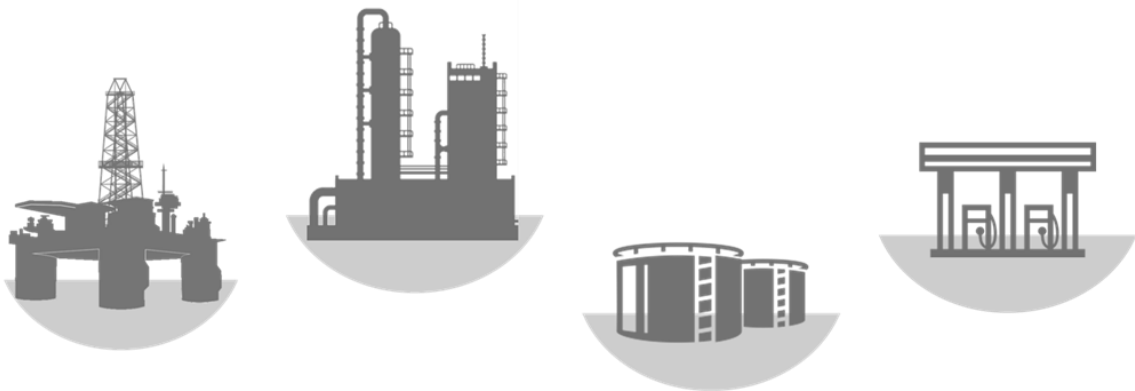




BRAZILIAN OIL & GAS REPORT

2022/2023

TRENDS AND RECENT DEVELOPMENTS



December 2023
Rio de Janeiro, Brazil



Images on the cover:

Image 1: @PAC available in [flickr](#)

Image 2: @PAC available in [flickr](#)

Image 3: @kees torn available in [flickr](#)

Empresa de Pesquisa Energética (EPE), or Energy Research Office, is a government-owned entity, connected to the Brazilian Ministry of Mines and Energy. The purpose of EPE is to provide energy information, studies and research that support the planning of the national energy sector.

Website: <http://www.epe.gov.br/en>

Contact information: <http://www.epe.gov.br/en/about-epe/contact-us>

Acknowledgements

This report is a work of the Oil, Gas and Biofuels Studies Division of the Energy Research Office (EPE), under the Direction of Heloisa Borges Bastos Esteves.

Angela Oliveira da Costa (Head of the Oil Products and Biofuels Department) provided guidance for the draft report.

Marcelo Castello Branco Cavalcanti (Deputy Head of the Oil Products and Biofuels Department) and Patricia Feitosa Bonfim Stelling (Technical Advisor of the Oil Products and Biofuels Department) led this project .

The authors were Ana Clara R. M. Fagundes, Ana Cláudia Sant'Anna Pinto, Bruno R. L. Stukart, Lucas dos S. R. Moraes, and Vinícius Folly Barbosa.

This report was based on analyses performed for the International Petroleum Industry Report (*Boletim de Conjuntura da Indústria do Petróleo*), published biannually in Portuguese.

Table of Contents

Introduction	1
Upstream	2
Mid- and Downstream	7
Final Remarks.....	13

List of Figures

Figure 1 - National oil & gas production and monthly accumulated output change in Campos and Santos Basins since January 2019.....	3
Figure 2 - Raw natural gas production and supply since March 2022	4
Figure 3 - Petrobras' roadmap for FPSOs	5
Figure 4 - Natural gas consumption since 2021	7
Figure 5 - Monthly fuel demand, total market, 2020-2024	10
Figure 6 - Diesel fuel reference and realization prices	11
Figure 7 - Brazilian oil products imports and exports, 2019-2023.....	11

List of Abbreviations

ADI	– Direct Act of Unconstitutionality
ANP	– National Agency of Petroleum, Gas and Biofuels (Agência Nacional do Petróleo, Gás e Biocombustíveis)
boe/d	– barrels of oil equivalent per day
b/d	– barrels per day
CADE	– Administrative Council for Economic Defense (Conselho Administrativo de Defesa Econômica)
CBIO	– Decarbonization Credit for Biofuels (Crédito de Descarbonização por Biocombustíveis)
CNODC	– CNPC Exploration & Development Company
CNOOC	– China National Offshore Oil Corporation
CNPE	– National Energy Policy Council (Conselho Nacional de Política Energética)
Confaz	– National Council for Fiscal Policy (Conselho Nacional de Política Fazendária)
E&P	– Exploration and Production
EPE	– Energy Research Office (Empresa de Pesquisa Energética)
FAME	– Fatty Acid Methyl Ester
FID	– Final investment decision
FPSO	– Floating Production Storage and Offloading Unit
ICMS	– State Value Added Tax
IMO	– International Maritime Organization
LPG	– Liquefied Petroleum Gas
LSFO	– Low Sulphur Fuel Oil
LUBNOR	– Northeastern Lubricants and Oil Products (Lubrificantes e Derivados de Petróleo do Nordeste)
MMBtu	– Million British thermal unit
MME	– Ministry of Mines and Energy (Ministério de Minas e Energia)
PEC	– Proposed Amendment to the Constitution
PPI	– Investments Partnership Program
PPSA	– Pre-Salt Petroleum S.A. (Pré-Sal Petróleo S.A).
PSC	– Production Sharing Contract
R&D	– Research and development
Refap	– Alberto Pasqualini Refinery
Regap	– Gabriel Passos Refinery
Repar	– Presidente Getúlio Vargas Refinery
Replan	– Paulínia Refinery
RLAM	– Landulpho Alves Refinery
Reman	– Isaac Sabbá Refinery
RNEST	– Abreu and Lima Refinery
RPCC	– Clara Camarão Refinery
SAF	– Sustainable Aviation Fuel
SIN	– National Interconnected System
SIX	– Shale Industrialization Unit
STF	– Supreme Federal Court
TAG	– Associated Gas Transport (Transportadora Associada de Gás)
TBG	– Bolivia-Brazil Gas Pipeline Brazilian Transport (Transportadora Brasileira Gasoduto Bolívia-Brasil)

TCC – Term of Commitment for Termination of Practice (Termo de Compromisso de Cessação)

TGS –Gas Sul Terminal

TRSP – Terminal of Regaseification São Paulo

ToR – Transfer-of-Rights

ULSD – Ultra-low Sulphur Diesel

YPFB – Yacimientos Petrolíferos Fiscales Bolivianos

Introduction

The Brazilian Oil & Gas Report is an annual publication that aims to analyze trends and advancements in the national oil sector. This edition covers events occurring from July 2022 to June 2023, with events post-June 2023 falling outside the report's scope but available in the semiannual publication “Boletim de Conjuntura da Indústria do Óleo & Gás” (BOG), published in Portuguese.

The latter part of 2022 was marked by significant price volatility, driven by a combination of external and internal factors. Nevertheless, fuel demand continued to expand, aligned with the renewed economic growth as the economy normalized after Covid-19 disruptions. Exploration and production (E&P) activities had a surge in investments, caused by both regulatory and economic incentives. The mid- and downstream sectors also had an influx in capital, to guarantee supply and logistics due to the demand growth. Price formation gained more visibility, especially due to changes in taxation and in RenovaBio¹, aimed at mitigating the direct impact of exchange rates and international prices on domestic retail fuel prices ([EPE](#)).

There were significant changes in early 2023. Taxes on oil products had been either reduced or suspended altogether to manage inflation (stemming from consistently high international oil prices) and were gradually reinstated over the year. Another notable development was Petrobras' new oil products pricing policy. The company maintained the alignment with international prices, but introduced some considerations about their domestic costs into the formula, such as fuel opportunity costs ([Petrobras](#)). The natural gas pricing policy was modified as well. Petrobras also changed its strategies concerning the energy transition, downstream participation share and its divestment program. Instead of solely focusing on oil and production from its main fields, the objective changed to diversifying its investments and scope ([EBC](#); [Petrobras](#); [Petrobras](#); [Petrobras](#)). Also, an important bid round, 1st Production Sharing Open Acreage cycle, took place by the end of 2022 and a new record domestic oil production was attained in the first half of 2023.

¹ Instituted by Law 13,576/2017, the Brazilian National Biofuel Policy (RenovaBio) recognizes the strategic role of biofuels in the Brazilian energy matrix regarding its contribution to energy security, the predictability of market and the mitigation of greenhouse gas (GHG) emissions in the fuel sector. In this regard, RenovaBio meets Brazil's Nationally Determined Contributions (NDCs) under the Paris Agreement. Its goal is to reduce the carbon intensity of the Brazilian transportation matrix by expanding the use of biofuels and creating a carbon credit market to offset emissions of greenhouse gases by fossil fuels ([MME](#)).

Upstream

Licensing Rounds

Since December 2021, following the publication of National Energy Policy Council's (CNPE) Resolution No. 27/2021, the Open Acreage system has been the preferred method for offering areas for exploration and production of oil and gas ([ANP](#)). Its main objective is to allow for geological evaluation of areas without time constraints ([ANP](#)), which in turn should stimulate more investments in regions other than the main exploratory assets being targeted by major oil and gas companies. This system allows for both concession and production sharing auctions ([ANP](#)).

At the end of 2022, the 1st Production Sharing Open Acreage cycle took place. Out of the eleven blocks available, four were awarded, requiring a minimum investment of US\$ 293.5 million in the exploratory phase. Petrobras will operate three out of the four awarded blocks. The remaining one, Bumerangue, located in the Santos basin, will be operated by BP Energy ([ANP](#)).

Table 1 - Results for the 1st Production Sharing Open Acreage Cycle

Basin	Block	Winning bidder(s)	Signing bonus	Government oil share
Campos	Água Marinha	Petrobras (30%; operator); TotalEnergies EP (30%); Petronas (20%) QatarEnergy (20%)	US\$ 13.4 million (R\$ 65.4 million)	42.4%
Campos	Norte de Brava	Petrobras (100%; operator)	US\$ 104.9 million (R\$ 511.7 million)	61.71%
Santos	Bumerangue	BP Energy (100%; operator)	US\$ 1.8 million (R\$ 8.8 million)	5.9%
Santos	Sudoeste de Sagitário	Petrobras (60%; operator); Shell Brasil (40%)	US\$ 67.7 million (R\$ 330.2 million)	25%

Source: Data from [ANP](#)

Two more Open Acreage cycles are planned, with the calendar beginning in August 2023. Offers were presented in December 13th, 2023², and contracts will be signed up until May 2024. The 4th Concession Open Acreage Cycle presents 955 exploratory blocks, while the 2nd Production Sharing Open Acreage Cycle has five: four in the Santos basin and one in the Campos basin ([ANP](#); [ANP](#)).

² Results of those are summarized at [ANP](#) and will be analyzed in the next Brazilian Oil & Gas Report edition.

Exploration & Production of Oil & Gas

In October 2022, national oil production reached 3.24 million barrels per day (b/d), surpassing the previous record of 3.16 million b/d set in January 2020. This marked a production growth of 5.7% compared to the first half of 2022. The average oil production for 2022 stood at 3.0 million b/d ([ANP](#)). In the first semester of 2023, oil production rose to an average of 3.2 million b/d. Tupi production in 2022 was 10.3% lower than that of 2020, but a new development plan is currently under evaluation ([EPBR](#)). Figure 1 illustrates the evolution of Brazilian production since 2019 and the output changes in Campos and Santos Basin.

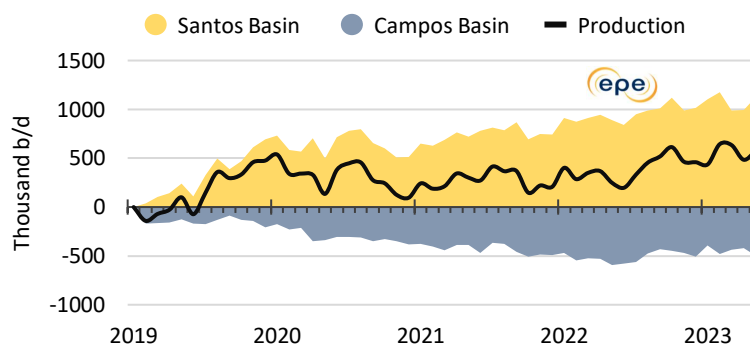


Figure 1 - National oil & gas production and monthly accumulated output change in Campos and Santos Basins since January 2019

Source: Data from [ANP](#)

Revitalization efforts are underway in other fields in the Campos basin, including the Marlim, Voador and Brava fields. In May 2023, the Anna Nery FPSO commenced operations, boasting a production capacity of up to 70,000 b/d of oil and 4 million m³/d of natural gas. Additionally, another FPSO is planned for the future, with the goal of increasing average production to 150,000 barrels of oil equivalent per day (boe/d), a significant rise from the current 30,000 boe/d. The overarching objective for the Campos basin is to raise production to 900,000 boe/d by 2027, up from the current 560,000 boe/d ([Petronoticias](#)) ([Petrobras](#)) ([Valor](#)) ([EPBR](#)).

Equinor initiated “Phase 2” of the Peregrino field, located in the Campos basin. This phase involves the installation of a new drilling platform connected to the Peregrino FPSO. Concurrently, the company also commenced drilling activities in the Bacalhau field, located in the Santos basin, whose production start was delayed to 2025 ([Equinor](#)) ([Equinor](#)) ([EPBR](#)). In contrast, after US\$ 4 billion investments in exploration efforts that have not been successful since 2017, ExxonMobil will be reevaluating its upstream efforts in Brazil ([Valor](#)).

Petrobras is directing some of its exploration efforts towards a new frontier known as the Equatorial Margin, located along the coast between the states of Amapá and Rio Grande do Norte. Given the similarity between the region's and Guiana's geology, exploration in the area is strategic for Brazil to maintain its production plateau in the long term, once current pre-salt fields start declining ([EPE](#)). However, the federal environmental agency (Ibama) has denied an environmental license for the company to drill a wildcat well in the FZA-M-59 block. The agency argues that an extended evaluation, called "Sedimentary Area Environmental Evaluation" (Avaliação Ambiental da Área Sedimentar – AAAS), is necessary. The proximity to the mouth of the Amazon River, approximately 500 km, is one of the main reasons for the extra layer of caution. This prompted Petrobras to demobilize its drilling rig in the area and relocate it to the Campos Basin. Nevertheless, the region remains an important part of Brazil's future production plans ([EPBR](#); [EPBR](#); [Ibama](#)).

The amount of natural gas supplied to the market increased by 5.3% in the same period, reaching a level of 54.4million m³/d. However, this is still below the 2019 levels of 61.2 million m³/d ([ANP](#)). The average volume of natural gas supplied for the year was 47 million m³/d ([MME](#)). Natural gas supply at the beginning of 2023 averaged 47 million m³/d, maintaining a stable level compared to 2022. Figure 2 illustrates this data. In the first quarter, Bolivian gas imports rose 10% to 19.3 million m³/d. LNG regasification levels were kept near zero ([MME](#))³.

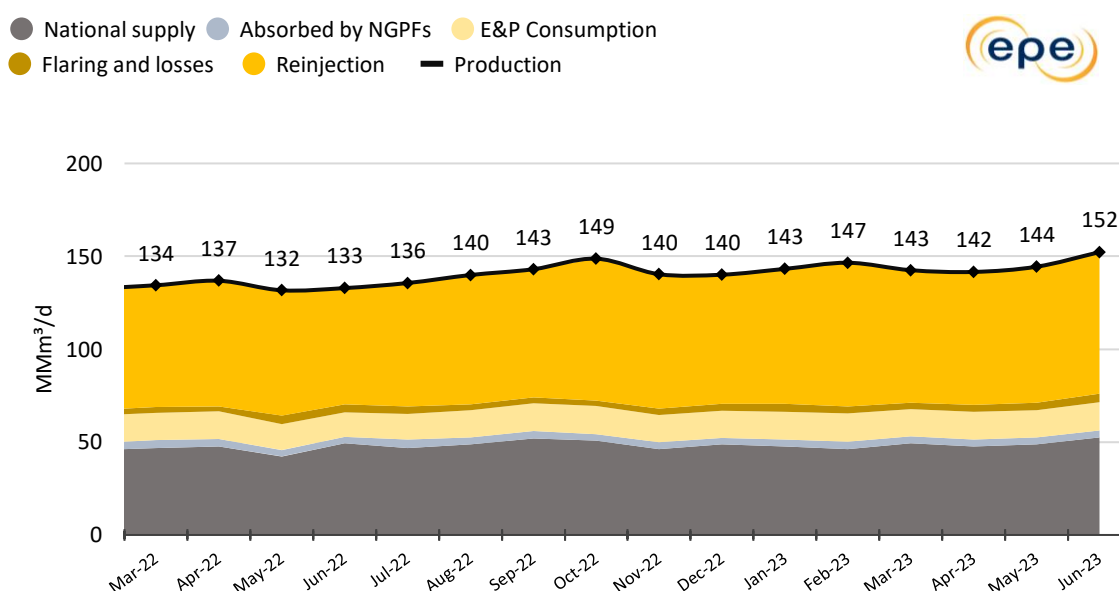


Figure 2 - Raw natural gas production and supply since March 2022

Source: Data from [MME](#)

³ This is in contrast with the end of 2021 and beginning of 2022, when a severe drought forced Brazil to turn up natural gas electricity production, because of a reduction in hydroelectric generation. Brazil's reservoirs have since been replenished, allowing for LNG imports to be significantly reduced ([EPE](#)).

In the coming years, natural gas production is expected to rise. Equinor plans to invest US\$ 9 billion in the BM-C-33 block, which is expected to add up to 14 million m³/d of natural gas to Brazil's supply ([Equinor](#)). This block is an example of the competitiveness of the country's oil and gas industry, as Equinor claims it can achieve a carbon intensity of up to 6 kgCO₂/boe, compared to a global average of 16 kgCO₂/boe ([Equinor](#)).

Petrobras' Strategic Plan indicates investments of US\$ 73 billion in exploration and production between 2024 and 2028. An additional US\$ 12 billion are also earmarked for platform leasing. In terms of exploration and production, Petrobras has allocated 67% of capex on Pre-salt. On the other hand, Refinery and logistics' capex reach US\$ 16,7 billion, marking an almost 80% raise compared to the previous plan. The company also allocated 11% of its total capex to diversify its investment portfolio, including, for example, biorefineries and low carbon emission energy sources ([Petrobras](#)).



Figure 3 - Petrobras' roadmap for FPSOs

The forecast is also positive for smaller and independent oil and gas companies, with investments up to US\$ 10 billion, a reserve growth of 980 million barrels of oil equivalent and production growth to 485.000 boe/d in 2027. This outlook is mostly a result of a series of regulatory incentives, including a reduction in royalties to the legal minimum of 5% and a lower starting range for landowner compensations from 1.0% to 0.5% ([WoodMac](#); [MME](#); [ANP](#)).

Other highlights in Upstream

Some regulatory advances in underground natural gas storage have been made. The development plan for Pilar field, operated by Origem Energy, will include an underground storage project. The authorization is expected until the end of 2023 ([EPBR](#); [Origem](#)).

In terms of risks to the oil and gas industry, one notable factor is the ongoing discussion in Congress regarding tax reform. The reform aims to simplify taxation, fostering investments and growth. However, the oil and gas industry currently benefits from a special tax regime for investments known as REPETRO⁴ ([EPE](#)). The implications of REPETRO under the new tax regime remain unclear. Nevertheless, discussions are underway to explore alternatives ensuring that private entities can continue investing in the sector for the foreseeable future.

⁴ Special customs import and export regime for goods destined to the research and exploitation of oil and gas resources ([Brasil](#))

Mid- and Downstream

Natural Gas

Brazilian natural gas consumption is significantly influenced by thermoelectric power generation, mostly used during extended drought periods. Consequently, natural gas consumption has decreased from 93,5 million m³/d in 2021 to 66,0 million m³/d in Q2 2023 ([MME](#)) due to more favorable weather conditions and improving hydroelectric production ([MME](#)), which serves as the main source of electricity in the country. National regasification fell by 93% to 1.8 million m³/d during the same period, due to the reduced need for imports ([MME](#)). Figure 3 illustrates the data.

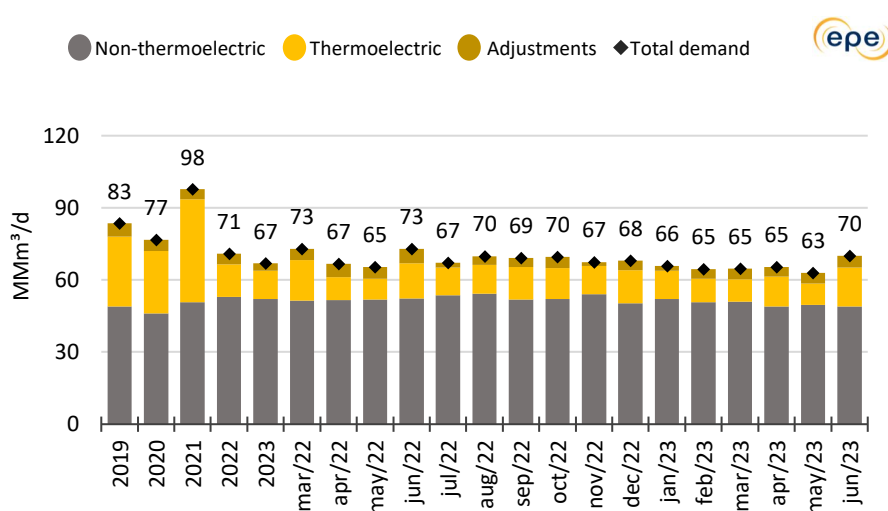


Figure 4 - Natural gas consumption since 2021

Source: Data from [MME](#)

One of the main projects aimed at increasing domestic supply is Rota 3. The Rota 3 gas pipeline, initially planned to transport 21 million m³/d in 2022, has been delayed and is now scheduled for completion in 2024. The contractor responsible for building the gas processing facility at Polo Gaslub has been dismissed, and a new contractor will be chosen. The company plans to start the facility in early 2024 with an initial processing capacity of 9 million m³/d. ([Petrobras](#); [Petrobras](#); [Argus](#)).

In line with an agreement signed in 2019⁵ with the antitrust regulator, in 2022, the company sold 51% of its shares in Petrobrás Gás S.A., also known as Gaspetro, its gas distribution subsidiary ([Petrobras](#)). In 2023, the company changed its pricing strategy, reducing average prices by approximately 20% to distributors in the first semester ([EBC](#); [Petrobras](#)). To improve flexibility for customers, Petrobras also implemented changes such as the option to choose between Henry Hub or ICE Brent for indexing and introduced more contractual timeframe options ([Petrobras](#); [Abegas](#)). The increased competition is expected to stimulate investments in the sector, fostering growth in both supply and demand for natural gas.

Natural gas liquefaction and regasification projects are now included in an incentive program for infrastructure development (REIDI), which exempts goods and services (bought, leased and imported) related to these projects from certain federal taxes ([Brasil](#); [MME](#); [Abegas](#)).

With the change in the federal government, a new nationwide policy has been introduced, named “Gás para Empregar”. Its main target is to promote the domestic natural gas market by improving supply to nitrogenated fertilizers, petrochemicals and other productive sectors, while also contributing to the national energy transition strategy ([DOU](#); [MME](#)).

As mandated by Law 14,182/2021, which requires the contracting of natural gas power generation capacity, three gas-fired power plants with a combined capacity of 754 MW were contracted in an auction. All these projects will be built in the state of Amazonas ([EPE](#)) ([Aneel](#)). Additionally, operational installations of biomethane underway, with one of them planning to inject up to 120,000 m³/d of biomethane into an existing gas pipeline, sourced from a landfill ([MegaWhat](#)).

Refining & Logistics

Refineries’ production grew by 2.4% or 240.000 m³ in 2H 2022, at a slower pace than that of demand, which rose by 1.7 million m³, prompting imports to rise, especially of diesel fuel ([ANP](#)).

The Abreu and Lima refinery (Rnest), located in the state of Pernambuco, is set to undergo upgrades, expanding its atmospheric distillation capacity by 15.000 b/d. This enhancement will enable the refinery to produce more diesel fuel, starting in 2025 ([Petrobras](#)). The facility is also confirmed to receive a second processing train that will add a production capacity of 13 million liters of ultra-low sulfur diesel per day ([Petrobras](#)).

⁵ In 2019, Petrobras signed a Term of Commitment for Termination of Practice with the antitrust regulator, which aimed to reduce the company’s share in various mid- and downstream markets in order to stimulate competitiveness ([EPE](#)).

In the upcoming years, Petrobras' Strategic Plan forecasts R\$ 9,2 billion for refining and natural gas, marking a 30% growth when compared to the previous plan. These investments aim to add 154.000 b/d of refining capacity, including biorefining ([Petrobras](#)). Despite this, projections indicate that the country will continue to depend on oil product imports, especially diesel fuel, naphtha, and jet fuel ([EPE](#)). This is supported by the fact that Vibra Energia, one of the country's main fuel distributors, aims to invest R\$ 350-400 million on fuel import infrastructure ([Reuters](#)). On the other hand, the National Energy Policy Council (CNPE) has overturned a previous decision (Resolution CNPE no. 9/2019) that established guidelines for Petrobras' refining business divestment process. This decision was made in light of a renewed emphasis on energy security, focusing on increasing refinery utilization rates or expanding the refinery system capacity ([CNPE](#); [MME](#)). In previous years, the focus had been on increased competition by divesting a significant part of the refining capacity, to attract private investments. Under the new guidelines, Petrobras will need to invest in current refineries to reduce fuel imports.

Meanwhile, Resolution CNPE no. 2/2023 has established that Pré-Sal Petróleo S.A. (PPSA)⁶, is mandated to conduct studies, with technical support from Brazilian Energy Research Office (EPE) on the viability of prioritizing the domestic oil products market ([CNPE](#); [MME](#)). The government is exploring options to sell its share of the oil to domestic refineries aiming to stimulate more private investments in refining assets domestically.

The state of Bahia will be home to a new biorefinery built by the Mubadala Group, which plans to invest US\$ 2.4 billion over the next 10 years. The facility will produce renewable diesel⁷ and sustainable aviation fuel (SAF). Construction is expected to commence in early 2024, with production beginning in the first half of 2026, boasting a capacity of 1 billion liters of hydrotreated vegetable oil (HVO), also known as renewable diesel ([Reuters](#)).

⁶ The state-owned company responsible for managing oil and gas from production sharing agreements.

⁷ In August 2023, a bill was sent to the House of Representatives named "Combustível do Futuro" (Fuel of the Future). The bill promotes the decarbonization of the transportation energy matrix, national industrialization, and an increase in automotive energy efficiency. It aims to achieve those goals by enacting the Sustainable Aviation Fuel National Program (ProBioQAV), the Green Diesel National Program (PNDV), raises the maximum mixture of anhydrous ethanol to gasoline to 30% (up from 27%), regulates e-fuels and geological CCS ([MME](#)).

Oil Products Demand & Prices

In the second half of 2022, fuel demand experienced a significant surge. Gasoline and hydrous ethanol sales grew by 14,3%, with gasoline accounting for 80% of the increase ([ANP](#)). The supply of hydrous ethanol was affected by unfavorable climate conditions and high sugar prices⁸ ([CONAB](#)). Diesel fuel consumption increased by 8.9%, driven mainly by the demand of the agricultural sector, which relies heavily on road-based logistics. In the same period, jet fuel sales grew by 8.8%, with domestic flights approaching pre-pandemic levels ([EPE](#)). Figure 3 illustrates the recovery of the liquids market from pandemic lows and expectations for the coming months. In the first five months of 2023, fuel sales rose by 5% when compared to the same period of 2022 ([ANP](#)).

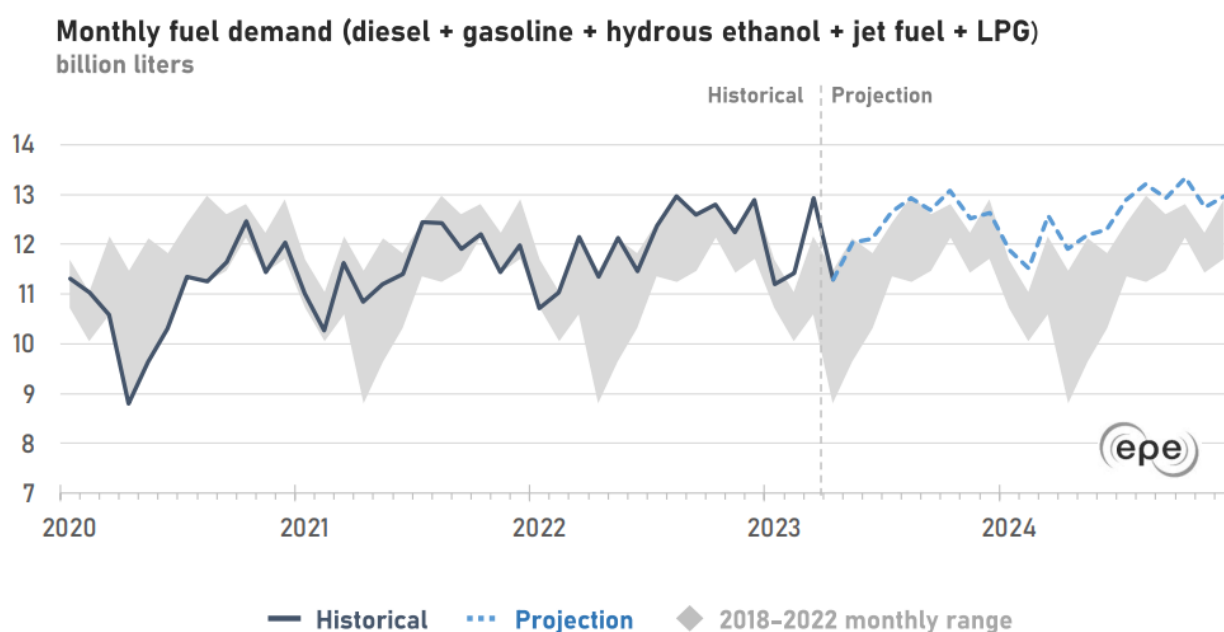


Figure 5 - Monthly fuel demand, total market, 2020-2024

Source: Data from [EPE](#)

⁸ About 68% of Brazil's sugarcane processing plants have flexibility on production mix. They can supply whether ethanol or sugar by having a distillery attached ([NovaCana apud Bernal et al, 2017](#)).

In the second half of 2022, international fuel prices began to show a downward trend but remained at historically high levels ([ANP](#)). Diesel fuel prices at the refinery gates grew by 16.4% in the same period ([ANP](#)). Throughout the year, both federal and state tax structures were modified to lower the impact of the international high prices, justified to manage inflation. The most notable change occurred in state taxes for most fuels (except hydrous ethanol). These are now a fixed value per liter (*ad rem*) rather than a percentage (*ad valorem*), and uniform across different states, reducing inefficiencies and the cost of compliance with Brazil's taxes ([Brasil](#)) ([Confaz](#)) ([Confaz](#)). As mentioned earlier, in 2023, Petrobras, the main oil refiner in the country, has adopted a new pricing policy aimed at balancing domestic and international prices. On average, the new policy reduced final consumer prices by 2.1% for gasoline and 6.5% for diesel fuel ([Petrobras](#); [Petrobras](#); [EPBR](#); [ANP](#)). Figure 4 shows diesel fuel prices for Brazil and the US Gulf Coast, while Figure 5's data demonstrates the country's imports and exports.

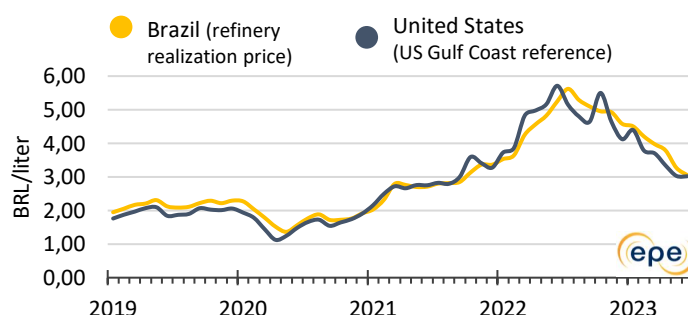


Figure 6 - Diesel fuel reference and realization prices

Source: Data from [ANP](#), [EIA](#) and [Banco Central do Brasil](#)

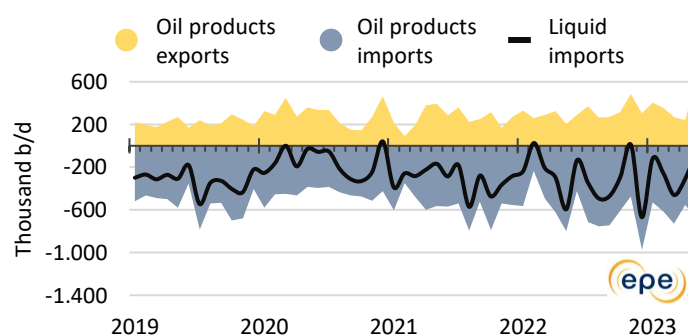


Figure 7 - Brazilian oil products imports and exports, 2019-2023

Source: Data from [ANP](#)

Between April and May 2023, diesel fuel prices dropped due to a strong influx of Russian imports, ranging from US\$ 0,20 to US\$ 0,30 cheaper per gallon than other import sources. As a result, Russian diesel accounted for 53% of all the country's diesel fuel imports in April 2023 ([Reuters](#); [Fecombustíveis](#)).

Petrobras has announced that the Polo Gaslub will be redesigned, and the project will also include second-generation petrochemicals, a connection with an existing refinery (Refinaria de Duque de Caxias -Reduc) aiming to produce lubricants, and a unit dedicated to producing renewable diesel ([EPBR](#)). The company also aims to expand its production of “diesel R”, a blend of fossil diesel fuel and 5% to 10% renewable diesel, by investing US\$ 600 million ([Petrobras](#)).

The state-owned company has also started supplying ultra-low sulfur marine gasoil in the country's ports. The use of ultra-low sulfur fuel in ships is obligatory in Emission Control Areas, and this product is currently sold in Santos, Rio Grande and Paranaguá ports ([Shipandbunker](#)).

Final Remarks

After a challenging first semester, 2022 emerged as a year of recovery. With the easing of pandemic-related restrictions, including in China, daily routines gradually returned to a semblance of normalcy. Economic activities have resumed, and supply chains are returning to their usual operations.

Heightened concerns about global climate change, particularly among OECD nations, have spurred governments into action against global warming. The United States, through its Inflation Reduction Act, has allocated substantial funds to support green initiatives and Europe is following a similar path. Most companies are now actively pursuing Environmental, Social, and Governance (ESG) targets, even within the oil and gas industry. Brazil holds a competitive edge in this context, given its predominantly renewable energy sources and the relatively low carbon intensity of its oil and gas production.

In the natural gas market, evolving dynamics are creating new possibilities, as evidenced by Equinor's BM-C-33 project, which might otherwise be considered unattractive. Coupled with the government's commitment to expanding the natural gas market, this presents lucrative business opportunities and should continue stimulating investments in natural gas production as stand-alone projects.

Economic forecasts are very optimistic, especially considering the downward trend of interest rates. Brazil's oil and gas industry growth prospects are very positive and benefit from this trend. Oil supply should continue to increase, driven by future and already committed investments, especially due to the prolific reserves and declining exploration costs. Oil product and natural gas demand should also continue growing, as per-capita income increases, and more people become part of the middle class. This growth will guarantee demand for new downstream assets, which, in combination with Brazilian energy policies, improvements in legal and regulatory framework and promoting a more competitive and investor-friendly market should attract more investments and players.