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OIL & GAS REPORT

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DO LADO DO POVO BRASILEIRO

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The Energy Research Office (*Empresa de Pesquisa Energética* - EPE) is a government-owned entity under Brazil's Ministry of Mines and Energy. EPE's mission is to provide data, studies, and research to support the planning and development of the country's energy sector.

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List of Abbreviations

ANP – National Agency of Petroleum, Gas and Biofuels (Agência Nacional do Petróleo, Gás e Biocombustíveis)
APO – Pre-Operational Assessment (Avaliação Pré-Operacional)
boe/d – barrels of oil equivalent per day
bpd – barrels per day
CNG – Compressed Natural Gas
CCS – Carbon Capture and Storage
CNPE – National Energy Policy Council
CZPE - Council of Export Processing Zones (Conselho Nacional das Zonas de Processamento de Exportação)
E&P – Exploration and Production
EPE – Energy Research Office (Empresa de Pesquisa Energética)
FPSO – Floating Production Storage and Offloading Unit
IPCA – National Consumer Price Index
LNG – Liquefied Natural Gas
LPG – Liquefied Petroleum Gas
Mover – National Green Mobility and Innovation Program (Programa Nacional de Mobilidade Verde e Inovação)
ProBioQAV – National Sustainable Aviation Fuel Program (Programa Nacional de Combustível Sustentável de Aviação)
RefTOP – World-Class Refining
RNEST – Abreu & Lima Refinery
SAF – Sustainable Aviation Fuel
SIN – National Interconnected System (Sistema Interligado Nacional)
SNOX – Atmospheric Emissions Reduction Unit (Unidade de Abatimento de Emissões)
TAG – Associated Gas Transport (Transportadora Associada de Gás)
TBG – Bolivia-Brazil Gas Pipeline Brazilian Transport (Transportadora Brasileira Gasoduto Bolívia-Brasil)
UTGCAB – Cabiúnas Gas Treatment Unit (Unidade de Tratamento de Gás de Cabiúnas)

Introduction

The Brazilian Oil & Gas Report is EPE's annual assessment of key trends and developments in the national oil and gas sector. This edition covers the period from July 2024 to June 2025. Events beyond this timeframe fall outside the scope of this report and are discussed in the Boletim de Conjuntura da Indústria do Óleo & Gás (BOG), published in Portuguese.

In the second half of 2024, Brazil's oil and gas sector operated in a context of macroeconomic expansion and regulatory change. The period was marked by the approval of new legal frameworks related to the energy transition, alongside continued investment planning and operational activity across the value chain. Economic conditions and logistics patterns, particularly in agriculture, influenced fuel demand and reinforced the connection between broader economic activity and energy consumption.

In the first half of 2025, several of these dynamics became more tangible. Upstream activity recorded new production milestones, supported by offshore start-ups and progress in the project pipeline, while licensing and commercialization processes advanced. In mid- and downstream, developments in natural gas and refining reflected ongoing market liberalization and infrastructure integration, alongside regulatory measures and early initiatives associated with lower-carbon fuels.

Economic Context

Brazil's economy expanded throughout late 2024 and early 2025, providing a supportive backdrop for energy demand. Gross domestic product (GDP) grew 4.0% year on year in the third quarter of 2024 and 0.9% compared with the previous quarter. In 2025, GDP is expected to grow 2.3% (BCB; IBGE).

This expansion was largely driven by agriculture and investment activity. Agricultural output rose 10.2%, while gross fixed capital formation increased 9.1%, reflecting both favorable harvest conditions and sustained investment levels (IBGE). In this context, agriculture played a central role in shaping energy demand patterns, particularly for diesel oil, as grain transportation in Brazil relies predominantly on road freight (EPE).

The 2024/2025 harvest reached a new production record, expanding 14.2% relative to the previous season, an increase of 42.2 million tons, and further intensified transport activity (Conab). At the same time, inflation remained a relevant macroeconomic factor. The IPCA, one of the most important inflation indices in Brazil, closed 2024 with an accumulated variation of 4.83% and is estimated to reach 4.43% in 2025 (IBGE).

Upstream

Licensing Rounds

The 5th Cycle of Open Acreage of Concession ("5º Ciclo da Oferta Permanente de Concessão"), held in June 2025, recorded a historic amount of 989.3 million BRL in signature bonuses. A total of 34 out of 41 blocks were awarded to nine companies, across four basins, Parecis (onshore), Foz do Amazonas, Santos, and Pelotas (offshore), with planned exploration investments totaling 1.46 billion BRL. In addition, the National Agency of Petroleum, Natural Gas and Biofuels (ANP) launched the schedule for the 3rd Cycle of the Open Acreage of Production Sharing ("3º Ciclo da Oferta Permanente de Partilha"), including 13 exploratory blocks located in the Santos and Campos basins, with completion expected by May 2026 (ANP; ANP; ANP).

The 5th Auction of Brazilian Government Oil ("5° Leilão de Petróleo da União"), conducted by Pré-Sal Petróleo (PPSA), resulted in the sale of 74.5 million barrels of crude and a record potential revenue of 28 billion BRL, exceeding the initial forecast by 3 billion BRL. The seven lots offered corresponded to the Mero (four lots), Búzios, Sépia, and Itapu fields. For the coming year, the 1st Union Gas Licensing Round ("1º Leilão de Gás da União") is expected to take place, aiming to offer natural gas at more competitive prices. The initiative will be implemented through the Gas for Employment Program ("Programa Gás para Empregar"), which seeks to expand natural gas supply, foster investments, and improve access rules for midstream infrastructure (PPSA; PPSA; MME).

Exploration & Production of Oil & Gas

From July to December 2024, Brazil's national oil production averaged 3.342 million barrels per day (MMbpd), slightly lower than the first-half average of 3.375 MMbpd, while natural gas production averaged 160 million cubic meters per day (MMm³/d), reflecting an 8.8% increase over the first half (Table 1). September 2024 set new records, reaching 3.47 million barrels of oil equivalent per day (MMboe/d) and 170 MMm³/d of natural gas. Throughout this period, the technical reinjection of natural gas remained above 50% (ANP). In the first half of 2025, a production record was set in June, with the extraction of 3.75 MMbpd and 182 MMm³/d, representing increases of 2.15% and 5.8%, respectively, compared to May. The pre-salt layer accounted for 78.8% of total national production (ANP).

Table 1 - Oil & Gas Production in Brazil

PERIOD	2024	2024 Q3	2024 Q4	2025 Q1	2025 APR	2025 MAY	2025 JUN
Oil (MMbpd)	3.358	3.349	3.334	3.407	3.515	3.679	3.636
Offshore	3.273	3.265	3.246	3.321	3.429	3.589	3.548
Onshore	0.085	0.084	0.089	0.086	0.086	0.090	0.089
Natural Gas (MMm³/d)	153	160	159	160	168	172	182
Offshore	130	134	133	139	146	151	155
Onshore	23	26	26	21	22	21	27

Source: ANP.

For the entire year of 2024, Brazil produced an average daily output of 3.358 MMbpd of oil, a 1.3% decrease from 2023, and 153 MMm³/d of natural gas, a 2.0% increase compared to the previous year's 150 MMm³/d (ANP).

Despite the decline in oil production in 2024, three new production units began operations in the last quarter of the year: the FPSO *Marechal Duque de Caxias* (Figure 1), in the Mero field, with a capacity of 180 thousand barrels per day (kbpd) of oil and 12 MMm³/d of natural gas (Petrobras); the FPSO *Maria Quitéria*, in the Jubarte field, with a capacity of 100 kbpd of oil and 5 MMm³/d of natural gas (Petrobras); and the FPSO *Atlanta*, in the Campos Basin, with a capacity of 50 kbpd of oil (Brava Energia). In addition, the FPSO *Sepetiba*, which started operations in the Mero field on the last day of 2023, reached a production peak of 180 kbpd in August 2024 (Petrobras). In May 2025, Petrobras also started operations of the FPSO *Alexandre de Gusmão* in the Mero field, with a production capacity of 180 kbpd, increasing the field's total production capacity to 770 kbpd (Petrobras).

In November 2024, Petrobras approved its 2025-29 Strategic Plan, which includes an 8.8% increase in planned investments compared to the previous plan, totaling 111 billion USD. The E&P sector is the focus of these investments (77 billion USD), followed by refining (20 billion USD) and gas & low carbon energy (11 billion USD). The new plan aims to expand and modernize Brazil's refining system, provide high-quality and low-carbon products, enhance operational efficiency and promote greater sustainability and energy efficiency (Petrobras).

Another federal government initiative by the end of 2024 in the upstream segment was the creation of the *Potencializa E&P* program, aimed at promoting the sustainable development of oil and gas exploration and production (E&P) in Brazil, focusing on new exploratory frontiers and marginal oil fields (MME).

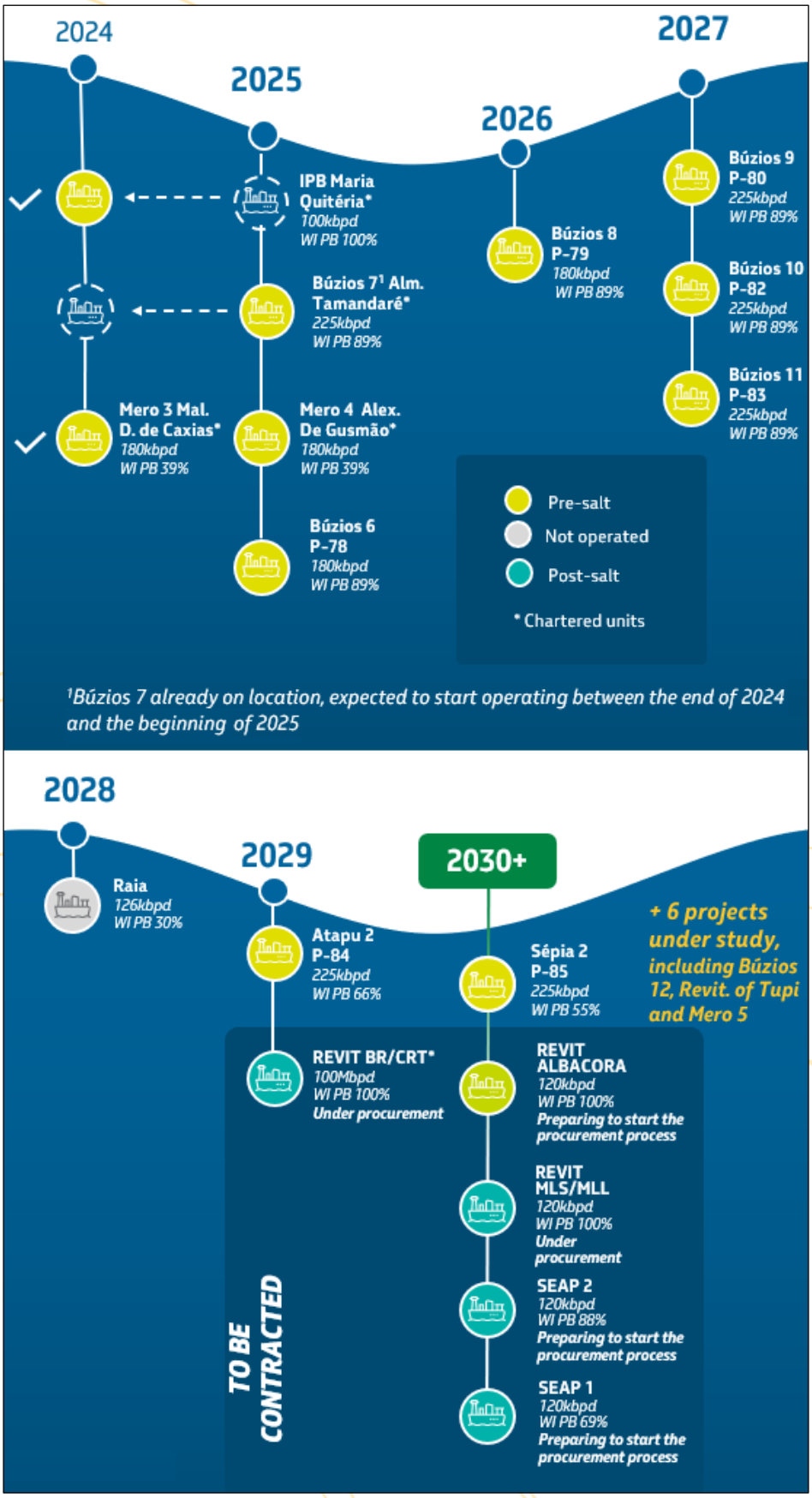

Figure 1 - Petrobras' FPSO Roadmap

Source: Petrobras

The first half of 2025 was also marked by significant updates to strategic investment plans and new announcements. Two major projects are expected to enter the natural gas market, reshaping domestic supply: the Raia Project, operated by Equinor, and the Sergipe Águas Profundas (SEAP) Project, operated by Petrobras. Regarding the former, significant progress was made during the period. EPE completed its evaluation of the project's infrastructure under the framework of the new Gas for Employment Program Decree, recommending its approval (EPE). In addition, the ANP authorized the start of construction of the gas flow pipeline and approved the technical recommendation for the unitization of the Raia Manta and Raia Pintada fields, which will result in higher government take payments (Eixos; ANP; ANP).

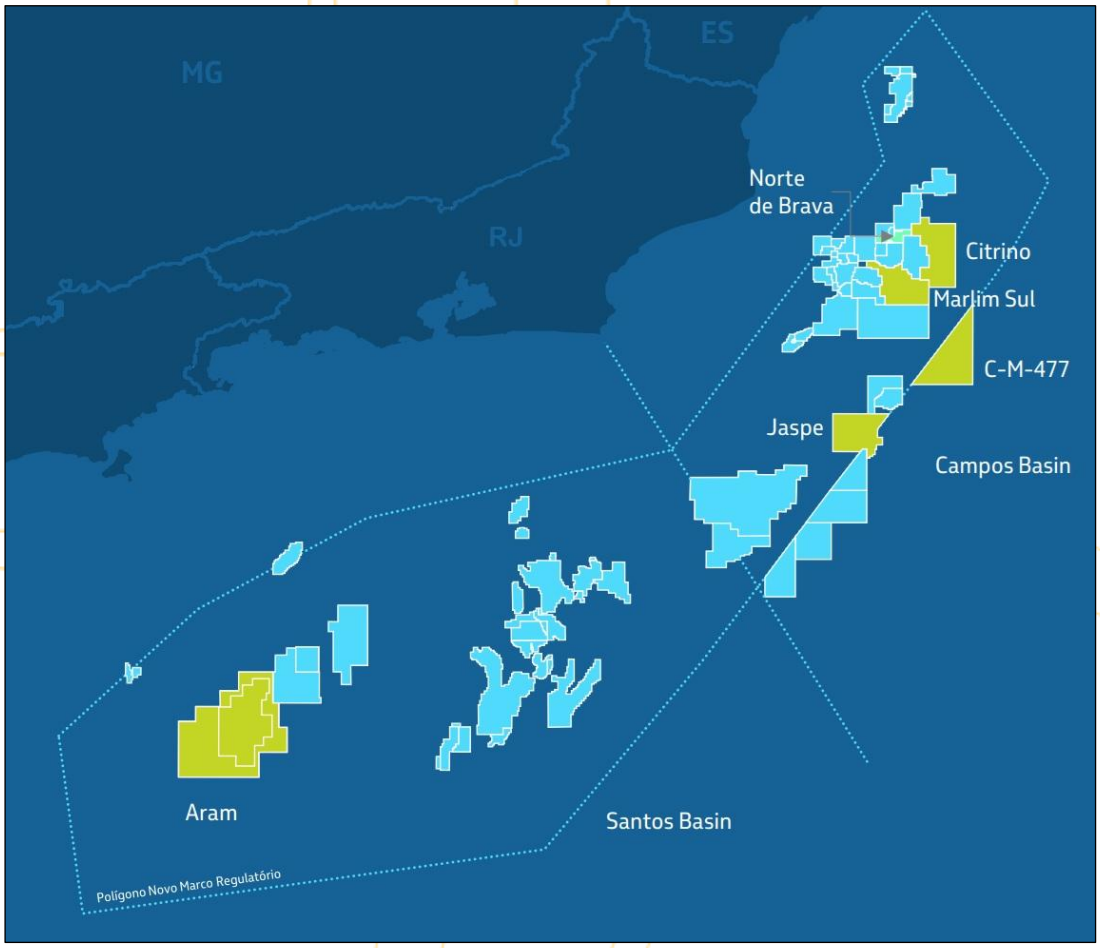

Figure 2 - Exploratory Wells in the Southeast Offshore Basins

Source: Petrobras

The sector also witnessed a major investment decision by the "Gato do Mato" Consortium (Shell, Ecopetrol, TotalEnergies, and PPSA), operated by Shell, which announced the final investment decision (FID) for the "Gato do Mato" field, located in the pre-salt area of the Santos Basin. Production is expected to begin in 2029, through an FPSO with a capacity of 120 kbpd (Shell).[1]

[1] PRIO already held a 40% stake in the Peregrino field, having acquired the remaining share from Equinor for 3.5 billion USD in May 2024 (Equinor).

After drilling six exploratory wells in the Aram area, located in the pre-salt Santos Basin (Figure 2), Petrobras confirmed the presence of hydrocarbons in two wells. The Aram block was awarded to Petrobras in 2020, during the 6th Production Sharing Licensing Round ("6ª rodada de licitação"), in consortium with CNPC (which holds a 20% stake), under the production sharing regime (Petrobras; Petrobras; Petronoticias).

In addition, in the Equatorial Margin, Petrobras's environmental licensing process with Ibama is in the final stage of the Pre-Operational Assessment (APO). The company has already positioned a drillship near the FZA-M-59 block (Petrobras; Agência Infra).

Additionally, Law No. 15,164/2025[2] was enacted with the objective of improving the mechanisms available to the Social Fund (FS) to address the country's socioeconomic challenges (Brazil; MME).

[2] The law authorizes the federal government to assign its rights and obligations arising from unitization agreements in non-concession and non-production-sharing areas within the pre-salt polygon and in strategic areas through auction. This change enables the anticipation of revenues from future production, contributing to increased federal revenue (Brazil; MME).

Mid- and Downstream

Natural Gas

Brazil's natural gas market advanced toward greater competition and diversification, supported by regulatory progress, new commercial arrangements, and infrastructure integration. These developments reinforced the country's efforts to expand supply options, attract new market participants, and enhance efficiency along the gas value chain.

A key milestone was the enactment of Decree No. 12.153/2024 ("Gás para Empregar") in August 2024. The measure establishes conditions to expand Brazil's natural gas market and infrastructure, with the objective of increasing supply and lowering end-user prices. The decree also created the Natural Gas Sector Monitoring Committee ("Comitê de Monitoramento do Setor de Gás Natural"), responsible for advising, coordinating, and monitoring public policies in the sector and formulating proposals to support its development (Brazil).

Progress in commercialization reflected the ongoing market-opening process. In January 2025, PRIO signed an agreement granting access to the Integrated Natural Gas Flow System of the Campos Basin (SIE-BC) and the Cabiúnas Gas Treatment Unit (UTGCAB)[3] in Macaé, Rio de Janeiro, enabling the independent producer to begin selling gas directly to the market, with an initial portfolio of 300 thousand m³/d[4] (PRIO). Portobello and Suzano signed natural gas supply contracts with Petrobras, formalized in May, marking an expansion of large industrial consumers in the free market. For Portobello, a leading ceramic producer, the agreement represents its first contract with Petrobras under this commercialization model, supplying its plant in Santa Catarina. In Suzano's case, the contract covers natural gas supply to all five of its production units in São Paulo (Petrobras; Petrobras).

[3] From UTGCAB, the processed gas can be transported through two major pipelines: the Transportadora Associada de Gás (TAG) and Nova Transportadora do Sudeste (NTS) (PRIO).
[4] This volume is expected to exceed 1 MMm³/d during 2025 with the start of production at the Wahoo field in the Campos Basin (PRIO).

Decarbonization efforts also gained momentum. In early 2025, Petrobras launched its first Call for Biomethane Acquisition ("Chamada para Aquisição de Biometano"), designed to decarbonize operations, expand the company's portfolio, and assess market conditions in line with the guidelines established under Law No. 14,993/2024, the *Fuel of the Future Law (Lei do Combustível do Futuro)* (Petrobras) (Brazil). In parallel, the Brazilian Bolivia–Brazil Gas Pipeline Transporter (TBG) initiated the Advanced Conceptual Engineering Project for a Biomethane Hub and submitted the respective connection contract for ANP approval. The initiative is considered strategic due to the presence of regions with high biomethane production potential along the GASBOL corridor, with the objective of efficiently integrating these producers into the national transmission system (Figure 3) (TBG).

Infrastructure expansion continued with the entry into operation of the second module of the Natural Gas Processing Unit (UPGN) at the Boaventura Energy Complex in Itaboraí (Rio de Janeiro) in May. With this addition, the plant reached its maximum processing capacity of 21 MMm³/d, strengthening the processing and flow of pre-salt gas as part of Petrobras's Integrated Route 3 Project (Petrobras). Integration also progressed with the authorization of a bidirectional interconnection between the Cabiúnas–Reduc III (NTS) and Cabiúnas–Vitória (TAG) pipelines, located in Macaé, Rio de Janeiro[5]. The new link allows direct gas flow between the Southeast and Northeast regions and enables coordinated operations among transporters within a unified market area (ANP).

[5] The Cabiúnas–Reduc III pipeline connects Macaé to the Reduc refinery area in the State of Rio de Janeiro, while the Cabiúnas–Vitória pipeline links Macaé to the State of Espírito Santo (ANP).

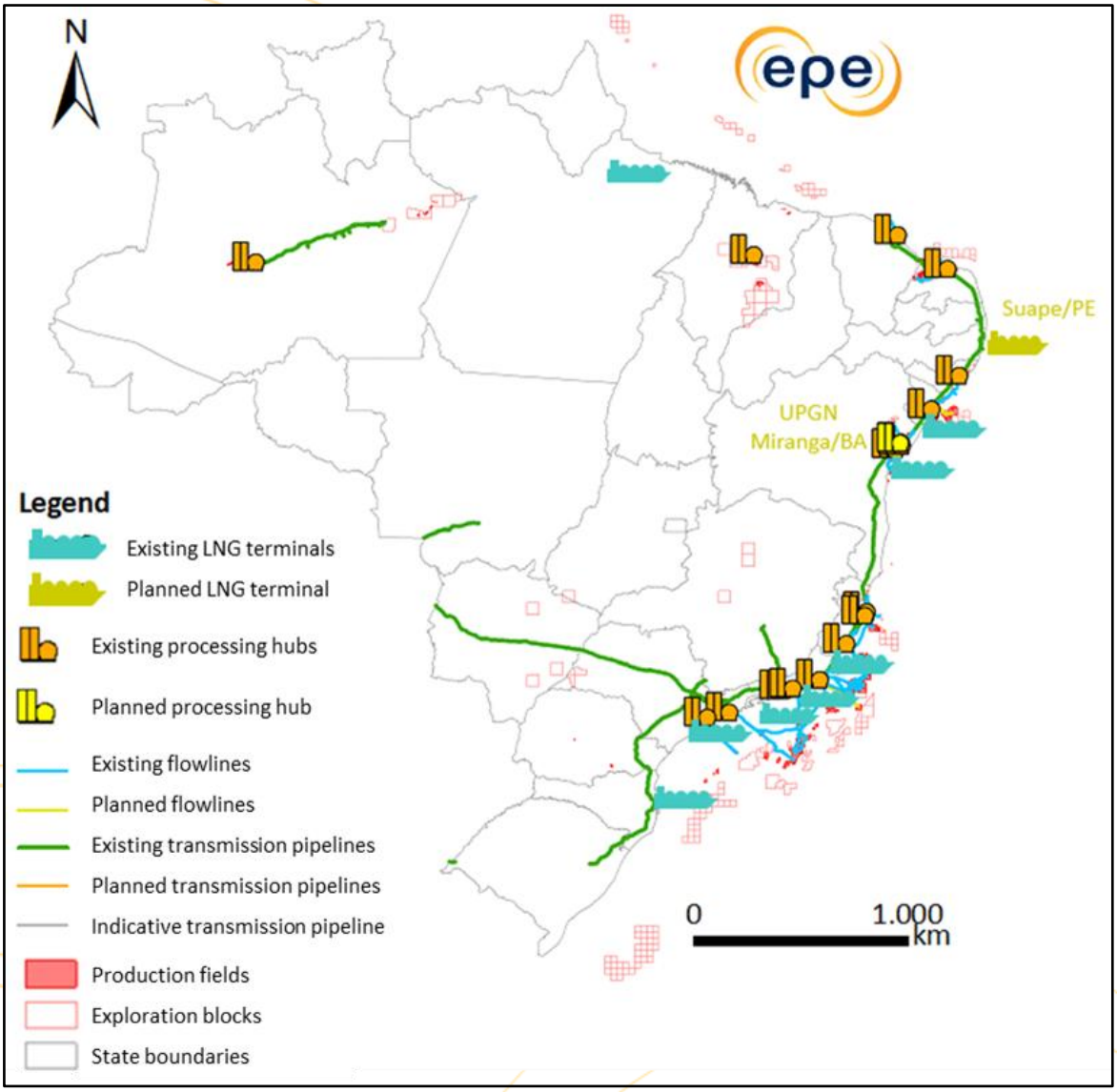

Figure 3 - Flow and Transmission Pipelines in Brazil

Source: EPE

Throughout the period, the ANP advanced a broad regulatory agenda aimed at supporting market expansion, improving transportation rules, and strengthening infrastructure integration. A notable measure was the approval of Resolution No. 973/2024, which regulates bulk CNG packaging and transportation via non-pipeline modes[6]. The initiative aims to expand natural gas access in areas without pipeline infrastructure and support the growth of distribution networks operated by state concessionaires (ANP).

[6] Non-pipeline modes include road transport using ISO containers, cylinder trailers, or other mobile CNG systems designed for areas without access to pipeline networks (ANP).

Additional actions included the publication of tariff calculation reports, the launch of Public Consultation No. 01/2025 on criteria for transport pipeline classification, approval of Public Consultation No. 03/2025 concerning the Coordinated Development Plan for the Gas Transportation System, and initiation of Preliminary Consultation No. 01/2025 to revise Resolution No. 15/2014 on transportation tariffs. These efforts prepare the sector for the upcoming tariff cycle, which will include an unprecedented review process for two of the three transporters in Brazil's interconnected system (ANP; ANP; ANP; ANP).

As part of its broader regulatory agenda, ANP also approved a Regulatory Impact Analysis (AIR) for revising the LPG distribution and retail framework. The study identified regulatory and infrastructure gaps in the sector[7] and will guide future improvements in this market (ANP).

Refining & Logistics

In the second half of 2024, Brazil's refining sector recorded stable operational performance despite a slight decline in crude throughput. Domestic refineries processed an average of 2.0 MMbpd, a 0.7% decrease from 2023. In contrast, refined product output rose to 2.2 MMbpd, up 0.9% year-on-year. The main products were diesel A (838 kbpd), gasoline A (516 kbpd), fuel oil (295 kbpd) and jet fuel (101 kbpd) (ANP).

Operational advances toward the end of 2024 supported refinery performance and system modernization. In November, Petrobras began commercial operations at the UPGN of the Boaventura Energy Complex (Complexo Energético Boaventura)[8] (Petrobras), and in December, the company commissioned the SNOX unit at the Abreu e Lima Refinery (RNEST) in Pernambuco. Such unit enabled RNEST to increase its processing capacity to 115 kbpd, while strengthening compliance with emissions and environmental standards (Figure 4)[9] (Petrobras).

[7] The AIR highlighted issues such as bottlenecks in LPG distribution logistics and inconsistencies in service-provider classification under the existing regulatory framework (ANP).
[8] The Boaventura Energy Complex, formerly Comperj and later Polo Gaslub, is located in Itaboraí, Rio de Janeiro, and includes gas processing, logistics, and refining-related infrastructure (Petrobras).
[9] Paraná Xisto, represented by Number 15, is a shale industrialization unit that does not process crude oil.

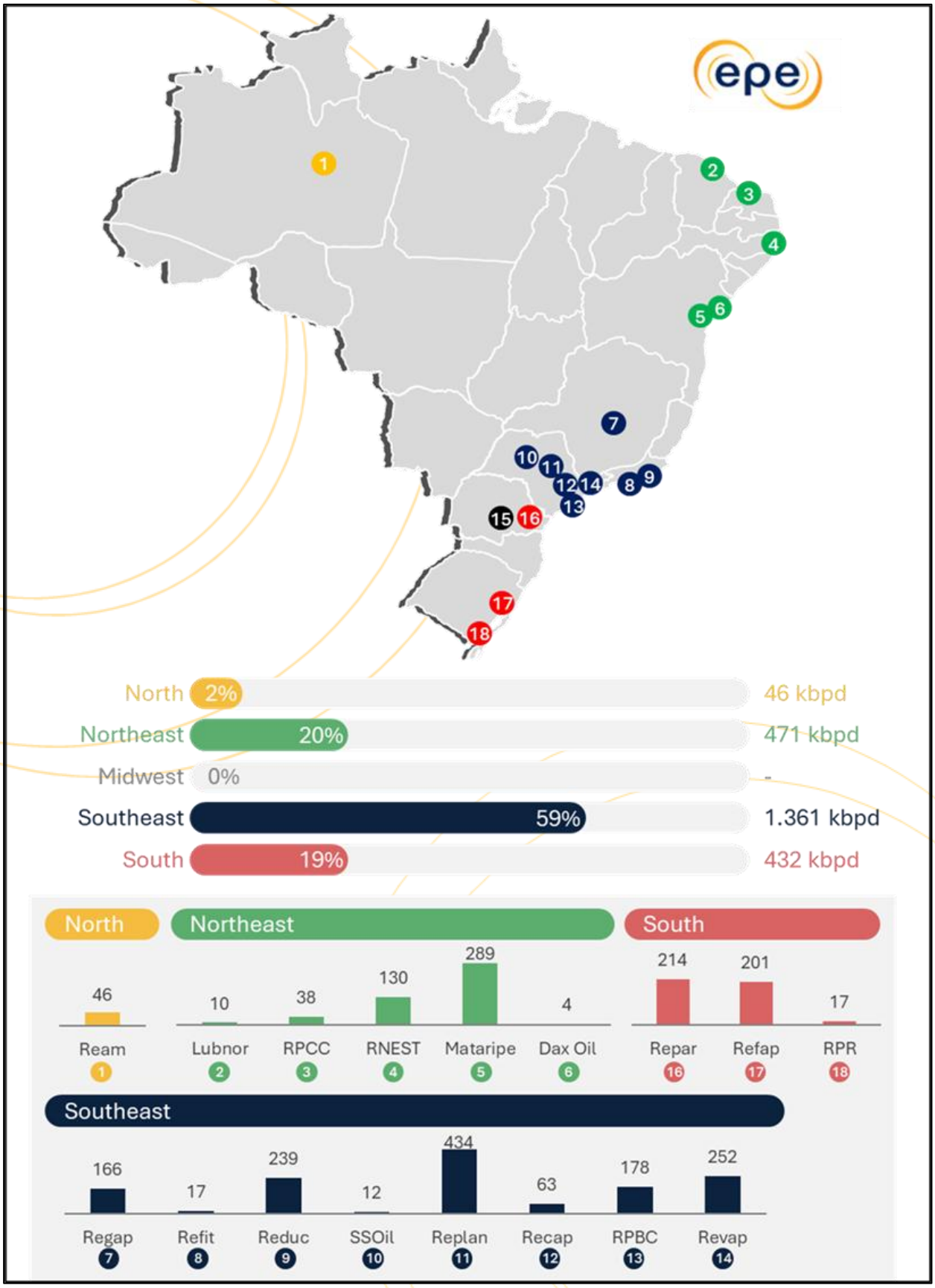

Figure 4 - Brazilian Oil Refining Capacity by Region in July 2025 (kbpd, % of total)

Source: EPE

These developments were aligned with Petrobras's 2025–2029 Strategic Plan, which allocates USD 20 billion to Refining, Trading and Commercialization (RTC) with the objective of expanding, modernizing, and enhancing the efficiency of the refining and logistics system. Approximately USD 826 million is earmarked for the RefTOP program, aimed at improving operational efficiency, energy performance, and sustainability indicators. The plan also includes USD 3.8 billion for maintenance shutdowns at Replan, RPBC, Refap, RNEST and Revap, with the goal of increasing operational availability. Over the same horizon, Petrobras anticipates an increase in the supply of higher-quality products, including an additional 360 kbpd of S-10 diesel and 12 kbpd of lubricants (Petrobras).

In parallel, the Strategic Plan reinforces the company's participation in low-carbon fuels. Beginning in 2029, Petrobras expects dedicated biorefining units to supply up to 44 kbpd of Sustainable Aviation Fuel (SAF) and renewable diesel (HVO). The company has also indicated interest in reentering the ethanol segment, expanding biodiesel production, and entering the biomethane market, in alignment with the guidelines established by *Fuel of the Future Law* (Petrobras). These initiatives reflect the increasing integration between the refining system and Brazil's broader energy transition agenda.

Throughout the first half of 2025, Petrobras implemented a series of price adjustments across its energy products portfolio. In February, the company revised the prices of natural gas supplied to distributors, resulting in an average 1% reduction, reflecting changes in Brent prices, exchange rate dynamics, and contract-driven quarterly updates. In May, Petrobras announced an average reduction of BRL 0.16 per liter in the price of diesel A[10] and a 5.6% decrease in the price of gasoline A[11] , equivalent to BRL 0.17 per liter. Over the May–June period, the distribution price of diesel S-10 diesel fell 5.7% compared with the previous bimester, while the price of gasoline C[12] declined 1.4% over the same interval (Petrobras; Petrobras; Petrobras; ANP).

Refining performance data for the first half of 2025 reflected this operational and market context. Crude throughput averaged 1.9 MMbpd, a 1.0% decrease compared with the same period in 2024, while refined product output totaled 2.1 MMbpd, down 0.4% year-on-year. Diesel A (791 kbpd), gasoline A (518 kbpd), and jet fuel (104 kbpd) remained the sector's primary products (ANP).

[10] Unblended diesel oil sold by producers to distributors before the addition of biodiesel for retail sale.
[11] Unblended gasoline produced at refineries and delivered to distributors before the addition of anhydrous ethanol.
[12] Gasoline A blended with anhydrous ethanol in accordance with Brazil's mandatory mixing requirements and sold at retail.

Modernization efforts advanced significantly during 2025. At Replan[13], Petrobras initiated operations at a new Diesel Hydrotreatment Unit (HDT), adding 63 kbpd of S-10 diesel capacity and 21 kbpd of jet fuel capacity. The upgrade enables the full conversion of diesel oil output from the S-500 to the S-10 specification, supporting improvements in product quality and environmental performance (Petrobras).

In March 2025, RNEST, the company completed modernization works on Train 1, raising its processing capacity by 15 kbpd, to 130 kbpd (Petrobras; Petrobras). Petrobras also signed contracts to resume construction of Train 2, which will double the refinery's installed capacity once completed (Petrobras). These initiatives demonstrate continued progress in expanding Brazil's refining capacity and strengthening the country's supply of cleaner, higher-quality fuels.

[13] Located in Paulínia, State of São Paulo, it is the largest refinery in Brazil in terms of installed processing capacity.

Energy Transition

Brazil advanced several regulatory, institutional, and market initiatives since July 2024 aimed at accelerating the decarbonization of the transport, industrial, and power sectors. These developments reinforce the country's strategy to expand the use of renewable fuels, stimulate new low-carbon industries, and promote fuel diversification.

A major development in the second half of 2024 was the enactment of Law No. 14,948/2024, Brazil's Hydrogen Legal Framework (Política Nacional do Hidrogênio de Baixa Emissão de Carbono). The law defines a maximum carbon intensity of 7 $kgCO_2eq$ per kg of H_2 for hydrogen to be classified as low-carbon (Brazil; Chamber of Deputies) and introduces instruments to foster the hydrogen industry in the country, including the Special Incentive Regime for Hydrogen Production (Rehidro)[14]. Other key measures[15] include the creation of the Brazilian Hydrogen Certification System and the designation of the ANP as the sector's regulatory authority (Brazil).

In the same period, Brazil's fuel legislation reached an important milestone with the enactment of the *Fuel of the Future Law* in October 2024, recognized as the world's largest transport and mobility decarbonization program. Developed by the Ministry of Mines and Energy (MME), the initiative aims to stimulate the emergence of new green industries in Brazil and foresees BRL 260 billion in investments across multiple sectors and actions, with an expected reduction of 705 million tons of CO_2 by 2037 (MME). The law expands the allowable blending range of anhydrous ethanol in gasoline C from 18%–27.5% to 22%–35% (current level: 30%) and sets biodiesel blending limits between 13% and 20% (previously 6%–15%), with the share currently at 15% and the possibility of reaching 20% by 2030, subject to technical feasibility (Brazil).

The *Fuel of the Future Law* also introduces specific incentives for SAF and biomethane. Under the National Program for Sustainable Aviation Fuel (ProBioQAV), airlines operating domestic flights will be required to reduce greenhouse gas emissions through SAF use, with a minimum reduction target of 1% from 2027, increasing annually to 10% by 2037. In addition, the law creates the National Program for the Decarbonization of Natural Gas Producers and Importers and for the Promotion of Biomethane (Plano Nacional Integrado das Infraestruturas de Gás Natural e Biometano), establishing annual GHG reduction targets[16] for the natural gas market (Brazil).

[14] It will be valid for five years starting in 2025 (Brazil).
[15] Complementarily, Law No. 14,990/2024, enacted in September 2024, allocates 18.3 billion BRL to a tax credit program aimed at supporting hydrogen production and consumption in Brazil (Brazil).
[16] These targets are to be met through increased biomethane participation in natural gas consumption, beginning with a 1% reduction target in 2026 and up to 10% in subsequent years (Brazil).

Other regulatory advances complemented this framework. In December 2024, the Federal Senate approved Bill No. 327/2021, establishing the Energy Transition Acceleration Program (Programa de Aceleração da Transição Energética - Paten), designed to encourage the replacement of high-emission energy sources with renewables (Federal Senate). The ANP also revised the certification rules under Brazil's National Biofuels Policy (RenovaBio) program, introducing improvements in procedures for certifying efficient biofuel production and imports, accrediting inspection firms, and defining eligibility criteria for biomass producers (ANP). In April 2025, the Green Mobility and Innovation Program (Mover) was regulated through Decree No. 12,435/2025, setting technical, environmental, energy efficiency, recyclability, and safety requirements for vehicle manufacturers and importers, with the aim of promoting decarbonization through sustainable mobility and technological innovation (MDIC).

Finally, in the first half of 2025, the National Energy Policy Council (CNPE) approved higher mandatory blending requirements, increasing the share of anhydrous ethanol in gasoline from 27% to 30% and biodiesel in diesel oil from 14% to 15%. In addition to stimulating biofuel use and emissions reductions, these measures are expected to contribute to reducing Brazil's dependence on imported diesel and gasoline (Brazil; Brazil).

In line with Brazil's broader energy transition agenda, additional measures were introduced to stimulate the production and deployment of renewable and low-carbon fuels. In August 2024, the ANP authorized the commercialization of marine fuel oil containing 24% biodiesel[17], following successful tests[18] conducted by Petrobras between 2022 and 2024 (ANP; ANP). In the same month, BNDES and Finep announced USD 6 billion in financing to support projects for the production of sustainable aviation and marine fuels (ANAC; BNDES; Eixos).

International cooperation also advanced during the period. In September, Brazil and India signed a cooperation declaration aimed at leveraging existing ethanol and biodiesel production infrastructure and promoting technological exchange, joint research, and development initiatives to improve SAF production processes, among other commitments (MME).

Developments in hydrogen and other low-carbon fuels also advanced during the period. In October 2024, Brazilian companies, Petrobras and Vale, signed an agreement focused on competitiveness and decarbonization, which includes the use of Diesel R, added with 14% biodiesel, represents a fuel containing 18.3% renewable content (Petrobras).

[17] This is the first authorization for continued commercial sales of bunker fuel with renewable content for maritime transport use.
[18] Tests showed that this fuel can reduce emissions by about 19% compared to conventional bunker (ANP).

The Federal Government announced plans to establish a climate-finance platform aimed at attracting international investment for hydrogen projects in Brazil. Several low-carbon hydrogen initiatives[19] have already submitted grid-connection requests to the National Interconnected System (Sistema Interligado Nacional - SIN), representing a cumulative capacity requirements of more than 35 GW by 2038 (Brazil; Brazil; Firjan). Petrobras also announced the construction of its first renewable-hydrogen pilot plant[20] in Brazil's Northeast Region, with test operations expected to begin in the first quarter of 2026 (Petrobras).

Complementing these initiatives, Petrobras and Braskem signed a Memorandum of Understanding to carry out joint studies on carbon capture and storage (CCS) in Bahia. The objective is to assess the technical and economic feasibility of implementing large-scale CCS solutions as a pathway for industrial decarbonization (Petrobras).

[19] One example is the approval by the National Council of Export Processing Zones (CZPE) of Fortescue's project to install a low-carbon hydrogen plant at the Pecém Complex (Ceará). The plant is expected to produce 500 tons of hydrogen per day through water electrolysis, using 1.2 GW of renewable energy, and may enable future low-carbon steel production (MDIC; Eixos; ZPE Ceará).

[20] Located at the Vale do Açu Thermal Power Plant, in Alto do Rodrigues, State of Rio Grande do Norte. The project has a total budget of BRL 90 million, is being developed in cooperation with the SENAI Institute for Innovation in Renewable Energies (SENAI ISI-ER) and will be built by WEG (Petrobras).

Conclusions

Since July 2024, Brazil's oil and gas sector operated in a context of macroeconomic growth with full employment, and declining inflation especially by the second half of 2025. Economic expansion in late 2024 and early 2025 was driven mainly by agriculture and investment, while the record 2024/2025 grain harvest contributed to higher demand for energy products, particularly diesel oil, given the predominance of road freight in commodity logistics.

In the upstream, Brazil maintained elevated production levels and set new records in 2025, with the pre-salt accounting for approximately 80% of total output. The period also included the start-up and ramp-up of major FPSOs, strengthening production infrastructure, and advances in the project pipeline, notably progress on the Raia project and the final investment decision for Gato do Mato. On the institutional front, developments included record results in the 5th Cycle of the Open Acreage of Concession, the expansion of PPSA's marketing activities through the 5th Brazilian Government Oil Auction, and preparations for the first Union Gas Licensing Round.

In mid- and downstream, market liberalization progressed through new contracts, third-party access arrangements, and steps toward greater integration of transport and processing infrastructure, particularly in natural gas, supported by the "Gás para Empregar" decree and ANP's regulatory agenda. In refining and logistics, the sector combined stable utilization with continued modernization, including projects aimed at improving fuel quality (notably S-10 diesel) and expanding capacity, while Petrobras's pricing adjustments and commercial conditions influenced market dynamics in early 2025.

Across the value chain, the period was also characterized by the advancement of Brazil's energy transition framework, marked by the enactment of the *Fuel of the Future Law* and the Hydrogen Legal Framework, as well as initiatives related to SAF, biomethane, CCS, and other low-carbon fuels.

Brazil remains a relevant player in regional and global energy markets, supported by continued investment in oil and gas alongside the gradual incorporation of lower-carbon fuels and technologies. The balance between production growth, market liberalization, and the evolving energy transition framework will be central to addressing energy security while advancing decarbonization objectives.