethanol must be reduced to zero.

The bill earmarks R\$1.2 billion for an economic subsidy to hydrous ethanol producers and cooperatives for the period between May 25 and August 11, 2026, aimed at preserving the differential relative to the gasoline subsidy. Ethanol producers will also be allowed to use accumulated tax credits from the Social Integration Program (PIS/Pasep) contribution and the Social Security Financing Contribution (Cofins) to offset federal tax liabilities, up to a limit of R\$750 million in 2026.

The President may veto provisions of the complementary law if he determines that the text undermines public interest or is unconstitutional. The President has 15 business days to review the bill and decide whether to sign it into law or veto it, in whole or in part.

Experts note that Brazil has adopted fuel subsidies to cushion the immediate impact of international tensions on domestic prices, given that its transportation matrix relies predominantly on road transport⁴, making fuel costs a central component of logistics expenses and abrupt price changes can cause widespread short-term inflation. In the medium and long term, however, subsidy policies create a fiscal dilemma, in which excessive subsidies worsen the public deficit and sovereign risk, while fully passing costs on to consumers increases the risk of economic slowdown and inflation.

One of the main criticisms of the program lies in its structure, in which the obligation to grant the discount falls on producers and distributors, without mechanisms to ensure that the benefit is fully passed through the supply chain to the final consumer. This structure could allow the discount to be absorbed as margin along the supply chain, undermining the policy's effectiveness. Additionally, the program's funding depends on the revenue from oil exports and royalties, making it vulnerable to sharp revenue declines during periods of volatility in international prices.

Experts add that Brazil's gross debt exceeds 93 percent of Gross Domestic Product (GDP) and its nominal deficit surpasses 9 percent, meaning that fuel subsidies are financed through public debt, in a context where the basic interest rate (Selic) stands at 14 percent per year.

Low-interest Credit Lines

1) Crop Plan (Plano Safra)

On June 30th, 2026, the Brazilian government launched the 2026/2027 Crop Plan (Plano Safra), releasing [R\\$525 billion](#) for large-size agriculture and [R\\$85 billion](#) for family farming. There are no direct resources for biofuel producers, but medium and large-size farmers can access funding through financing lines that support specific areas, such as the Program to Finance Sustainable Agricultural Systems ([RenovAgro](#)), which is available to finance sustainable agriculture and recovery of degraded land.

2) National Development Bank (BNDES)

The National Development Bank (BNDES) is a government-owned financing institution that provides long-term credit and investments for several sectors. In 2025, [BNDES approved](#) R\$6.4 billion financing credit lines for biofuels production, the highest amount since 2010, when the Bank provided R\$4,8 billion.

⁴ For more information on Brazil's logistics matrix, see [Infrastructure Challenges in Brazil's Agricultural Sector](#).

BNDES resumed the financing for biofuels production in 2023, including corn and wheat ethanol, and biomethane. For the past three years, BNDES has provided R\$13,3 billion, an increase of approximately 204 percent compared to the period of 2019 to 2022.

C. Trade Policy

Import Policy

1) Biodiesel

On July 14, CNPE approved a [resolution](#) requiring that biodiesel sold in Brazil for the mandatory diesel blend come exclusively from producers authorized by the ANP, effectively barring imported biodiesel from use in the mandatory blend. CNPE reassessed supply conditions, which had previously been strained by the recent international geopolitical context. Regulators determined that the domestic biodiesel market remains stable, with supply sufficient to meet projected demand and installed capacity adequate to serve the mandatory market.

The sale of imported biodiesel remains authorized for other uses permitted under current law. Previously, Resolution 962/2023 allowed distributors to use up to 20 percent imported biodiesel to meet the mandatory diesel blend.

The Brazilian Association of Fuel Importers (Abicom) and other associations advocated for opening the Brazilian market to imported biodiesel, citing that the competition would be beneficial for reducing prices and stimulating investments.

In 2023, ANP approved a resolution allowing up to 20 percent of total biodiesel demand to be supplied from imported biodiesel, provided that it reserves 80 percent of the demand for domestic producers. After pressure from Brazilian producers, CNPE suspended ANP's resolution and created a working group to assess the effects of biodiesel imports on the market, culminating in CNPE's decision to restrict imports in July 2026.

2) Ethanol

Brazil's ethanol import tariff has held steady at 18 percent since January 1, 2024. The tariff rate quota (TRQ) system, first introduced in 2017, initially set a tariff of 20 percent, which was reduced to 18 percent in November 2021. The tariff was then eliminated entirely from March through December 2022, with the zero-tariff period extended until January 31, 2023. It was subsequently set at 16 percent from February through December 2023.

Table 8*Brazilian Tariff Rate for Ethanol Imports*

Year	Import Tariff Rate (percent)	TRQ pro-rated duty-free quota NCM 2207.10.10 and NCM 2207.20.11
From January 1 st , 2024	18	Not applicable
Feb 1 st , 2023, to Dec. 31 st , 2023	16	Not applicable
March 2022 to January 2023	Free Flow (zero tariff)	Not applicable
November 2021 to March 2022	18	In 2017, the duty-free quota was 150 million liters quarterly/600 million liters annually. From 2019 to 2022, the quota expanded to 750 million liters annually.
September 2017 to November 2021	20	
2011 to September 2017	Free flow (zero tariff)	Not applicable

Source: Foreign Trade Chamber; Chart Post Brasilia

International Cooperation

On January 17, 2026, the European Union (EU) and Mercosur (Argentina, Brazil, Paraguay, and Uruguay) signed the EU Mercosur agreement, the culmination of negotiations started in 1999. The agreement consists of two legal instruments: the Interim Trade Agreement (ITA), covering trade liberalization, and the broader Partnership Agreement (EMPA), which also includes political and cooperation pillars. On May 1st, 2026, the European Union (EU)-Mercosur Interim Trade Agreement⁵ (iTA) took effect.

The EU will grant Mercosur a combined annual Tariff Rate Quota (TRQ) of 650,000 tons of ethanol after full implementation. The TRQ is divided into two distinct categories, phased in over a five-year period. A quota of 450,000 tons per year for chemical and industrial use will enter duty-free. These imports are subject to a strict End-Use Procedure to ensure use by the chemical industry and are not diverted to fuel blending. A quota of 200,000 tons per year will enter with an in-quota tariff set at one-third of the MFN duty (approximately €0.064 per liter). Volumes above the quota are subject to the full duty of €0.192 per liter for undenatured ethanol and €0.102 per liter for denatured ethanol.

In 2026, the first year of the iTA phase-in, the European Union quota for duty-free ethanol imports from Mercosur allows 90,000 tons for chemical use and 40,000 tons for other purposes, including fuel blending, at an in-quota tariff rate equal to one-third of the standard Most Favored Nation (MFN) duty. These 2026 volumes represent 20 percent of the full annual quotas, consistent with the five-year phase-in schedule. Under the EU's implementation regulation, import quotas from Mercosur suppliers are managed through licenses until the end of 2026, rather than on a first-come, first-served basis, as some market participants had previously assumed. Before the agreement, Mercosur ethanol faced standard import duties of €192/cubic meter (m³) for undenatured ethanol and €102/m³ for denatured ethanol.

⁵ For more information, please refer to *EU-Mercosur Trade Agreement- The Brazilian Perspective and Agricultural Impacts*, available at <https://www.fas.usda.gov/data/gain/2026/02/brazil-eu-mercotur-trade-agreement-brazilian-perspective-and-agricultural-impacts>.

On May 1, the federal government established rules for the use of tariff-rate quotas for exports and imports under the Mercosur–European Union Free Trade Agreement. Brazil's Secretariat of Foreign Trade (Secex) issued [Ordinance 491](#) (imports) and [Ordinance 492](#) (exports) to implement these rules.

For exports, quotas are allocated on a first-come, first-served basis, determined by the order in which license applications are registered in the Siscomex Unified Portal, subject to each quota's individual limits and available capacity at the time of review. Once a transaction is completed, authorities will issue a Mercosur Quota Authorization Certificate, which must accompany the shipment and serves as the basis for applying the preferential tariff rate in the European market. As of August 7, 2026, Mercosur member countries had not yet reached a final agreement on quota allocation.

Pending a joint decision, each country will continue to follow its own procedures, and there will be no change to total traded volumes or to access rights under the agreement.

For additional information, please refer to [EU-Mercosur Trade Agreement – The Brazilian Perspective and Agricultural Impacts](#).

III. Ethanol

Production, Supply and Distribution (PS&D)

Sugarcane is the primary feedstock for ethanol production in Brazil, followed by corn. Brazilian government agencies and trade sources do not separate ethanol use for fuel from other uses. All ethanol production figures are reported in hydrous and anhydrous volumes only. According to Post contacts, ethanol plants produce different specifications of hydrous and/or anhydrous, but do not distinguish between fuel and other uses.

Actual fuel and other uses (industrial and chemical, refined, and/or neutral) are determined at the end use. Although the production of sugarcane is officially described in marketing years (MY – April to March), this report considers the production of sugarcane, ethanol and other feedstock in calendar year, unless otherwise stated.

Table 9*Production, Supply and Distribution of Ethanol in Brazil*

Ethanol Used as Fuel and Other Industrial Chemicals (Million Liters)										
Calendar Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026f
Beginning Stocks	7,225	8,120	9,571	10,677	10,940	9,961	8,505	9,527	8,879	8,991
Fuel Begin Stocks	7,945	7,969	9,364	10,497	11,674	9,805	7,586	8,424	6,294	5,839
Production	28,020	32,794	36,504	32,985	30,549	31,099	35,532	37,140	39,543	41,359
Fuel Production	25,494	30,769	34,407	30,897	27,049	27,600	32,358	33,794	37,243	39,270
>of which is cellulosic (a)	17	25	30	30	30	30	32	60	120	161
Imports	1,815	1,775	1,457	1,008	432	315	59	194	323	410
Fuel Imports	1,791	1,770	1,452	1,003	427	313	57	190	322	400
Exports	1,380	1,684	1,940	2,669	1,948	2,440	2,510	1,884	1,555	1,200
Fuel Exports	675	806	926	1,110	719	990	913	511	590	1,000
Consumption	27,560	31,434	34,915	31,061	30,012	30,430	32,059	36,098	38,199	39,800
Fuel Consumption	26,586	30,338	33,800	29,613	28,626	29,142	30,664	35,603	37,430	38,850
Ending Stocks	8,120	9,571	10,677	10,940	9,961	8,505	9,527	8,879	8,991	9,760
Fuel Ending Stocks	7,969	9,364	10,497	11,674	9,805	7,586	8,424	6,294	5,839	5,659
Refineries (Sugarcane-only) Producing Ethanol (Million Liters)										
Number of Refineries	361	363	358	352	350	349	349	326	323	321
Sugarcane Ethanol Production	23,582	28,019	31,126	25,412	23,338	23,328	25,758	25,848	26,664	27,290
Molasses Ethanol Production	4,028	4,035	4,018	5,170	3,971	3,661	4,054	3,702	3,442	3,469
Nameplate Capacity	49,995	48,995	48,955	48,745	48,690	48,765	48,155	47,235	47,500	47,100
Total Ethanol Production	27,610	32,054	35,144	30,582	27,309	26,989	29,812	29,550	30,106	30,759
Capacity Use (%)	55.2%	65.4%	71.8%	62.7%	56.1%	55.3%	61.9%	62.6%	63.4%	65.3%
Refineries (Corn-only and Corn/Sugarcane Flex) Producing Ethanol (Million Liters)										
Number of Refineries	6	7	12	17	20	21	24	29	38	42
Nameplate Capacity	1,000	1,100	2,000	3,500	4,200	5,200	7,100	10,600	14,746	16,112
Total Ethanol Production	410	740	1,360	2,403	3,240	4,110	5,720	7,590	9,437	10,600
Capacity Use (%)	41.0%	67.3%	68.0%	68.7%	77.1%	79.0%	80.6%	71.6%	64.0%	65.8%
Refineries Producing Cellulosic Fuel Ethanol (Million Liters)										
Number of Refineries	1	1	1	1	1	1	1	2	3	3

Nameplate Capacity	32	32	32	32	32	32	32	114	196	246
Capacity Use (%)	53.1%	78.1%	93.8%	93.8%	93.8%	93.8%	100.0%	52.6%	61.2%	65.4%
Co-product Production (1,000 MT)										
Bagasse	106,903	125,349	129,060	110,770	96,765	99,143	110,856	107,176	110,559	113,152
DDGs	214	416	765	1,311	1,778	2,152	2,997	3,886	4,826	5,963
Corn Oil	14	28	51	87	119	143	200	259	322	398
Feedstock Use for Fuel Ethanol (1,000 MT)										
Sugarcane	314,420	368,674	379,587	325,793	284,604	291,597	326,047	315,223	325,174	332,800
Molasses	16,171	16,402	16,333	21,017	16,144	14,883	16,480	15,049	13,992	14,100
Corn	950	1,850	3,400	5,827	7,904	9,564	13,318	17,269	21,448	26,500
Bagasse for Cellulosic Fuel	246	362	434	434	434	434	521	869	1,739	1,739
Market Penetration (Million Liters)										
Fuel Ethanol Use	26,586	30,338	33,800	29,613	28,626	29,142	30,664	35,603	37,430	38,850
Hydrous Ethanol for Fuel	14,666	19,983	23,496	19,940	18,010	17,528	18,223	23,575	23,213	23,350
Anhydrous Ethanol in Gasoline C	11,920	10,355	10,304	9,673	10,616	11,614	12,441	12,028	14,217	15,500
Gasoline A (excludes anhydrous)	32,234	28,020	27,861	26,151	28,700	31,419	33,615	32,458	33,500	33,700
Gasoline C (includes anhydrous)	44,154	38,375	38,165	35,824	39,316	43,033	46,056	44,486	47,717	49,200
Gasoline C Blend Rate	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	29.8%	31.5%
Ethanol Blend Rate Overall	45.2%	52.0%	54.8%	53.1%	49.9%	48.1%	47.7%	52.3%	52.8%	53.5%

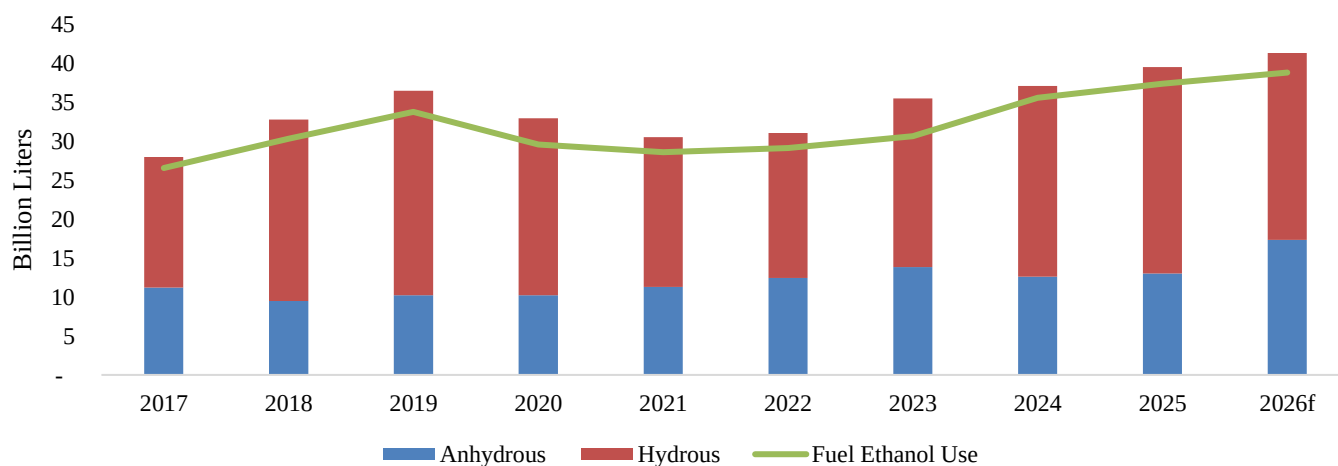
*Note: See section VI: Notes on Statistical Data covering sources and certain calculations. f/ forecast
Forecasts developed by FAS/USDA Brasilia. Note 1/ Post has revised bagasse for fuel ethanol use to reflect updated data as reported by industry.*

Production

Brazil is the world's second largest ethanol producer behind the United States. In 2025, approximately 76 percent of Brazil's ethanol production came from sugarcane, and 24 percent from corn. Other feedstock used include bagasse and cereals in smaller amounts.

Figure 12

Brazilian Total Hydrous and Anhydrous Ethanol Production and Ethanol Fuel Use, in billion liters



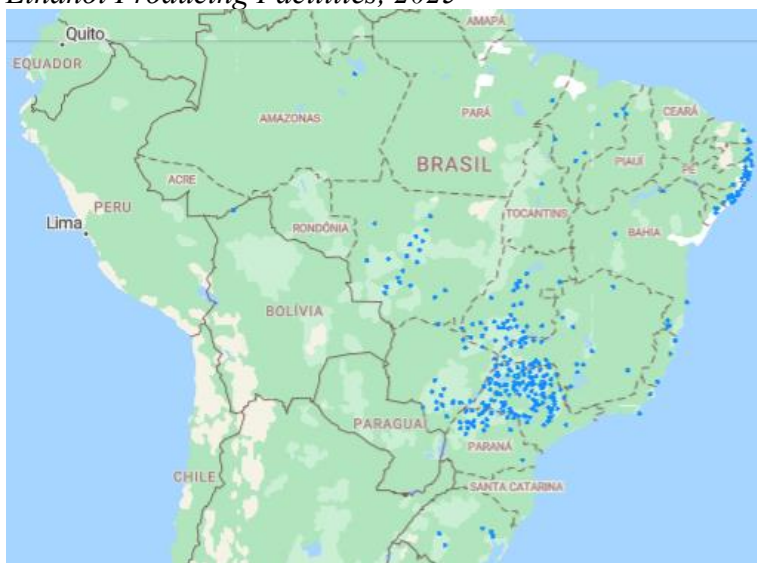
Source: National Agency of Petroleum, Natural Gas and Biofuels; Chart Post Brasilia. f=forecast

The largest sugarcane growing area is the Center-South (CS), which comprises the states of São Paulo, Rio de Janeiro, Espírito Santo, Minas Gerais, Goiás, Mato Grosso and Mato Grosso do Sul. The North-Northeast (NNE) region includes Bahia, Sergipe, Alagoas, Pernambuco, Paraíba, Rio Grande do Norte, Piauí, Maranhão, Tocantins, Pará, Acre, and Amazonas.

In 2025, Brazil registered a total of 361 plants authorized to produce ethanol from sugarcane and corn, and other cereals. Sao Paulo is the largest producing state and had 142 ethanol plants operating in 2025, followed by Goiás, with 44 plants, and Minas Gerais, with 35. In the Northeast, Alagoas is the main producing state, with 16 cane units, followed by Pernambuco, with 12, and Paraiba, with 7.

Figure 13

Ethanol Producing Facilities, 2025



Source: National Agency of Petroleum, Natural Gas and Biofuels (ANP)

In the ethanol market, rising crushing volumes and the expansion of corn ethanol supply may limit upward price movements. Price formation depends on domestic demand, the competitiveness of hydrous ethanol relative to gasoline, tax policy, oil price trends, and production mix decisions made by processing plants.

Sugarcane Ethanol

Driven by the favorable harvest pace in the Center-South despite less favorable climate conditions in the North-Northeast, Post forecasts 2026 sugarcane production at 690 MMT and cane ethanol production at 30.8 billion liters.

However, climate variability remains a key point of attention for the remainder of the harvest and for the coming year. The probability of an El Niño phase developing in late 2026 could bring irregular rainfall to cane-producing regions in the Center-South.

While this pattern generally favors sugarcane biomass development, it could also interrupt harvest operations and reduce crushing pace. Above-average temperatures could trigger heat waves and increase wildfire risk, as occurred throughout Brazil in 2024. In the North-Northeast, El Niño could worsen existing heat stress and drought conditions.

Ultimately, the impact of El Niño will depend on the regional distribution of rainfall. Excess precipitation can reduce sugar content and, consequently, productivity, affecting both sugar and ethanol output, while prolonged dry periods can limit cane development, similarly reducing productivity and future sugar and ethanol production.

Total sugarcane production in 2025 amounted to approximately 651 million metric tons (MMT). Throughout the year, sugarcane-growing regions in the Center-South recorded rainfall volumes within the normal ranges, which resulted in the recovery of sugarcane fields affected by the drought and excessive heat recorded in 2024, leading to accelerated biomass gains. In the North-Northeast region, on the contrary, weather conditions were unfavorable for sugarcane field development, as the main producing areas registered lower rainfall volumes in 2025.

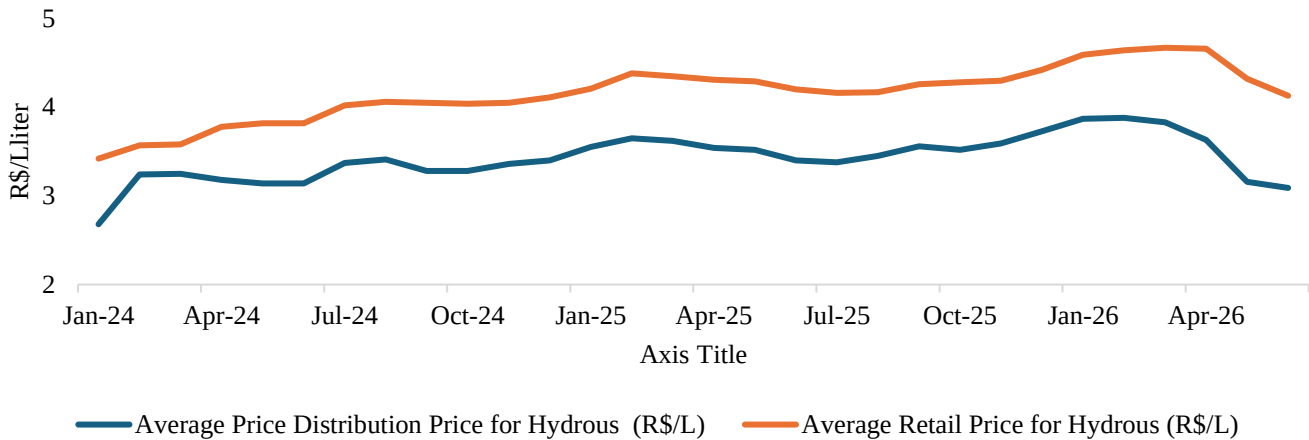
As of August 2026, 321 sugarcane-only ethanol plants operate in Brazil, with a nameplate capacity of 47.1 billion liters. Unlike recent harvests, sugarcane crushing is projected to be more heavily directed toward ethanol production in 2026, reducing sugar production mix, which is estimated at 48 percent for sugar and 52 percent for ethanol. The 2025 harvest had a mix of 49.5 percent for sugar and 50.5 percent for ethanol.

Strong domestic ethanol demand drives the shift in the sugar-ethanol mix, with the increase in the anhydrous ethanol blend from 27 percent (E27) to E30 in August 2025, and to E32 in August 2026. Falling international sugar prices reinforce this trend.

Between January and June 2026, sales of hydrous ethanol totaled 10.4 billion liters, a slight decrease compared to the same period in 2025 (10.5 billion liters). Sales of gasoline C totaled 23.5 billion liters, a 6 percent increase compared to the same period of the previous year (22.1 billion liters).

In January 2026, the average retail price of hydrous ethanol paid by consumers was R\$4.59 per liter, a 9 percent increase compared to January 2025 (R\$4.21 per liter). Prices of ethanol sold by distributors also rose, reaching R\$3.87 per liter in January 2026, compared to R\$3.55 per liter in January 2025. With the start of the sugarcane harvest in the Center-South region in March, hydrous ethanol prices began to decline for both distributors and consumers, reaching R\$3.09 per liter and R\$4.13 per liter, respectively, by June 2026.

Figure 14
Average Distribution and Retail Prices for Hydrous, in Reais per Liter



Source: [National Agency of Petroleum, Natural Gas and Biofuels \(ANP\)](#); *Chart Post Brasilia*

Corn Ethanol

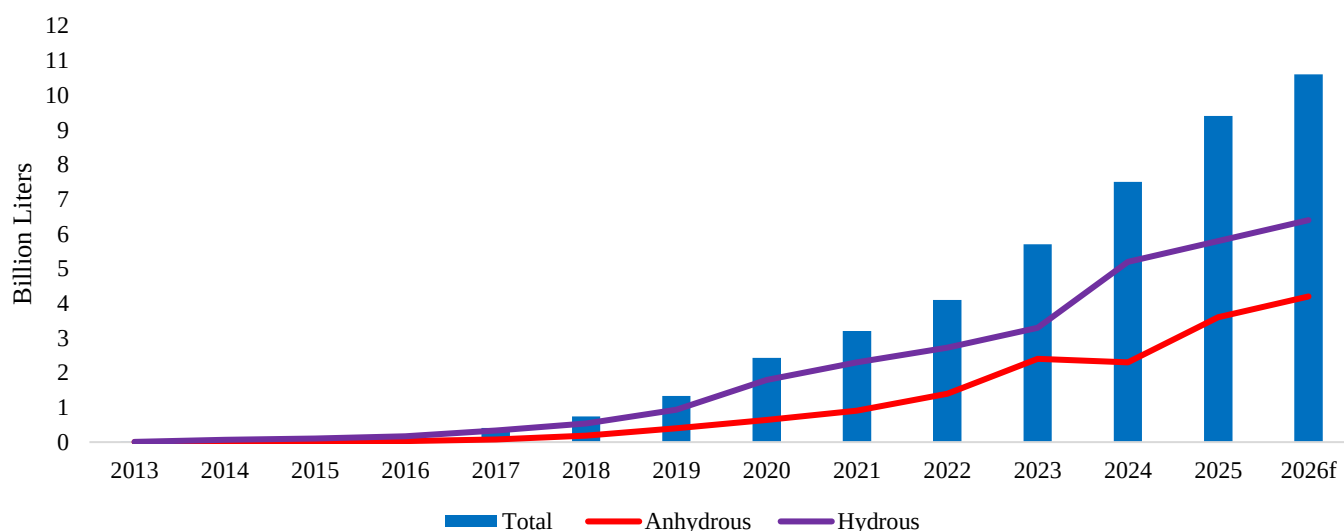
According to ANP, 42 corn, flex, and cereal ethanol plants are currently authorized to operate, with a combined nameplate capacity of 16.1 billion liters. Post forecasts 2026 corn ethanol production at 11 billion liters, with a corresponding corn processing volume of 27.5 million tons.

According to industry contacts, approximately 33 corn ethanol plants have requested authorization for construction, with a combined capacity of 7 billion liters. An additional 17 projects are under study, representing a combined production capacity of 5 billion liters per year.

Between 2017 and 2025, corn-based ethanol production grew from 410 million liters to 9.4 billion liters. In terms of processing volume, corn used for ethanol production increased from 950,000 tons in 2017 to 21.4 million tons in 2025.

Figure 15

Corn Ethanol Production, in billion liters



Source: [Energy Research Company](#); Chart Post Brasilia f=forecast

Most corn ethanol comes from the second corn crop, known as *safrinha*, which is concentrated primarily in the states of Mato Grosso, Mato Grosso do Sul, Goiás, and Paraná. Not coincidentally, most corn ethanol plants are located in these states, except for Paraná. In 2025, the state of Mato Grosso was Brazil's largest producer, accounting for 63 percent of corn processed for ethanol production. For more information on corn production, please refer to the [Grain and Feed Report](#).

This strong growth and rapid expansion of corn ethanol plants stems from lower corn prices in the Brazilian market, lower production costs compared to sugarcane ethanol, and competitive prices for corn byproducts, especially Dried Distillers Grains (DDG) and Dried Distillers Grains with Solubles (DDGS) used in animal feed, oil for human consumption, and industrial use, including biodiesel production. The margin of these co-products can represent approximately 25 percent of the total revenue obtained from corn processing at ethanol plants.

Factoring in revenues from DDGS, corn oil, and CBIOS (Decarbonization Credits), the breakeven production cost for corn ethanol at a plant located in northern Mato Grosso is estimated at R\$1.84 per liter in July. By comparison, the breakeven production cost for sugarcane hydrous ethanol in the Center-South region ranged between R\$2.22 and R\$2.36 per liter, also in July.

In 2025, Brazil produced approximately 4.8 million tons of DDGs and approximately 322,000 tons of corn oil. Brazil's DDG exports began in 2022, and in 2025, 853,000 tons were sold to approximately 25 countries. In May 2025, Brazil signed a bilateral protocol opening the Chinese market to Brazilian DDGs, authorizing 13 facilities to export. DDG/DDGs exports to China began in [February 2026](#), and by June, the country had imported the accumulated amount of 262,000 tons, becoming the leading destination for Brazilian DDG exports. Turkey ranked second, with 192,100 tons imported between February and June.

For more information on Brazilian DDG and DDGS production, please refer to [Brazilian Production of Distillers Dried Grains and Distillers Dried Grains with Solubles](#).

The growth of corn ethanol production supports domestic ethanol supply during the sugarcane offseason (mid-November to March), when it accounts for approximately 70 percent of total ethanol supply.

In November 2025, a plant located in Ulianópolis, Pará, received ANP authorization to operate the only flex plant in northern Brazil, capable of producing ethanol from sugarcane, corn, and sorghum. The plant has an installed capacity of 400,000 liters per day of hydrous ethanol and 300,000 liters per day of anhydrous ethanol.

On March 27, 2026, corn and sorghum ethanol production began at a plant in Luís Eduardo Magalhães, in western Bahia. The unit has the capacity to produce 470 million liters of ethanol per year, along with 245,000 tons of DDGs and 23,000 tons of corn oil. A second plant in Balsas, Maranhão, began its operation in 2025 and has a production capacity of 950 million liters, bringing the combined annual capacity of both facilities to 1.3 billion liters. Both plants will process corn and sorghum produced in the MATOPIBA region (Maranhão, Piauí, Tocantins, and Bahia). The Maranhão plant alone accounts for 1.6 million tons of that total processing volume.

These operations in Maranhão and Bahia could help meet part of the region's ethanol demand and reduce imports and cabotage transfers from the Center-South region. According to ANP, in 2025 the Northeast region consumed 4.2 billion liters of ethanol, comprising 2.7 billion liters of anhydrous ethanol and 1.5 billion liters of hydrous ethanol. That same year, Brazil imported 323 million liters of ethanol, of which 73 million liters entered through ports in Bahia, Maranhão, Rio Grande do Norte, and Pernambuco. Regional ethanol production totaled 2.4 billion liters, consisting of 1.1 billion liters of anhydrous ethanol and 1.3 billion liters of hydrous ethanol.

A key challenge for the corn ethanol industry is ensuring the exclusive use of [certified biomass](#) for power generation, especially from planted forests, avoiding native-forest sourcing that could undermine corn ethanol's sustainability credentials and the accuracy of its low-carbon intensity scores. Unlike sugarcane plants, which rely on bagasse, corn ethanol facilities depend primarily on externally sourced biomass, mainly wood chips, planted eucalypts, and other waste materials.

In 2025, it is estimated that the corn ethanol industry consumed approximately 19 million cubic meters (m³) of wood chips. Eucalyptus requires six to seven years from planting to first harvest, and unplanned industry expansion without an integrated biomass supply chain could place pressure on planted forest reserves.

The [Prosecuting Office of Mato Grosso](#) is investigating 15 corn ethanol producers over allegations of sourcing biomass from native forests.

Regarding El Niño, experts note that the phenomenon's main impact on the corn ethanol sector could be future restrictions on grain availability. Because El Niño causes irregular rainfall in central Brazil, the country's leading corn-producing region, dry soil and elevated temperatures could hinder planting, placing pressure on the soybean and corn harvest schedules and potentially delaying Brazil's second corn crop (*safrinha*) in 2027.

Cellulosic and Cereals-Based Ethanol

Brazilian cellulosic ethanol is derived mainly from sugarcane bagasse. Production totaled an estimated 120 million liters in 2025 and Post forecasts an increase to 161 million liters in 2026, driven by the start of operations of an additional plant.

Raizen is the only large-scale producer of cellulosic ethanol in Brazil, with three plants (Bonfim, Univalem, Barra) operating in 2026, each with installed capacity of 82 million liters per year. Two additional cellulosic ethanol plants are currently under construction. The Vale do Rosário facility is 95 percent complete, while construction of the Gasa plant is 60 percent complete.

According to ANP, Brazil has 17 plants that produce ethanol using wheat, sorghum, rice, sweet potatoes, and other feedstocks, some in combination with sugarcane or corn. Most of these plants are located in the southern region of the country, where new facilities utilize winter cereals such as wheat and triticale that do not meet baking-grade standards.

In [January 2026](#), ANP authorized the operation of Brazil's first wheat ethanol plant, located in Santiago, Rio Grande do Sul. The plant has capacity to process 100 tons of wheat per day and a production capacity of 43 cubic meters per day (m³/day) of hydrous ethanol. The manufacturing process incorporates a yeast developed by the American company IFF, which can increase yield by up to 4.5 percent.

A second company is also building a wheat ethanol plant in the city of Passo Fundo, Rio Grande do Sul, and aims to produce approximately 210 million liters of ethanol per year, with operations expected to begin in 2027.

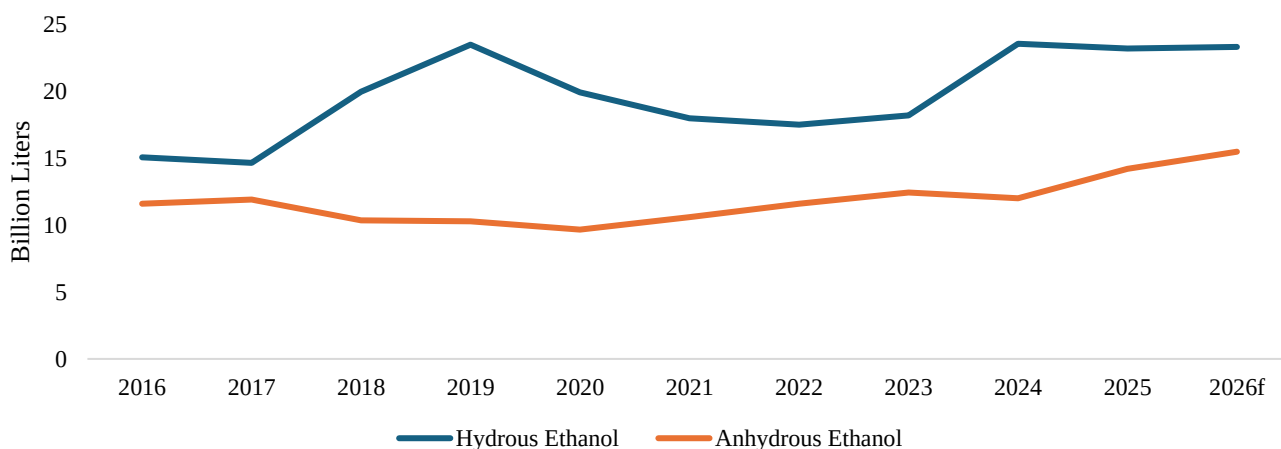
Consumption

Post forecasts total fuel ethanol consumption in 2026 at 38.9 billion liters, driven by the increase in the anhydrous ethanol blend rate in gasoline and by the combination of elevated supply and strong demand. The progress of the sugarcane harvest, combined with the growth in corn-based ethanol production, is keeping ethanol supply levels high.

Total fuel ethanol consumption in 2025 reached 37.4 billion liters, a 5 percent increase compared to 2024 (35.6 billion liters). Demand for anhydrous ethanol grew by 18 percent, reaching 14.2 billion liters in 2025. By contrast, the percentage of hydrous ethanol consumption declined by 1.5 percent, falling to 23.2 billion liters. This decline is linked to hydrous ethanol's reduced competitiveness relative to gasoline in several regions of Brazil. Demand for gasoline C (blended with anhydrous ethanol) rose by 7 percent in 2025, reaching 47.7 billion liters.

Figure 16

Brazilian Ethanol Sales, in billion liters



*Source: National Agency of Petroleum, Natural Gas, and Biofuels (ANP); Chart Post Brasilia
f=forecast*

Trade

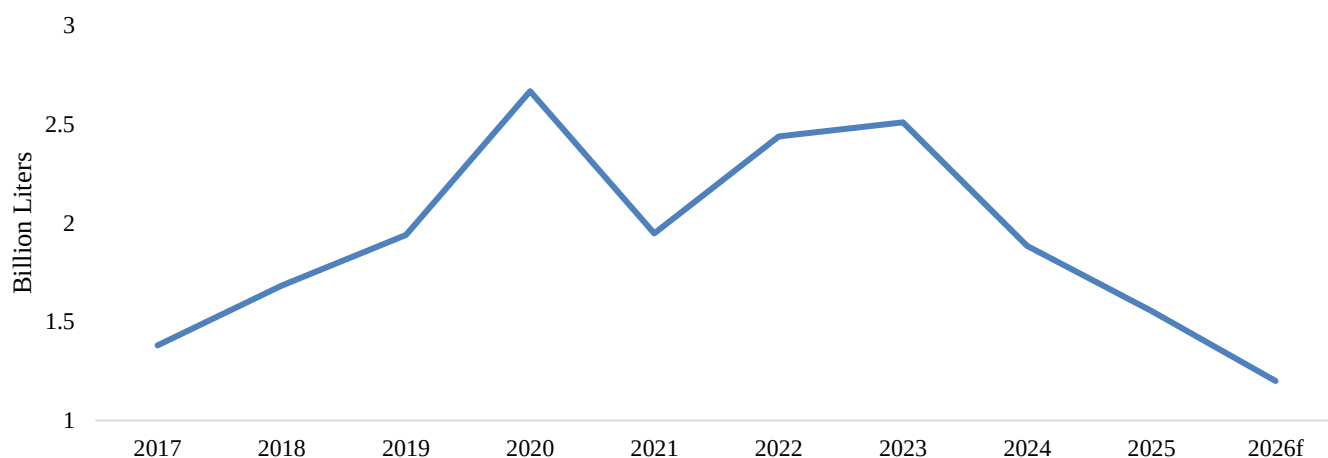
Exports

Brazilian ethanol is losing competitiveness in the international market. In 2025, Brazilian ethanol exports amounted to 1.6 billion liters, a decrease of 17 percent compared to the previous year (1.9 billion liters). The leading export destinations in 2025 were South Korea (49 percent), followed by the United States (16 percent) and the Netherlands (11 percent), as reported by Trade Data Monitor based on data from the Brazilian Secretariat of Foreign Trade (Secex).

Post estimates total exports for 2026 at 1.1 billion liters, based on the current pace of exports and factors such as prioritization of the domestic market, logistics costs, restrictions on international shipping routes, and foreign competition. Between January and July 2026, Brazil exported 521 million liters of ethanol, a 41 percent decrease compared to the same period in 2025 (886 million liters).

Figure 17

Brazilian Ethanol Exports, in liters – HS Code 2207, in billion liters



Source: Brazilian Secretariat of Foreign Trade data via Trade Data Monitor; Chart Post Brasilia. f=forecast NOTE1: HS Code 2207 includes 2207.1010, 2207.1090, 2207.201, and 2207.2019.

Starting in 2026, Brazilian ethanol exports to Europe under the EU-Mercosur trade agreement could offer producers an opportunity to diversify markets and expand ethanol's range of end uses. Brazil's domestic industry is also investing to supply sectors beyond road transport, including alcohol-to-jet routes for sustainable aviation fuel (SAF) and ethanol-fueled vessels.

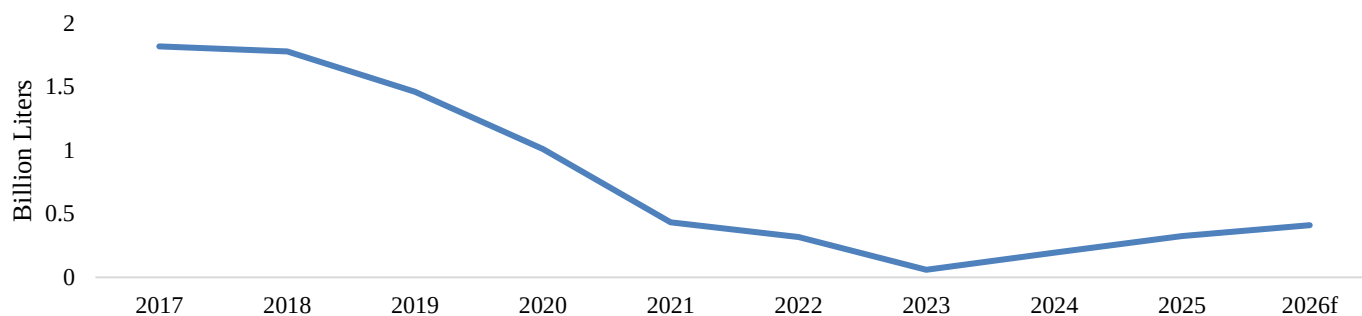
Imports

Since 2017, ethanol imports decreased due to the weak Real relative to the U.S. dollar, the import duty on ethanol, and investments in sugarcane and ethanol productivity, as well as the expansion of Brazil's corn ethanol production. However, beginning in 2023, Brazilian imports increased slightly to meet short-term market demand, particularly during the sugarcane off-season.

For 2026, Post forecasts total ethanol imports at 410 million liters. In 2025, Brazilian ethanol imports amounted to 323 million liters, an increase of 66 percent compared to the previous year.

Figure 18

Brazilian Ethanol Imports, HS Code 2207, in billion liters



Source: Brazilian Secretariat of Foreign Trade data via Trade Data Monitor; Chart Post Brasilia. f=forecast NOTE1: HS Code 2207 includes 2207.1010, 2207.1090, 2207.2010, and 2207.2019.

According to industry specialists, imports tend to occur during windows of opportunity, typically when strong domestic demand outpaces local production, driven by favorable ethanol prices and logistics costs. Imported ethanol tends to be most competitive in the North and Northeast regions, given their proximity to U.S. ports, from which ethanol is shipped and arrives in Brazil at scale, with price competitiveness varying according to the specific import window.

IV. Biodiesel

Production, Supply and Distribution (PS&D)

Table 10

Production, Supply and Distribution of Biodiesel in Brazil

Biodiesel (Million Liters)										
Calendar Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026f
Beginning Stocks	114	155	158	230	285	291	375	290	359	378
Production	4,291	5,386	5,978	6,489	6,814	6,423	7,544	9,090	9,843	10,200
Imports	0	0	0	0	1	9	3	17	0	0
Exports	0	0	0	4	8	48	114	76	97	105
Consumption	4,250	5,383	5,906	6,430	6,801	6,300	7,518	8,962	9,727	10,100
Ending Stocks	155	158	230	285	291	375	290	359	378	373
Production Capacity (Million Liters)										
Number of Biorefineries	49	52	52	49	55	58	61	58	58	58
Nameplate Capacity	8,997	9,548	9,548	10,581	12,822	13,661	14,650	15,092	15,092	15,552
Capacity Use (%)	47.7%	56.4%	62.6%	61.3%	53.1%	47.0%	51.5%	60.2%	65.2%	65.6%
Feedstock Use (1,000 MT)										
Soybean oil, crude	2,762	3,372	3,627	4,152	4,410	3,796	4,687	5,988	6,558	6,739
Tallow	563	685	652	552	502	489	423	565	644	633
Other Animal Fat	128	159	144	164	182	257	189	176	167	173
Used Cooking Oil	50	85	89	77	109	142	122	98	105	110
Palm Oil	33	67	111	153	155	126	172	63	39	41
Other	391	567	860	839	872	1,088	1,318	1,516	1,653	1,790
Market Penetration (Million Liters)										
Biodiesel, On-road use	3,382	4,254	4,664	5,060	5,408	5,057	6,024	7,184	7,699	8,150
Diesel A on road (excludes biodiesel)	40,131	39,585	40,446	40,031	43,821	45,514	46,191	46,430	46,711	47,100
Diesel Pool, On-road use 1/	43,513	43,839	45,110	45,091	49,229	50,571	52,215	53,614	54,410	55,250
Blend Rate (%)	7.8%	9.7%	10.3%	11.2%	11.0%	10.0%	11.5%	13.4%	14.1%	14.8%
Diesel Pool 1/	54,971	55,419	56,982	57,080	61,725	63,085	65,713	67,538	69,426	71,300

Note: See section VI: Notes on Statistical Data covering sources and certain calculations. f/ forecast

Forecasts developed by USDA Brasilia. Note 1/ Fuel pools are defined as fossil fuels plus all "bio-components" (biofuels) blended with fossil diesel. Note 2/ Other Feedstock Use includes other fatty material.

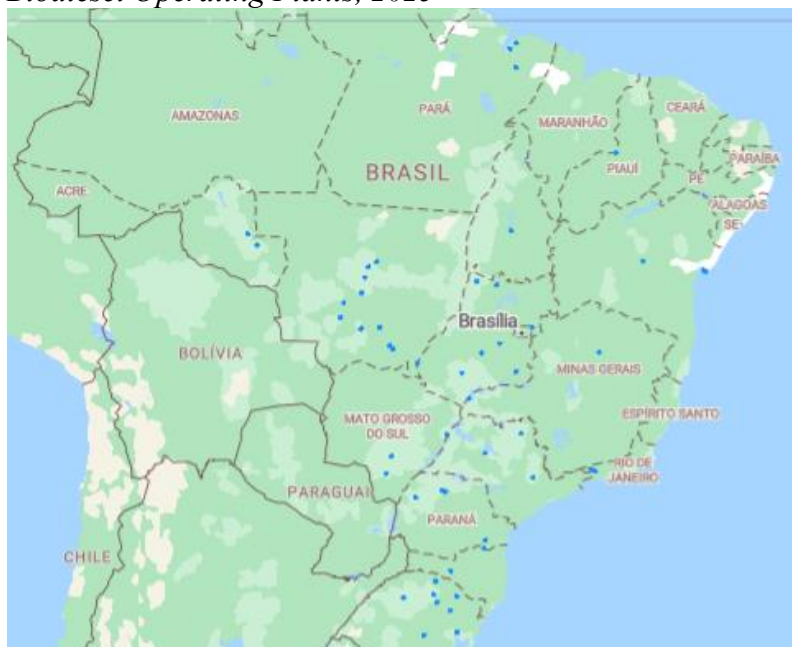
Production

In 2025, Brazil produced 9.8 billion liters of biodiesel, an increase of 8.3 percent compared to 2024 (9.1 billion liters). For 2026, Post forecasts total production of 10.2 billion liters, driven by growing diesel pool demand, despite the mandated blend rate remaining steady at 15 percent (B15). The main feedstock used for biodiesel production in 2025 was soybean oil, with 69 percent, and tallow, with 7 percent.

In 2025, the South was the country's largest producing region, accounting for 41 percent (4.0 billion liters) of production in 2025. The state of Rio Grande do Sul alone produced 2.2 billion liters. The second-largest producing region is the Center-West, with 39 percent (3.8 billion liters), followed by the Northeast, with 8 percent (821 million liters).

Figure 19

Biodiesel Operating Plants, 2025

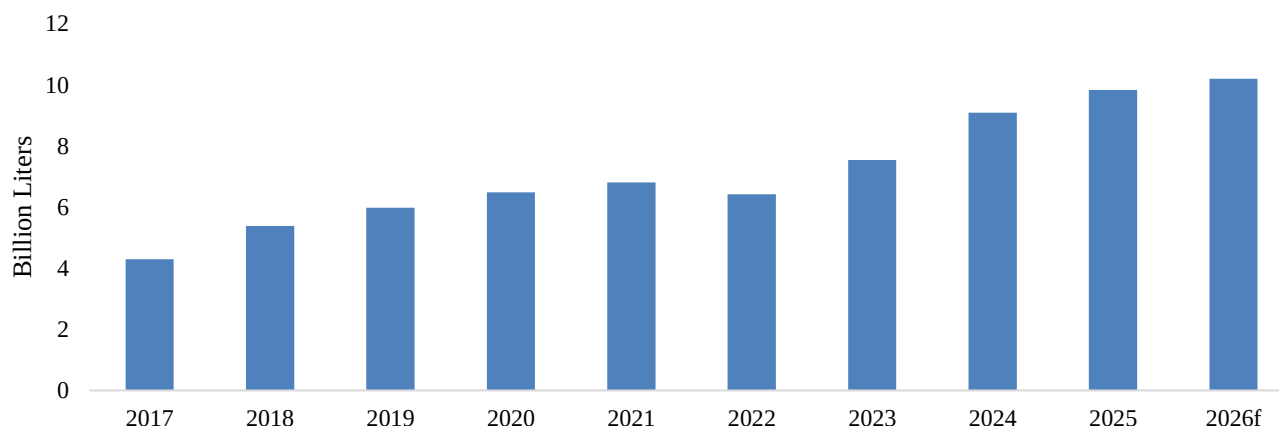


Source: [National Agency of Petroleum, Natural Gas, and Biofuels \(ANP\)](#)

Brazil maintained a stable count of 58 biodiesel plants throughout 2025 and into August 2026. Mato Grosso leads the country with 16 facilities, followed by Rio Grande do Sul with 9 and Goiás with 8. Cumulative biodiesel production from January to June reached 4.9 billion liters, up from the 4.5 billion liters produced during the same period the previous year.

Figure 20

Brazilian Biodiesel Production, in billion liters



*Source: National Agency of Petroleum, Natural Gas, and Biofuels (ANP); Chart Post Brasilia
f=forecast*

According to the Center for Advanced Studies in Applied Economics (Cepea) and the Brazilian Vegetable Oil Industries Association (Abiove), the [soybean and biodiesel](#) production chain grew 6 percent in 2025, totaling R\$692 billion and representing 5.4 percent of the national GDP. The sector recorded significant growth in production and advances in industrial processing. In 2024, the production chain totaled R\$650 billion, representing approximately 5.5 percent of that year's national GDP.

For [2026](#), Cepea and Abiove estimate that the soybean and biodiesel chain could amount to R\$661 billion, driven by a potentially record-breaking 2025/26 harvest and increased soybean processing by the industry. The production chain's GDP contribution could represent 5 percent of national GDP in 2026.

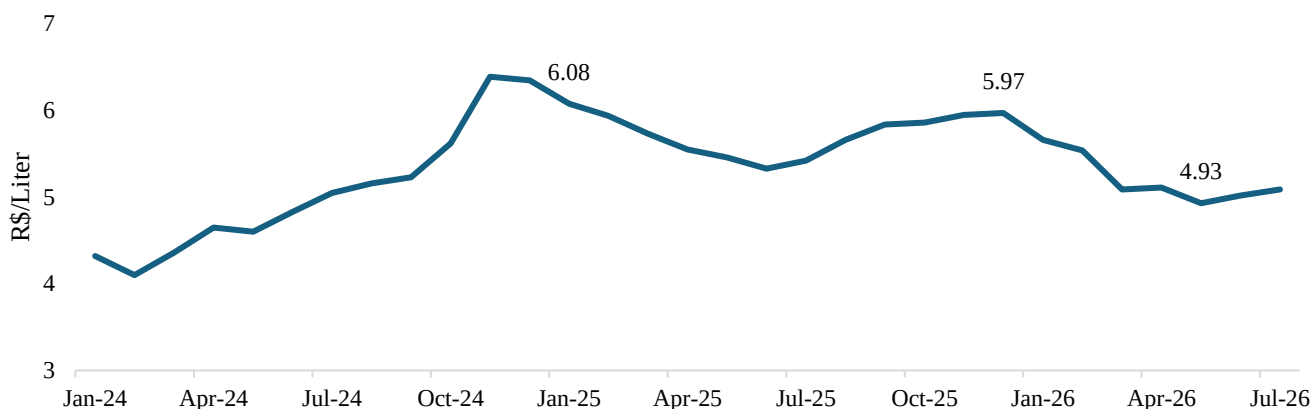
Market Prices

The price of biodiesel is composed primarily of feedstock (raw material) costs, which account for 80 percent to 87 percent of the total, along with chemical inputs, plant operational costs, profit margins, and state and federal taxes.

In 2025, biodiesel prices fluctuated throughout the year, going from R\$6.08 per liter in January, reaching R\$5.97 per liter in December, before gradually declining to their lowest 2026 value in June, at R\$4.93. The drop in biodiesel prices paid to producers reflects the decline in raw material prices, particularly soybeans, as well as the easing of international commodity and oil prices.

Figure 21

Monthly Biodiesel Prices for Producers and Importers, in Reais per Liter (R\$/Liter)



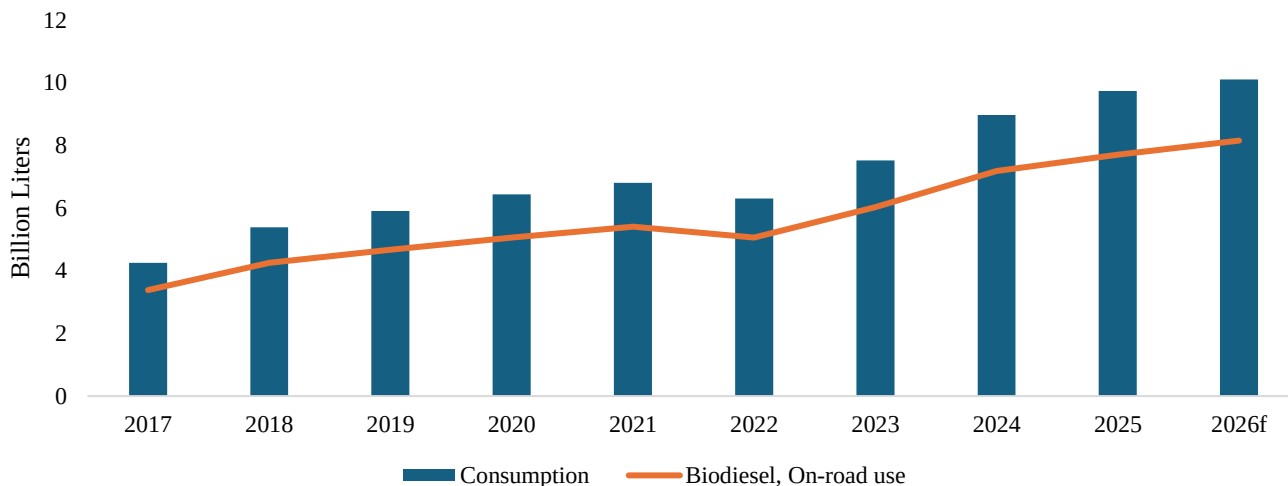
Source: National Agency of Petroleum, Natural Gas, and Biofuels (ANP); Chart Post Brasilia

Consumption

For 2026, Post forecasts biodiesel consumption at 10.1 billion liters, an increase of 4 percent compared to 2025 (9.7 billion liters). Total diesel pool, which includes biodiesel, reached 69.4 billion liters in 2025, and Post forecasts the total diesel pool at 71.3 billion liters in 2026.

Figure 22

Biodiesel Total and On-Road Consumption, in billion liters



Source: National Agency of Petroleum, Natural Gas, and Biofuels (ANP); Chart Post Brasilia
f=forecast

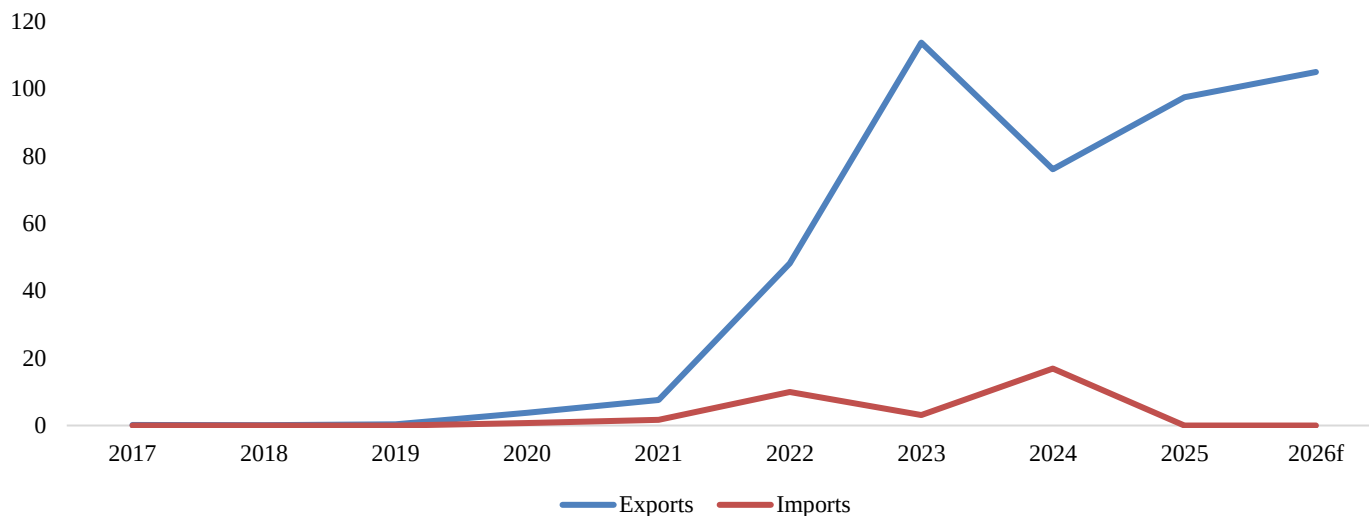
Trade

Brazilian imports of biodiesel are negligible, but exports have increased over the past year due to demand from other countries for renewable fuel. In 2025, Brazil exported 97 million liters of biodiesel, a

28 percent increase compared to the previous year (76 million liters). For 2026, Post forecasts total biodiesel exports at 105 million liters.

Figure 23

Biodiesel Exports and Imports, HS 382600 Code, in million liters



Source: Brazilian Secretariat of Foreign Trade data via Trade Data Monitor; Chart Post Brasilia. f=forecast

In 2025, Brazil exported biodiesel to five countries. The Netherlands was the primary destination, accounting for 84 percent of the total (81 million liters), followed by Spain with 9 million liters (9 percent), Paraguay with 5 million liters (6 percent), Switzerland with 908,000 liters (0.9 percent), and Chile with 22,000 liters (0.02 percent of the total).

Between January and July 2026, Brazil exported 75 million liters of biodiesel, a 19 percent increase compared to the same period in 2025. According to Post contacts, producers are increasingly investing in exports to diversify markets, driven by growing international interest in low-carbon biofuels, which often command a premium given their use of waste-based feedstocks. Specialists add that delays in raising the domestic biodiesel blend mandate, combined with the industry's idle capacity, are pushing producers to pursue foreign markets.

Table 11

Brazilian Biodiesel Exports by Country, HS Code 382600, in million liters

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2025 Jan-Jul	2026 Jan-Jul
Netherlands	0	0	0	0	0	36,452	45,874	35,928	81,438	46,919	52,032
Switzerland	0	0	0	0	0	10,877	4,566	35,385	908	908	7,000
Belgium	0	0	0	3,586	5,168	0	0	4,559	0	0	15,156
Taiwan	0	0	0	0	0	0	0	228	0	0	0
Chile	0	0	0	0	0	0	0	8	22	22	48
Gibraltar	0	0	0	0	0	0	0	0	0	0	0

India	0	0	0	0	80	772	0	0	0	0	0
Israel	0	0	38	150	0	25	0	0	0	0	0
Italy	0	0	0	0	2,313	0	0	0	0	0	0
Japan	0	1	0	0	0	0	0	0	0	0	0
Turkey	149	0	0	0	0	0	0	0	0	0	0
United States	0	97	296	0	0	0	61,117	0	0	0	1
Peru	25	0	0	0	0	0	2,109	0	0	0	0
Spain	0	0	0	0	0	0	0	0	9,469	9,469	0
Paraguay	0	0	0	0	0	0	0	0	5,612	5,612	0
Total	174	98	334	3,736	7,561	48,126	113,666	76,108	97,449	62,930	75,124

Source: Brazilian Secretariat of Foreign Trade data via Trade Data Monitor; Chart Post Brasilia

V. Advanced Biofuels

Sustainable Aviation Fuel, Maritime Fuel and Renewable Diesel

There is currently no domestic large-scale production of sustainable aviation fuel (SAF), maritime fuel (bunker) or renewable diesel, which are all directly linked given their production in biorefineries.

Sustainable Aviation Fuel

According to industry, Brazil has approximately 15 SAF production projects underway. However, even the most advanced among them remain in early stages of implementation or production. The International Air Transport Association (IATA) recognizes Brazil's significant potential to become a major SAF producer, given its abundant biomass resources, particularly sugarcane-based ethanol and vegetable oil feedstocks.

To achieve scale, [IATA recommends](#) that Brazil invests in the deployment of conversion technologies, as well as the infrastructure and logistics needed to connect raw material supply with production facilities. The association also calls for clear public policies backed by concrete financing mechanisms and recommends adopting the book-and-claim approach, recently contemplated within the ProBioQAV program under Brazil's Fuel of the Future Law.

Since December 2025, Salvador Airport in Bahia has operated two daily flights using a blend of 10 percent SAF and 90 percent conventional fossil-based jet fuel, the highest SAF blend percentage in Brazilian commercial aviation. Two of Brazil's three major airlines operate these flights.

Operations are expected to continue through December 2026, with total blended fuel supply projected to reach 5 million liters for the year. The SAF used is made from used cooking oil (UCO) [co-processed](#) with mineral kerosene, manufactured in Asia and imported by Vibra. Vibra handles traceability and storage logistics prior to shipment to Salvador, centralizing operations at its hub at Rio de Janeiro's Galeão International Airport. BR Aviation, Vibra's aircraft-fueling business unit, supplies the SAF used in Salvador.

In [September 2025](#), Petrobras began initial testing of co-processed SAF production at the Henrique Lage Refinery (Revap) in São José dos Campos, São Paulo, achieving vegetable oil content of up to 1.2 percent blended into conventional jet fuel.

In [October 2025](#), the Duque de Caxias Refinery (Reduc) in Rio de Janeiro became the first refinery in Brazil to receive the International Sustainability and Carbon Certification (ISCC) CORSIA certification to produce and commercialize SAF via the co-processing hydroprocessed esters and fatty acids (HEFA) pathway. Reduced initiated the certification process after receiving ANP's authorization to produce SAF in May 2025, and the refinery holds authorization to incorporate up to 1.2 percent of renewable feedstock in SAF production through this pathway.

In [December](#), Petrobras announced the first deliveries of domestically produced SAF, totaling 3 million liters, approximately one full day of jet fuel consumption across Rio de Janeiro's airports. Petrobras produced the SAF through HEFA co-processing at Reduced, incorporating vegetable feedstocks such as technical corn oil and soybean oil alongside conventional fossil kerosene, using existing logistics and storage infrastructure to supply airport refueling operations.

In [April 2026](#), Petrobras selected the U.S. company Honeywell to develop a SAF project using the Alcohol-to-Jet (ATJ) pathway at the Replan Refinery in Paulínia (São Paulo), envisioning a biorefinery capable of producing 10,000 barrels of SAF per day from ethanol.

Petrobras is also developing a dedicated SAF and hydrogenation-derived renewable diesel (HDRD) biorefinery using the HEFA pathway at the Presidente Bernardes Refinery (RPBC) complex in Cubatão (São Paulo), building on a 2024 license agreement with Honeywell UOP for HEFA technology to produce SAF and renewable diesel from feedstocks such as soybean oil and animal fats. Petrobras also plans a second dedicated unit at the Boaventura Energy Complex, with capacity of 19 million liters per day, expected to begin operations after 2029.

In [June 2026](#), Petrobras announced that, in partnership with Bunge and Vibra, it will produce and commercialize 4 million liters of SAF containing one percent of renewable content sourced from Brazilian soy certified under ISCC CORSIA PLUS Low-LUC Risk. Bunge will handle the soy supply, certification, and vegetable oil production at its crushing facility in Rondonópolis (Mato Grosso). Petrobras will produce SAF at Reduced, through co-processing of vegetable oil with mineral fuel. Vibra, through BR Aviation, is responsible for the distribution and commercialization to the aviation sector. This volume is sufficient to supply approximately 1,600 flights between Rio de Janeiro and São Paulo and will initially be offered at Galeão International Airport, where BR Aviation's storage facility holds ISCC EU and ISCC CORSIA certifications, ensuring traceability and compliance.

In early August 2026, [Petrobras reported](#) its second-quarter results, disclosing the production of 6.1 million liters of co-processed SAF with one percent renewable content, using soybean oil, at Reduced refinery.

By the end of 2026, Petrobras expects the Paulínia Refinery (REPLAN) and the Gabriel Passos Refinery (REGAP) in Minas Gerais to become operational. Combined with Reduced and Revap, Petrobras expects to reach 1.6 billion liters of annual SAF production by 2027, more than enough to meet domestic demand in the early years of the Fuel of the Future Law.

Investments in the production of SAF are expected to reach R\$17 billion by 2027, according to the Ministry of Mines and Energy, including refining infrastructure, logistics networks, certification, and R&D in alternative pathways such as Alcohol-to-Jet (ATJ). The [government](#) aims to meet 100 percent of national SAF demand through domestic production by 2029.

The company Acelen is also advancing SAF production plans in Brazil. Its macaúba palm-based project is structured in [two phases](#). In the first phase, SAF will be produced exclusively from soybean oil (SBO) and UCO, targeting primarily the European and U.S. markets. The production from macaúba is expected to begin in 2029. Acelen began planting macaúba in 2025 on farms in Bahia and Minas Gerais, using land previously recovered from degradation. The macaúba palm requires three to four years to mature before its fruit can be used in SAF production, with peak maturation at eight years.

In the second phase, Acelen plans to replace SBO and UCO with co-products derived from macaúba. The company reports that off-take agreements, including six-year contracts, already cover 90 percent of first-phase SAF production, and it is pursuing fuel certification for macaúba-based SAF across multiple markets.

In May 2026, Acelen [announced](#) a US\$1.5 billion financing package, secured through public and private financial institutions and commercial banks, to build a biorefinery in São Francisco do Conde, Bahia. Using the HEFA pathway, the facility will process up to one billion liters of SAF and HDRD per year. Total first-phase investment is estimated at US\$3 billion, covering the biorefinery, an agricultural park (Agripark), and cultivation of macaúba on land recovered from degradation. Acelen plans to plant 144,000 hectares of macaúba in Bahia and Minas Gerais, with approximately 20 percent of production sourced from smallholder farmers.

In June 2026, Acelen and Trafigura [announced](#) a feedstock-supply and commercialization agreement for renewable fuels produced at the Bahia biorefinery. Trafigura will supply approximately 470,000 metric tons of UCO per year, enough to produce approximately 459 million liters of SAF, and will purchase a portion of the SAF, HDRD, and green naphtha output, destined primarily for North America and Europe. Both companies stated that the bioproducts will comply with international sustainability and traceability standards, including U.S. Environmental Protection Agency (EPA) requirements.

Also in June 2026, [JetBio](#), owned by U.S.-based Summit Agricultural Group, announced plans to build a SAF facility using the Alcohol-to-Jet route in Paulínia (São Paulo). Ethanol will be sourced from waste, second-crop corn, and sugarcane, with an estimated US\$2 billion investment to produce 1 billion liters (of SAF per year. Production is expected to begin in 2030, using Honeywell UOP technology, with about 90 percent of output destined for export.

Another ongoing project involves the [Riograndense](#) refinery, which has announced plans to build a facility to produce SAF and HDRD, with initial investment of US\$1 billion. The refinery expects to begin production in 2029, with output focused on exports, and will have an annual processing capacity of 800,000 tons of vegetable oil, waste, and tallow. Depending on configuration, it could produce up to 620,000 tons of SAF or 680,000 tons of HDRD per year.

According to the International Sustainability and Carbon Certification ([ISCC](#)), Brazilian companies, traders, producers, sugar and corn plants have in total 50 valid certificates under the ISCC CORSIA category, which satisfies compliance with the International Civil Aviation Organization (ICAO) certification requirements for SAF.

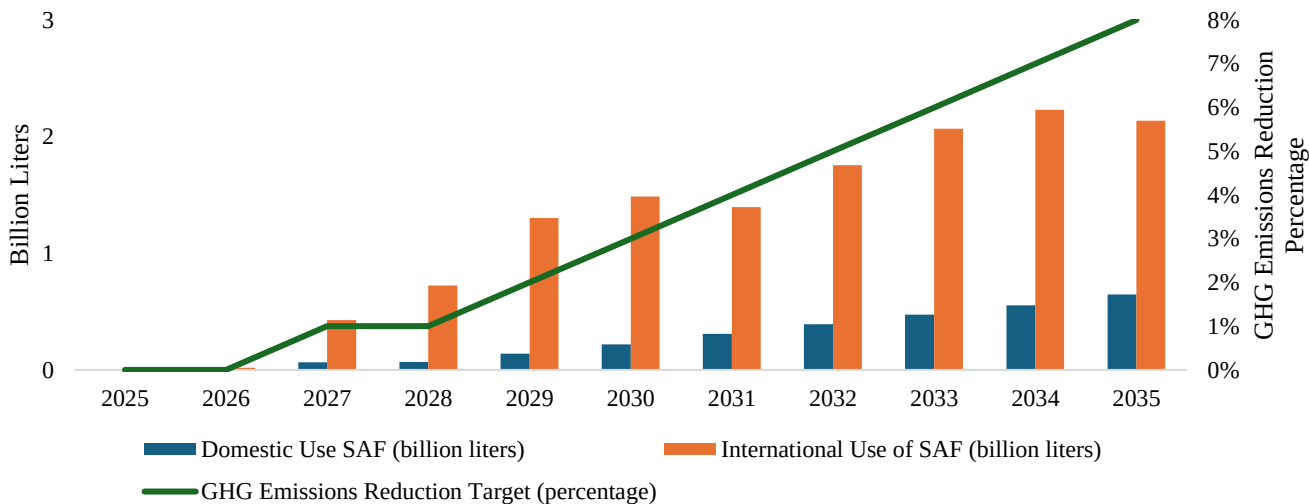
Experts identify [price](#) as one of the primary barriers to scaling SAF production in Brazil. To compete with conventional jet fuel, SAF must achieve sufficient production scale, supported by a robust regulatory framework, market competition, and a reliable supply of raw materials and the finished product. Airlines are also calling on policymakers to introduce targeted measures, including tax credits, risk-mitigation instruments, and credit mechanisms that assign tangible monetary value to greenhouse gas emissions reductions.

In the short term, airlines expect SAF prices to maintain a significant premium over conventional jet fuel, reflecting the fact that SAF production relies on technological pathways that are still maturing and require high upfront capital investment. Currency, regulatory, and demand risks further increase Brazil's weighted average cost of capital for SAF projects. Airline representatives note that large-scale SAF production and consumption in Brazil depends on three conditions: a predictable regulatory environment, sufficient domestic SAF supply, and economic feasibility for airlines to purchase it.

The Fuel of the Future Law grants the National Energy Council (CNPE) authority to adjust emissions-reduction targets on public-interest grounds and to grant waivers from the law's obligations if domestic SAF production proves insufficient to meet airline operational requirements.

Volumetric demand for SAF will vary according to the carbon intensity of the fuel produced, since targets are set in terms of emissions reductions rather than fixed volumes. Brazil's Energy Research Company (EPE) estimates that SAF demand for domestic and international flights could reach 500 million liters by 2027 and climb to as much as 2.7 billion liters by 2035.

Figure 24
Estimated SAF Demand in Brazil's Domestic and International Aviation Sectors, in billion liters



Source: [Energy Research Company](#); *Chart Post Brasilia*

Maritime Fuel

In 2026, the International Maritime Organization (IMO) recognized Brazil's ethanol produced from the second corn crop (*safrinha*) as the first shipping-compatible biofuel to have its carbon footprint defined and approved by the Organization. The IMO defined the default value at 20.8 grams of carbon dioxide-equivalent per megajoule (gCO₂e/MJ), compared to the current reference for conventional bunker fuel of 93.3 gCO₂e/MJ.

Brazil is also [seeking](#) IMO approval for sugarcane ethanol and biodiesel made from soybean oil and animal fat for use in maritime transport. The IMO is considering adopting new regulations for the global maritime fuel market. If adopted, the new framework could create an opportunity for additional biofuel usage in global maritime fuel consumption in the medium-term.

[Brazil-based Vale](#), which relies on ships to transport iron ore, announced a contract with China's Shandong Shipping Corp to build two vessels capable of operating on ethanol, methanol, or heavy fuel oil.

Biobunker fuel is emerging as a promising option to diversify markets for Brazilian ethanol. In this context, the Brazilian government and industry associations are advocating for the adoption of Brazilian ethanol as a sustainable marine fuel, citing its large-scale production capacity, consolidated supply chain, lower carbon intensity compared to fossil fuel, and economic competitiveness.

Petrobras commercializes a biobunker fuel with very-low sulfur fuel oil ([VLSFO](#)) blended with 24 percent biodiesel and 76 percent mineral bunker fuel (B24) to supply a [Norwegian](#) company and is working to raise the blend to 30 percent (B30). Petrobras also has a partnership with a Danish company to develop an e-methanol project in Brazil.

On July 13, a [pilot operation](#) bringing together Copersucar, CMA CGM, Bunker One, Santos Brasil, and AGEO Terminais successfully fueled a transoceanic container ship with ethanol at the Port of Santos. In total, the vessel was supplied with approximately 500 tons (roughly 635,000 liters) of sugarcane ethanol produced by Copersucar for the CMA CGM Iron, a ship equipped with a tri-fuel engine certified to operate on conventional bunker fuel, methanol, and ethanol.

The vessel's final destination was the Port of Colombo, in Sri Lanka, and it will use ethanol for part of the journey. CMA CGM, a French shipping group that has controlled Santos Brasil since 2025, operates approximately 150 vessels capable of using low-carbon fuels and projects surpassing 200 such vessels by 2031.

Among the challenges the sector anticipates for scaling up biobunker adoption are the establishment of "green corridors" to ensure reliable fuel supply for vessels, and progress on the regulatory front, both domestically and internationally.

Renewable Diesel

Petrobras produces [Diesel R](#) through the co-processing of conventional diesel with feedstocks of plant or animal origin, such as soybean oil. The renewable fraction used in the product consists of hydrogenation-derived renewable diesel (HDRD). Diesel R can be used without any modifications to existing engines or logistical infrastructure.

The Presidente Getúlio Vargas Refinery (Repar), located in Paraná, was a pioneer in Diesel R production and holds the International Sustainability and Carbon Certification (ISCC), which attests to the sustainability of its production chain. The fuel is already in use by companies such as Volvo, Vale, and Amazon.

Among the [challenges](#) Petrobras faces in scaling up production are the narrow price gap between biodiesel and fossil diesel, which compresses margins and undermines the competitiveness of renewable products in the absence of greater scale or market incentives. Currently, the Diesel R line is sold exclusively to large consumers on a made-to-order basis, without continuous production.

Petrobras announced in [January](#) 2026 that it is producing renewable-content diesel (diesel Podium) for the pickup truck and SUV segment, blended with five percent renewable content derived from vegetable oil or animal fat. Petrobras also announced that Diesel Verana, its fuel for the recreational marine market, now incorporates five percent renewable content. Both products are manufactured at the Presidente Bernardes Refinery (RPBC) in Cubatão, São Paulo.

According to Petrobras, annual production of Diesel R5, which contains 5 percent renewable content, ranges from 1 million to 2 million liters. Petrobras has the capacity to increase the renewable content to as much as 7 percent, but doing so would require an official government mandate.

Diesel Podium will be available in the states of São Paulo and Rio de Janeiro, while Diesel Verana will be distributed across the states of Rio de Janeiro, Espírito Santo, Santa Catarina, and São Paulo.

Low Carbon Oil/Fats Feedstock for Biofuels

On May 13, 2026, a joint ordinance ([MME/MMA No. 3/May 2026](#)) published by Brazil's Ministry of Mines and Energy (MME) and Ministry of the Environment and Climate Change (MMA) established that, beginning January 1, 2028, all biodiesel manufactured in Brazil must contain at least 1 percent of residual oils and greases (OGRs).

The rule will also apply to the production of green diesel and sustainable aviation fuel, provided they are manufactured from oils and fats. ANP will monitor compliance with the rule. The 1 percent target will be voluntary in 2026 and 2027.

OGRs are defined as animal or plant-based oils and fats resulting from food cooking processes, which are essentially used cooking oil and tallow.

The targets will be reviewed by the government every three years, considering the volume of commercially available material, traceability, collection infrastructure, the industry's technical capacity

to use OGRs, and the impact on final biofuel prices. ANP will have the authority to reduce these obligations if the supply of OGRs proves insufficient to meet demand.

The mandatory use of residual oil and greases will likely increase demand from the biodiesel, SAF and HDRD industries driving up the price of UCO and, consequently, the final product. According to the MME, the period of voluntary use of WOFs was structured to allow for the sector's gradual adaptation, the development of collection and processing chains and the advancement of traceability mechanisms. In this context, Brazil's animal recycling association Abra is working to create a specific national classification of economic activities (CNAE) for UCO.

Used Cooking Oil

ERRATA: Post corrected a labelling error included in the 2025 biofuels annual report. Last year, UCO trade was reported in millions metric tons, when the actual unit was thousands of metric tons. This error was corrected in this report.

In 2025, exports of used cooking oil (UCO) totaled 45,515 tons, a 12 percent decrease compared to 2024. The United States has remained the leading buyer of Brazilian UCO since 2021. In 2025, the country imported 32,260 tons of UCO from Brazil, accounting for approximately 71 percent of total Brazilian exports.

However, between January and July 2026, Brazil's UCO exports fell to 8,822 tons, down from 30,964 tons recorded during the same period the previous year, a 72 percent decrease. This decline is explained by a sharp drop in UCO shipments from Brazil to the United States, which fell from 23,174 tons between January and July 2025 to just 60 tons during the same period in 2026. According to experts, the decline in exports may be related to import tariffs adopted by the United.

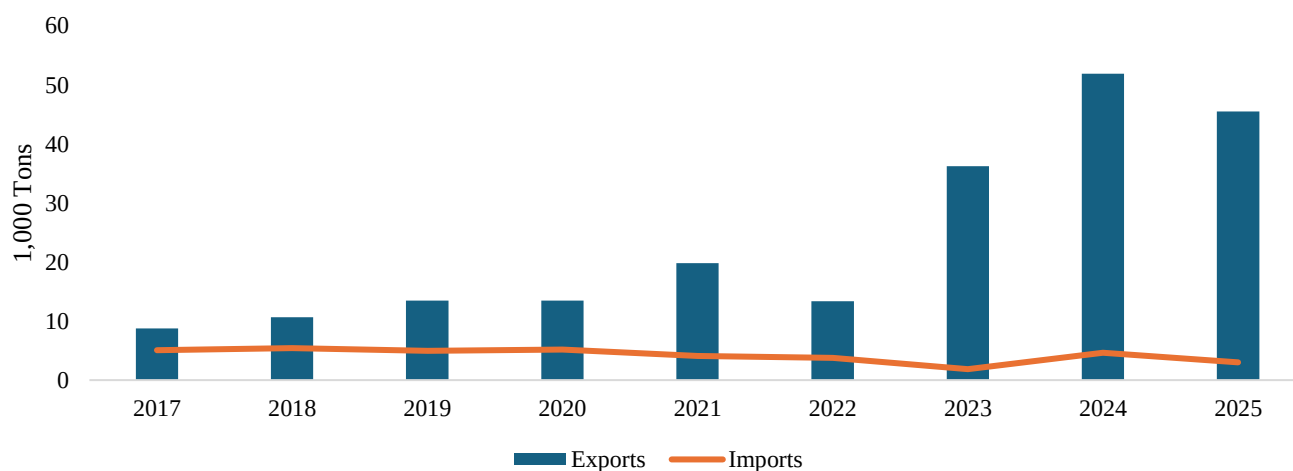
Despite international demand for UCO in the production of advanced fuels, most of Brazil's UCO production is consumed by the domestic biodiesel market. The sector lacks standardized consolidation seen in other feedstocks, which is considered an obstacle to expanding production due to limitations in domestic collection and traceability.

Brazil currently prohibits UCO imports under the same rules that prohibit imports of solid waste. There is no specific provision in the Foreign Trade Secretariat (Secex) Ordinance targeting used cooking oil exclusively. However, the import of any goods classified as "used material" in Brazil is subject to the general restrictions and non-automatic licensing requirements established under foreign trade regulations, such as the longstanding guidelines of the Department of Foreign Trade Operations ([Decex Ordinance No. 8/1991](#)), which generally prohibit the entry of used goods when a domestic equivalent exists or when the goods do not serve specific reconditioning and remanufacturing purposes. Residual vegetable oils fall under the customs classification of industrial residues/residual raw materials.

Data showing UCO imports may also include other fats and oils classified under the same HS Code.

Figure 25

Brazilian Exports and Imports of Used Cooking Oil (UCO), HS Code 151800, in 1,000 tons



Source: Brazilian Secretariat of Foreign Trade data via Trade Data Monitor; Chart Post Brasilia.

However, with growing interest in producing SAF via hydrotreated esters and fatty acids (HEFA), which uses UCO and tallow as feedstocks, [studies](#) are underway to allow UCO imports specifically for SAF production.

In 2025, producers reported supplying 105,000 tons of UCO as feedstock to produce biodiesel, representing approximately 1 percent of the sector's feedstock mix.

Tallow

ERRATA: Post corrected a labelling error included in the 2025 biofuels annual report. Last year, tallow production was reported in billions of metric tons, when the actual unit was millions of metric tons. Additionally, trade was reported in millions of metric tons, when the actual unit was thousands of metric tons. These errors were corrected in this report.

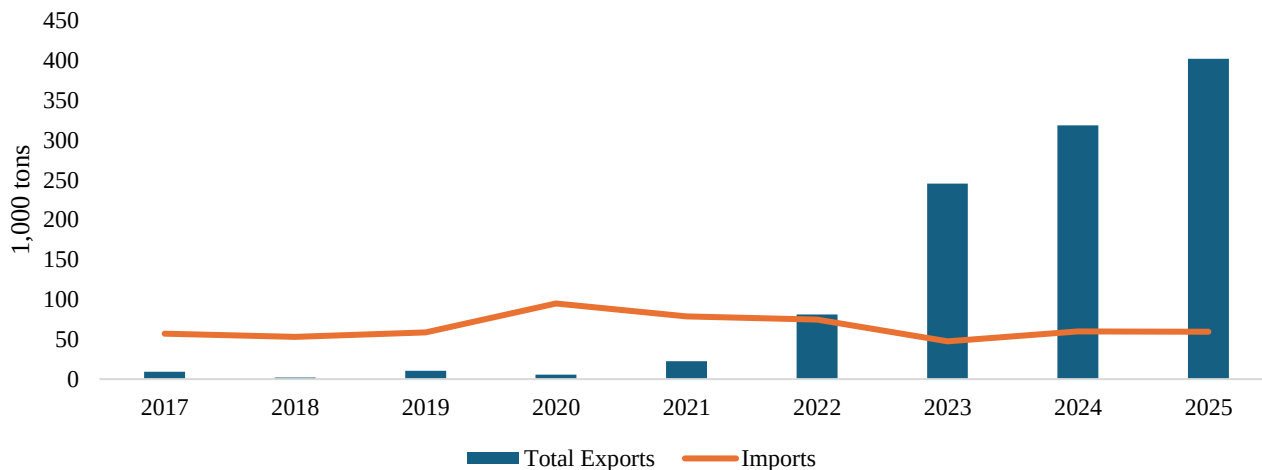
The Brazilian tallow sector follows the growth of livestock production. Tallow is used in a variety of products, from pet food to soap. According to experts, the tallow supply chain registered record production in 2025 and saw strong demand from the biodiesel industry, which has been absorbing an increasingly larger share of the volume available in the domestic market. It is estimated that the country produced 1.7 million tons of bovine tallow in 2025.

Regarding exports, Brazil exported 402,467 tons in 2025, a 26 percent increase compared to the previous year (318,792 tons). The United States remained the leading buyer, accounting for 97 percent of the total (389,571 tons) in 2025. In terms of imports, Brazil imported 59,369 tons in 2025, a slight decrease compared to the 59,830 tons imported in 2024.

According to experts, imports made by Brazil may not necessarily consist of tallow itself, but of other materials categorized under the same HS code.

Figure 26

Brazilian Exports and Imports of Tallow, HS Code 150210, in 1,000 tons

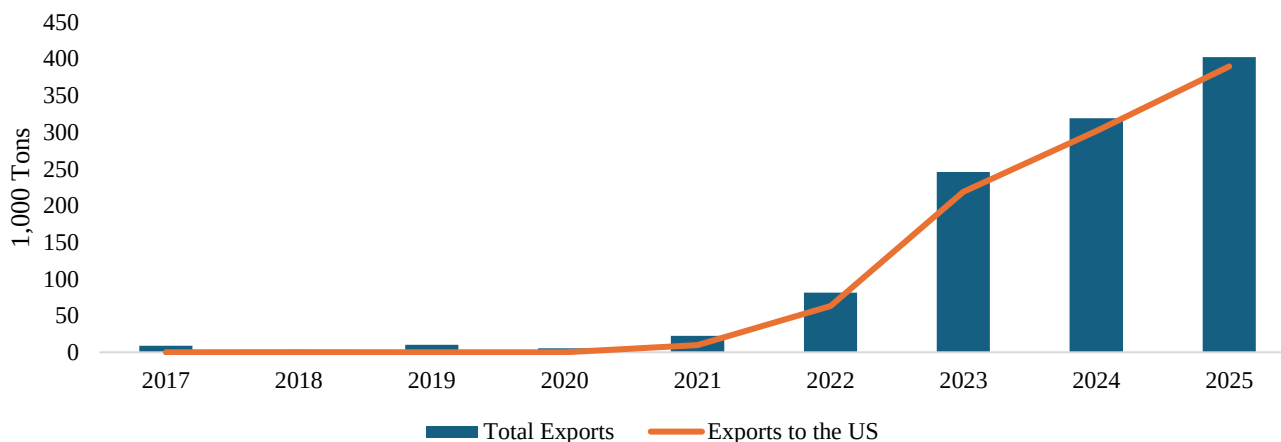


Source: Brazilian Secretariat of Foreign Trade data via Trade Data Monitor; Chart Post Brasilia.

Between January and July 2026, Brazil exported 157,048 tons of tallow to the United States, a 45 percent decrease compared to the same period the previous year. Brazilian tallow is used primarily as a feedstock for renewable diesel production. According to experts, the sector accelerated shipments ahead of tariffs set to take effect at the end of July 2026.

Figure 27

Brazilian Tallow Exports to the United States, HS Code 150210, in 1,000 tons



Source: Brazilian Secretariat of Foreign Trade data via Trade Data Monitor; Chart Post Brasilia.

VI. Notes on Statistical Data

Energy Units

- toe >Ton of oil equivalent. One toe has the energy content of a metric ton of oil.
- J >Joule is the energy exerted by the force of one [newton](#) acting to move an object through a distance of one meter.
- Btu >British Thermal Unit is used unofficially in [metric](#) English-speaking countries to describe the heat value ([energy](#) content) of fuels used in the power, [steam](#) generation, [heating](#) and [air conditioning](#) industries. It is the amount of energy needed to heat one pound of water one degree Fahrenheit.

Fuel-to-Energy Conversion Rates (based on lower fuel heating values)

Energy Content		
Gasoline	43.10 MJ/kg	43.10 GJ/MT
Ethanol	26.90 MJ/kg	26.90 GJ/MT
Diesel	42.80 MJ/kg	42.80 GJ/MT
Biodiesel	37.50 MJ/kg	37.50 GJ/MT
Pure Veg. Oil	34.60 MJ/kg	34.60 GJ/MT

Liquid Fuel MT (mass) to Liters	
1 MT Gasoline	1,256
1 MT Ethanol	1,267
1 MT Diesel	930 to 1,195
1 MT Biodiesel	1,136
1 MT HDRD	1,282
1 MT SAF (HEFA-type)	1,250

Energy Unit Conversions				
	Tons of Oil Equivalent	Gigajoule	KiloWatt Hour	British Thermal Unit
1 Ton of Oil Equivalent	1	41.87	11,630.00	39,683,205.41
1 Gigajoule	0.024	1	277.78	947,817.08
1 Kilowatt Hour	0.000086	0.0036	1	3412.14
1 British Thermal Unit	0.000000025	0.00000106	0.000293	1

Source: *Units and Conversions Fact Sheet*, MIT Energy Club (Derek Supple), April 2007; Neste is the source for HDRD (note: energy content of HDRD can be slightly higher than 1 toe.).

Ethanol

The beginning stocks for the Ethanol Used as Fuel and Other Industrial Chemicals table (excluding ethanol for beverages) are based on information from the Ministry of Agriculture, Livestock and Supply (MAPA) and reflect all stocks at the ethanol plants as of January 1, each year. Beginning Stocks for the ethanol “For Fuel Only” are estimated based on the historical average use of bioethanol for fuel/other uses.

Figures related to the sugarcane industry are reported in marketing years using original source data, then adjustments are made to convert from marketing to calendar years when necessary. As determined by the Brazilian government, the official Brazil marketing year for sugarcane, sugar, and ethanol production is April through March for the Center-South producing states, and September through August for the north-northeast region.

MAPA provides ethanol production estimates for Fuel and Other Industrial Chemicals. Given that all Brazilian official publications and industry sources report production in hydrous and anhydrous ethanol only, production estimates “For Fuel Only” are taken as the difference between “production for all uses” minus estimates for “disappearance for other uses” (domestic consumption and exports).

Domestic consumption figures are based on information provided by the Oil, Natural Gas and Biofuels Regulatory Agency (ANP), Brazilian Sugarcane and Bioenergy Industry Association (UNICA), the Energy Research Company (EPE), and other Post contacts. ANP provides the industrial daily capacity for hydrous ethanol production from authorized plants and Post Brasilia multiplies that capacity by 215 days (the average annual duration for the sugarcane crushing) to derive annual production capacity for sugarcane ethanol. Corn ethanol nameplate capacity considers 330 days of operation also considering industrial daily capacity for hydrous ethanol production. EPE annually informs the number of operating sugarcane ethanol plants and Post reduces the total from corn ethanol flex plants.

There are no figures for ethanol exports/imports for fuel and/or other uses. Post estimated ethanol “for fuel” based on the type of ethanol that is usually imported by the destination, as reported by industry. The United States, Netherlands, Sweden, Japan, and Canada usually import most of the ethanol for fuel.

Trade figures are based on Trade Data Monitor (TDM), the official government trade data as compiled and reported by the Brazilian Secretariat of Foreign Trade (SECEX). SECEX breaks down ethanol trade into four categories, classified based on the Mercosur Common Nomenclature (NCM):

- **NCM 2207.10.10** – Undenatured ethylic alcohol with ethanol content equal to or over 80 percent with water content equal to or below 1 percent volume. Undenatured alcohol is defined as pure ethanol with no additives and is suitable for consumption.
- **NCM 2207.10.90** - Undenatured ethylic alcohol with ethanol content equal to or over 80 percent, others. Undenatured alcohol is defined as pure ethanol with no additives and suitable for consumption.
- **NCM 2207.20.11** - Denatured ethylic alcohol with any ethanol content and water content equal to or below 1 percent volume. Denatured alcohol is defined as ethanol with additives that make it poisonous and/or unpalatable, thus not suitable for human consumption. Denatured alcohol is used as a solvent and as fuel for spirit burners and camping stoves. Different additives like methanol are used to make it difficult to use distillation or other simple processes to reverse the denaturation.

- **NCM 2207.20.19** - Denatured ethylic alcohol with any ethanol content, others. Denatured alcohol is defined as ethanol with additives that make it poisonous and/or unpalatable, thus not suitable for human consumption. Denatured alcohol is used as a solvent and as fuel for spirit burners and camping stoves. Different additives like methanol are used to make it difficult to use distillation or other simple processes to reverse the denaturation.

There are no trade codes defining end use, not for use as fuel additive to gasoline or any other uses. Post estimated ethanol “for fuel” based on industry sources.

ANP is the primary source for sugarcane crushed for ethanol production. Feedstock use and co-product data are consistent with fuel ethanol production figures and based on the following conversion rates:

- 1 metric ton of sugarcane = 75-82 liters of ethanol (average range based on sugar content)
- 1 metric ton of molasses = 246 liters of ethanol
- 1 metric ton of corn = 400- 440 liters of ethanol
- 1 metric ton of sorghum = 430 liters of ethanol
- 1 metric ton of bagasse = 69 liters of cellulosic ethanol
- 1 metric ton of corn yields = 225 kg of Dried Distilled Grains (DDGs)
- 1 metric ton of corn yields = 15 kg of corn oil
- 1 metric ton of sugarcane = 340kg of bagasse

The ANP and other government agencies update sugarcane, ethanol, and feedstock data annually. Post thoroughly reviewed historical data and adjusted conversion rates to align with official figures and reflect improvements in industry efficiency. However, discrepancies may still arise due to rounding and variations in conversion rates used by Post, the industry, and the Brazilian government.

Biodiesel

Post revised biodiesel production, supply and distribution figures. Historical production numbers are based on data reported by the Energy Research Company (EPE) – base year 2024 and by ANP. Forecasts are based on projections for diesel consumption and the biodiesel mandate for the following year. Consumption figures are based on petroleum diesel consumption reported by EPE and ANP and the mandatory blend of biodiesel in mineral diesel set by Brazilian. EPE provides the industrial daily capacity for biodiesel production from authorized plants.

Post revised the Production, Supply and Distribution (PS&D) table to reflect updated figures referring to production and consumption, based on data available in EPE and ANP data. Although EPE data is based on information provided by the ANP, the figures might differ and are constantly updated.

Trade figures are based on the Brazilian Secretariat of Foreign Trade (SECEX), as reported below:

- From 2006 through 2011 - **NCM 3824.90.29** – Other industrial fatty acid derivatives, mixtures and preparations containing fatty alcohols or carboxylic acids or their derivatives.
- As of 2012 – **NCM 3826.00.00** – Pure biodiesel (B100) and their blends above B30.
- As of 2012 – **NCM 2710.20** – Petroleum oils containing biodiesel up to and including 30% by volume. The following assumption was made: 1 metric ton of petroleum oils and oils obtained from

bituminous minerals which fall under NCM 2710.20 is equivalent to 0.15 metric tons of pure biodiesel (B100).

The number of biorefineries, nameplate capacity and feedstock use are based on ANP's data and consistent with biodiesel production figures and industry reporting. Biodiesel's mass volume conversion rate is one metric ton = 1,136 liters, The following feedstock biodiesel conversion rates apply:

- 1 metric ton of soy oil, crude = 1,113 liters of biodiesel
- 1 metric ton of palm oil = 1,087 liters of biodiesel
- 1 metric ton of animal fat/grease = 1,043 liters of biodiesel
- 1 metric ton of used cooking oil = 1,043 liters of biodiesel
- 1 metric ton of other fatty material = 1,043 liters of biodiesel

Renewable Diesel (HDRD)

Plant/animal fats & oils 1 MT = 1,053 liters (average)

Sustainable Aviation Fuel (HEFA-type)

Plant/animal fats & oils 1 MT = uncertain at this time

V. Appendix

Exchange Rate

Table 12

Exchange Rate (BRL/USD1.00 - official rate, last day of period)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
January	3.12	3.16	3.65	4.25	5.48	5.36	5.10	4.95	5.83	5.22
February	3.09	3.24	3.74	4.50	5.53	5.14	5.21	4.98	5.84	5.14
March	3.16	3.32	3.90	5.20	5.70	4.74	5.08	4.99	5.74	5.21
April	3.19	3.48	3.94	5.43	5.40	4.92	5.00	5.17	5.60	4.98
May	3.24	3.74	3.94	5.43	5.23	4.73	5.09	5.24	5.7	5.05
June	3.30	3.86	3.83	5.48	5.00	5.24	4.82	5.55	5.45	5.17
July	3.13	3.75	3.76	5.20	5.12	5.19	4.74	5.66	5.6	5.07
August	3.14	4.14	4.14	5.47	5.14	5.18	4.92	5.65	5.42	5.16*
September	3.16	4.00	4.16	5.64	5.44	5.41	5.00	5.44	5.34	
October	3.27	3.72	4.00	5.77	5.64	5.26	5.05	5.77	5.38	
November	3.26	3.86	4.22	5.33	5.62	5.29	4.93	6.05	5.33	
December	3.30	3.87	4.03	5.20	5.58	5.78	4.84	6.19	5.5	

*Source: Brazilian Central Bank (BACEN) *Refers to August 13*

Attachments:

No Attachments