

SEVENTEENTH EDITION OF ANALYSIS OF BIOFUELS' CURRENT OUTLOOK

The Analysis of Biofuels' Current Outlook, one of the main publications of Energy Research Office (EPE), presents the relevant facts that occurred in the year prior to its publication. Its seventeenth edition presents the performance of the sugar-energy sector and the growth of corn ethanol facilities. Ethanol production reached the second highest level in the historical series. Otto cycle fuel consumption registered its historic maximum, with hydrous ethanol maintaining competitiveness throughout the year and the anhydrous ethanol content in Gasoline C reaching 30%. In biodiesel sector, the mandatory addition to diesel has risen to 15% by volume (B15) as of August and remained constant throughout the year. The National Biofuels Policy (RenovaBio) concluded the sixth cycle of CBIO traded in stock exchange markets.

The main topics covered annually in this document are ethanol supply and demand and its production and transport infrastructure, pricing and taxation of Otto cycle fuels, biomass in electricity generation, biodiesel market, international market for renewable sustainable fuels, the RenovaBio monitoring, besides perspectives and innovations for the development of new feedstocks, the optimization of agricultural practices, innovative biofuels production processes, and waste valorization. This year, the final article has as its central theme an analysis of the *biomethane: what are the main opportunities?*

Total sugarcane processed reached 660 million tons in 2025, 3.8% lower than in 2024. Sugar production declined by 1.9%, totaling 43.5 million tons, while exports were 33.8 million tons, the. Regarding sugarcane ethanol, 26.7 billion liters were produced, which, added to the corn biofuel share of 9.5 billion liters (growth of 24%), reached 36.2 billion liters (2.9% lower than 2024). A total of 21.5 million tons of corn were processed for ethanol production, around 15% of total output, with a relevant share from the second harvest, mainly in Mato Grosso. The country reduced the positive balance in international ethanol trade (net exports of 1.4 billion liters), decreasing exports and increasing import levels.

The average price of hydrous ethanol rose by 8.3%, while type C gasoline average prices increased by 2.9% compared to the previous year. The relative price (EP/GP) was 69%, more favorable to consumers' preference for biofuel.

In 2025, 2.6 million new light vehicles were licensed in Brazil, 2.6% more than 2024, marking the third consecutive year. The hydrous ethanol demand fell by 1.5%, reaching 23.2 billion liters, while gasoline type C consumption grew 6.6%, totaling 47.7 billion liters. This resulted in an Otto cycle demand of 63.9 billion liters of gasoline equivalent, an increase of 4.6% over the previous year.

The number of electrified vehicles increased by 39% compared to 2024, accounting for 8.8% of total sales. Gasoline-powered vehicles represented 4.5, while flex-fuel vehicles remained the dominant category with a 74.3% share of registrations, despite a 3.5 percentage point drop in sales .

Sugar-energy plants injected Bioelectricity into National Interconnected System in an amount of 2.3 GWm, same level of 2024.

Regarding biodiesel, the percentage in diesel mixture was defined by CNPE Resolution No. 08/2025 at 15% by volume since August 2025 and has remained at this value throughout all the year. Its production was 9.9 billion liters, an increase of 8.3% in comparison to the previous year. Soy remains the main raw material, with a 73.3% share.

The emissions avoided by first generation sugarcane (1G) and corn ethanol, biodiesel and sugarcane bioelectricity in 2025 were 56.8 MtCO₂eq, 19.7 MtCO₂eq and 1.7 MtCO₂eq, respectively, totaling 78.1 MtCO₂eq. These results reinforce Brazil's potential to lead a sustainable energy transition, leveraging its abundant renewable resources.

Biogas installed capacity in distributed generation reached 161 MW in 2025, using agro-industrial, animal and urban waste as its input. In addition, its share in the domestic energy supply reached 474 thousand tons of oil equivalent (toe). Regarding biomethane, there is an increase in the number of operating and under-construction plants registered with the ANP, in addition to greater participation in RenovaBio. It registers the initiatives at the federal in recent years including biomethane in Special Incentive Regime for Infrastructure Development (REIDI, in Portuguese acronym), the National Program for Decarbonization of Natural Gas Producers and Importers and Incentive to Biomethane (established under the Future Fuel Law), and the National Integrated Plan for Natural Gas and Biomethane Infrastructure (PNIIGB).

Additional innovations and emerging perspectives for biofuels there are coprocessed diesel, Greendiesel, Sustainable Aviation Fuels (SAF), renewable fuels for marine use, second-generation ethanol, biohydrogen, bioGL, biomethanol, and BECCS.

In 2025, RenovaBio concluded its sixth operational cycle in the organized market. By August 2026, 320 stakeholders were certified, the majority of which were ethanol. At the end of 2025, 40.1 million CBIOs were retired by obligated parties, corresponding to 99% of the target established by the CNPE and 81.1% of the total individual targets assigned by the ANP, which includes the portion not met by distributors in 2024. The CBIO price decreased, with a weighted average of R\$54.72.

The Analysis of Biofuels' Current Outlook also provides an article of the potential expansion of *biomethane: what are the main opportunities?* showing between Brazil's production potential and a reliable, competitive, and geographically integrated supply. The study highlights technological advances, financial mechanisms, regulatory stability, and public policies can position biomethane as a key driver of energy diversification, end-use decarbonization, and the development of a circular bioeconomy in Brazil.

The seventeenth edition of the Energy Research Company's (EPE) Analysis of Biofuels' Current Outlook is available on the EPE website at www.epe.gov.br.