

# M E R I D I A N A

**World Bioenergy Association**

2025

# About us

**Meridiana** is a Brazilian center-right think tank committed to advancing national competitiveness through evidence-based analysis, reliable data, and actionable policy proposals

## Our role

**Connect:** We build bridges between the private sector, government, and academia to align interests around development agendas.

**Analyze:** We produce technical studies and forward-looking analyses on strategic topics.

**Propose:** We design consistent legislative and regulatory initiatives aligned with international best practices

## Key focus areas

**Critical and strategic minerals** – competitiveness and value addition

**Energy and biofuels** – energy security and low-carbon transition

**Agribusiness** – planning, financing, and insurance

# Milestones in Brazil's Biofuels Policy

## 1931: Ethanol Blend

**1**

Mandated a 5% ethanol content in imported gasoline and introduced a 10% blend requirement for official government vehicles

**2**

## 1975: National Ethanol Program

Launched a national program to foster ethanol production as a strategic substitute for gasoline in response to the oil crisis, encompassing dedicated testing, technological development, and the deployment of ethanol-only applications

**3**

## 1980: Vegetable Oils Program

Undertook the development, research, and promotion of vegetable oils (e.g., soybean oil) as alternative fuels, encompassing the adaptation of diesel engines for use in agricultural and power-generating applications

**energy security**

**2017: RenovaBio**

4

A landmark federal policy that positions biofuels at the center of Brazil's low-carbon transition. By applying life cycle assessment to certify the carbon intensity of each biofuel producer, RenovaBio establishes a transparent and science-based framework

5

**2018: Route 2030**

A federal policy designed to stimulate innovation in the automotive sector, enhance energy efficiency and vehicle safety, and support technological advancement with a strong focus on environmental sustainability

6

**2024: Green Mobility and Innovation**

Policy framework to accelerate the energy transition in transport, combining life cycle assessment, incentives for cleaner technologies, and a balanced approach that recognizes both biofuels and electrification as strategic solutions for sustainable mobility

**carbon emissions**

**2024: Low-Carbon Hydrogen**

7

A national initiative fostering the development, production, and utilization of low-emission hydrogen, positioning it as a strategic vector in Brazil’s energy transition and sustainable development agenda

**2025: Energy Transition Acceleration Program**

9

A national framework to catalyze investment and Innovation in the energy transition, mobilizing financing for infrastructure, plants, and R&D in key low-carbon technologies, including biofuels, CCS, green ammonia, and hydrogen, positioning Brazil as a global leader in sustainable energy

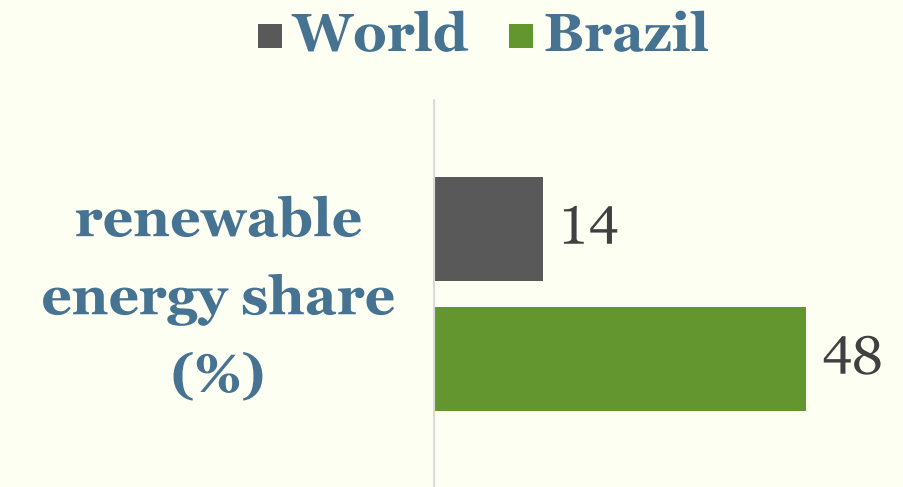
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**2024: Fuel of the Future**

A comprehensive federal policy designed to accelerate Brazil’s energy transition by strengthening the role of biofuels and other renewable alternatives in the national energy mix. The program raises mandatory blending targets for ethanol and biodiesel, establishes the legal and regulatory framework for emerging fuels, such as renewable diesel and SAF, creating conditions for investment, certification, and integration into domestic and international markets

**new markets**

# Brazil's energy transition in action



## Production

**Ethanol:** 36 million m<sup>3</sup>/year  
**Biodiesel:** 7.5 million m<sup>3</sup>/year  
**Biomethane:** rapidly expanding

## Environment

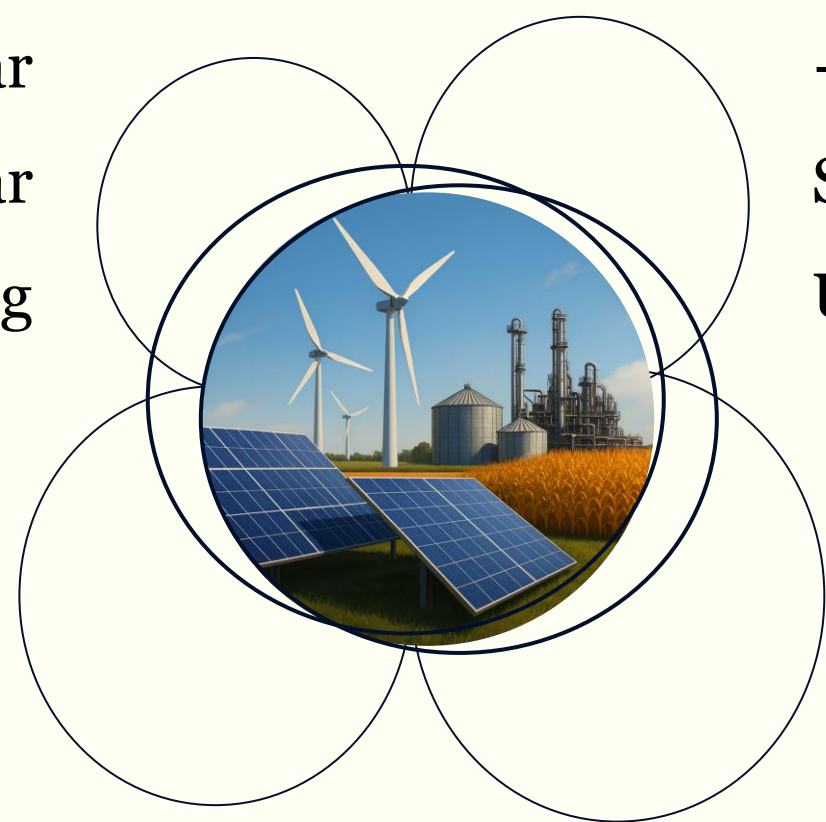
**+ 1.03 billion tons CO<sub>2</sub> avoided**  
 Significant reduction in respiratory diseases  
 Up to 90% fewer GHG vs. gasoline

## Social

**+ 1.5 million jobs**  
 boost to rural development  
 positive trade balance

## Innovation

CCS, green methanol and maritime  
 Renewable diesel and SAF  
 Hydrogen and green ammonia



# Ethanol: a global benchmark

**Brazil combines high blend mandates, a flex-fuel fleet, and strong ethanol consumption – a unique model worldwide**

National blend mandate  
raised from E27 to E30

85% of the light vehicle  
fleet is flex-fuel capable

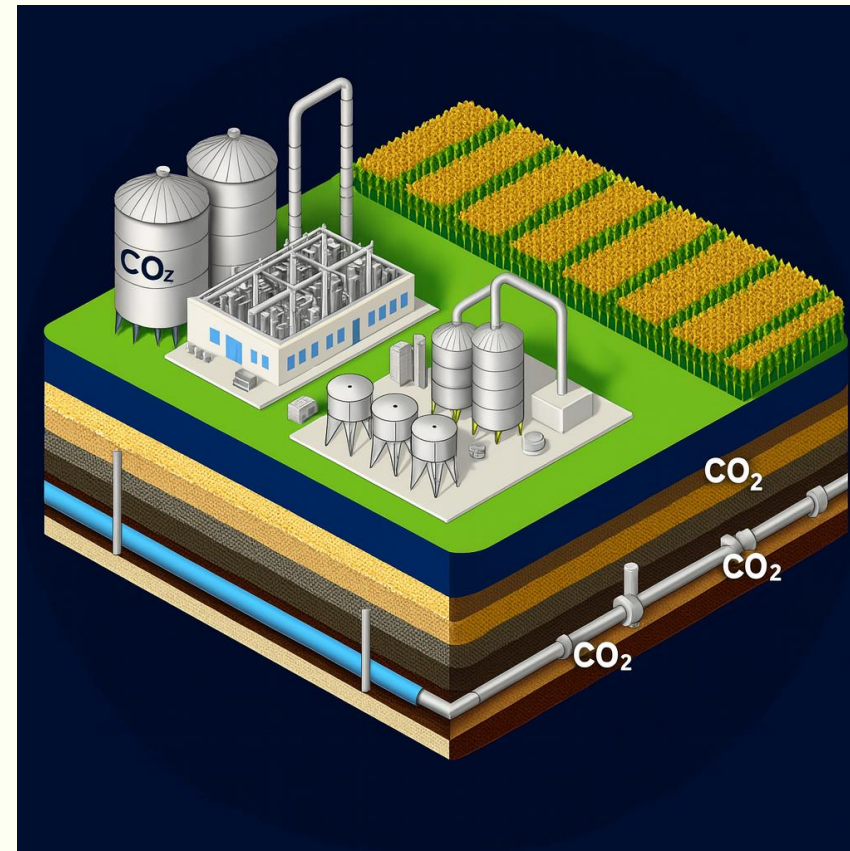
53% of all fuel consumed  
by light vehicles is ethanol



# Ethanol as a platform for decarbonization



Ethanol production in Brazil is based on **low-carbon sugarcane** and **second-crop corn**, with industrial processes powered largely by biomass energy, reducing the overall carbon footprint



Carbon captured during ethanol production can either be permanently stored underground (**CCS**) or transformed into value-added products such as **methanol**, thereby lowering the fuel's life-cycle carbon intensity



Ethanol can also be reformed into **hydrogen**, providing an additional pathway for low-carbon energy



# An integrated path to net zero

Sustainable transport and resilient food-energy systems



**Biodiesel, green diesel, ethanol, biomethane and hybrid cars** are extending the lifespan of combustion engines



**SAF** is the most cost-effective and efficient solution to reduce GHG emissions in aviation



**Diesel, ethanol and green methanol** are viable sustainable fuels for shipping



Synergies between **hydrogen, ammonia, and bio-based value chains** can strengthen both **energy and food systems**



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