Mr. Alessandro Gardeman

ABiogás

Associação Brasileira do Biogás



Global Biofuels Alliance (GBA) Webinar on Biomethane

Alessandro Gardemann

Chairman of the Board

25/06/2025

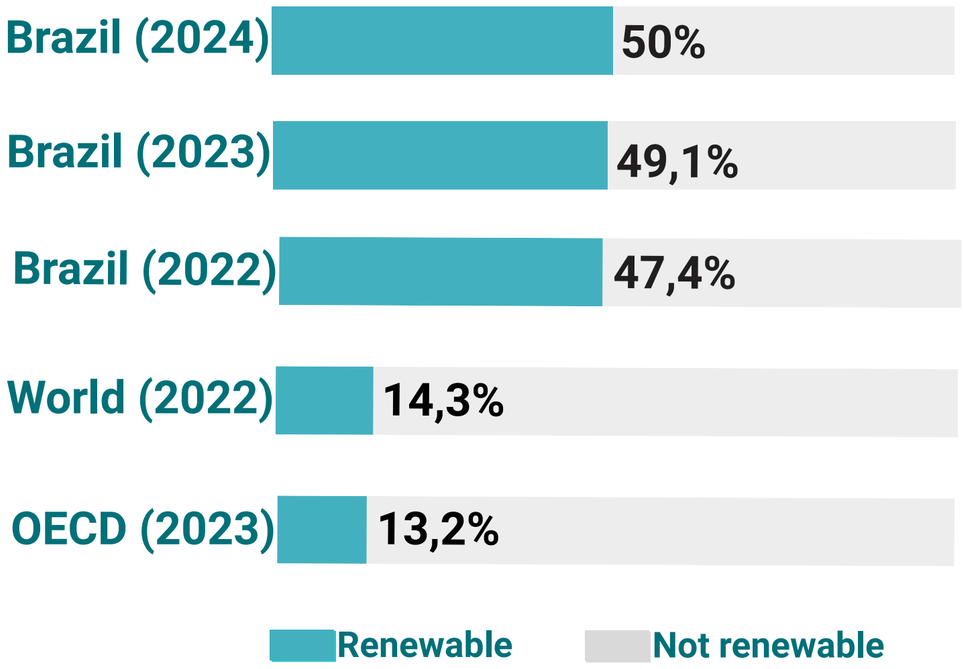


ASSOCIATED COMPANIES

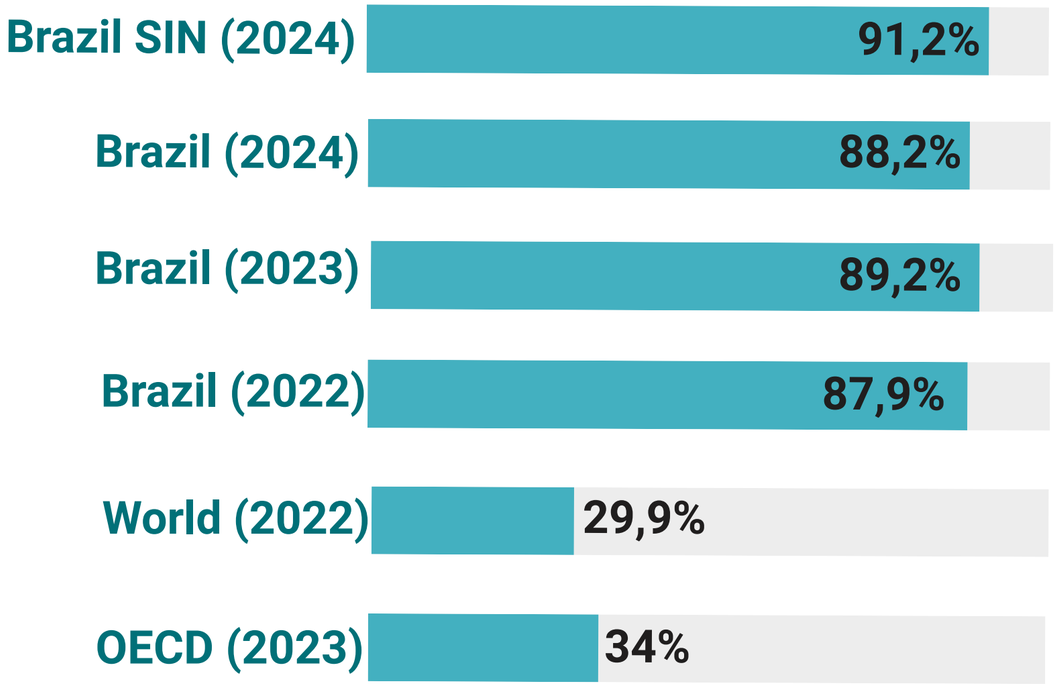
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GALILEO
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GásOrgânico
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Pietro Fiorentini
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São Martinho
SCHULZ
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SEBIGAS
SERVARE
SINERGAS
TOYOTA TSUSHO BRASIL
SOENERGY
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Statled Brasil
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SUPERGASBRAS
SWEP
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TBG
TPI
TERAWATT
Tereos
thymos
TIETJEN DAS ORIGINAL
TORMENE GROUP
TotalEnergies
TR4NSFORM ENERGY
TAG
ultragaz
Unilever
UVBMARCA
VAISALA
VEIRANO
VEOLIA
verve
VIBRA
VILLEMOR AMARAL
GBio ENERGIA
WAGA ENERGY
WHITE MARTINS
YARA
zilor

BRAZILIAN MATRIX

ENERGY MATRIX



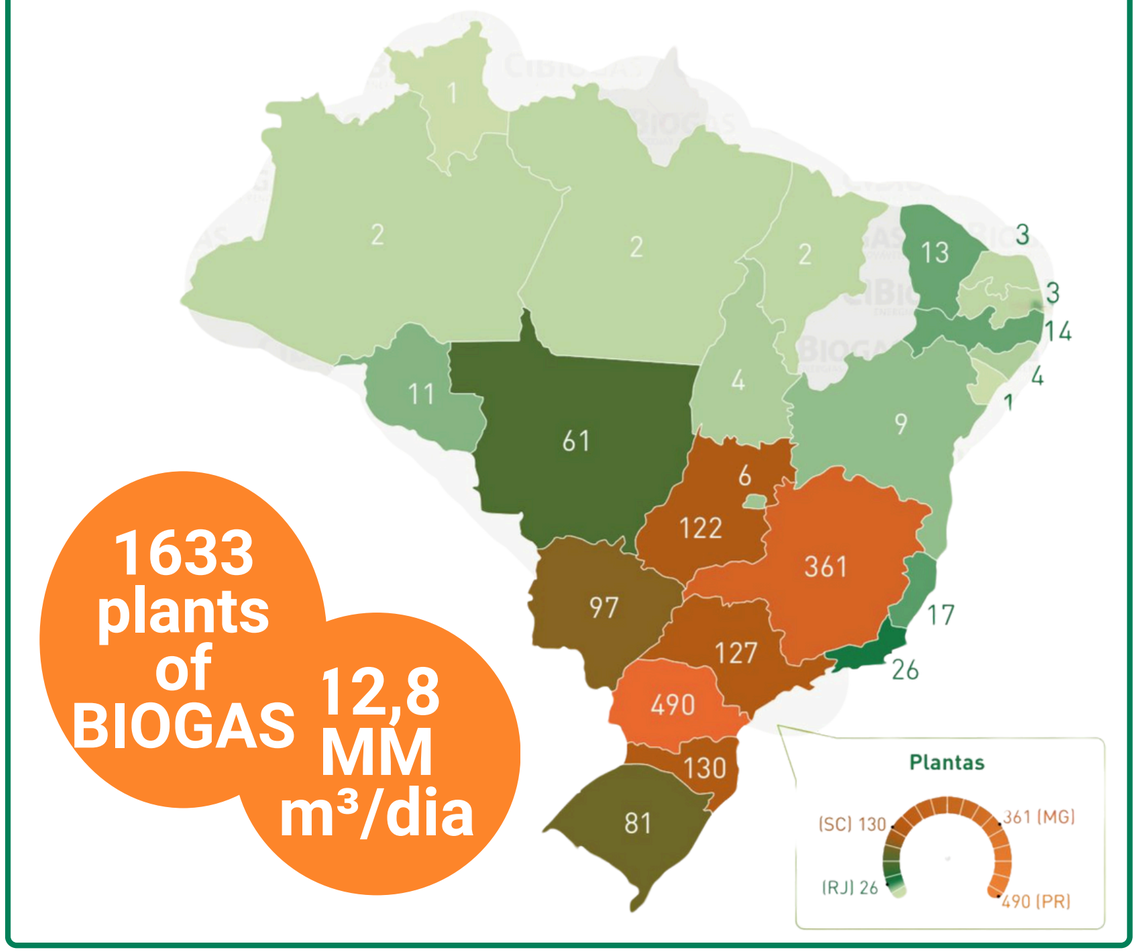
POWER MATRIX



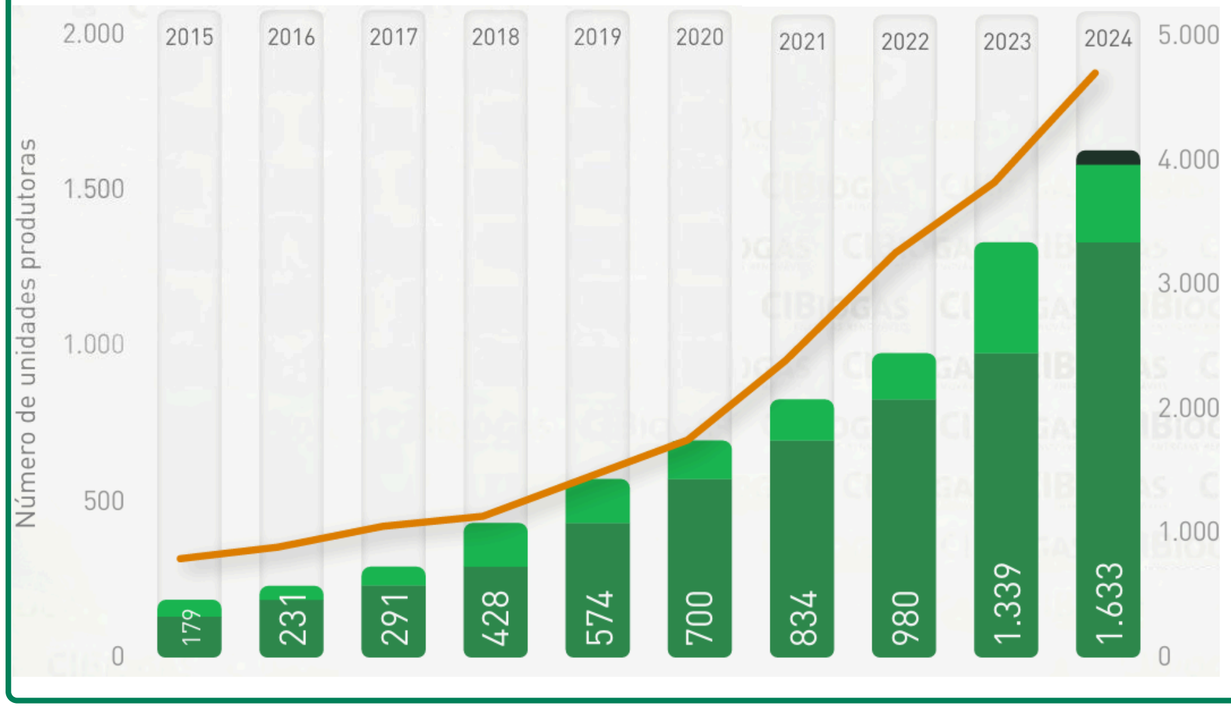
Source: National Energy Balance (BEN) 2024 - EPE

BIOGAS OVERVIEW

BIOGAS



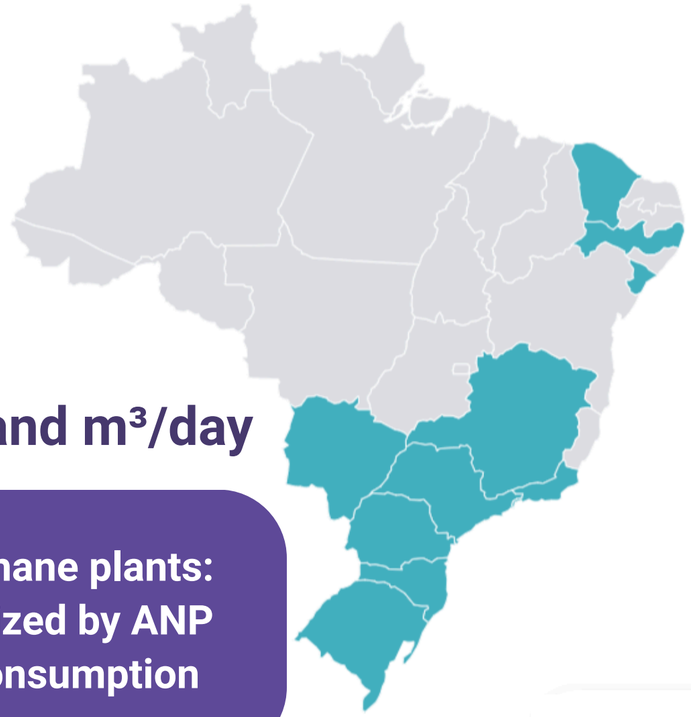
SECTOR GROWTH BETWEEN 2015 AND 2024



Source: Biogas Panorama - CIBiogás, 2025.

BIOMETHANE OVERVIEW

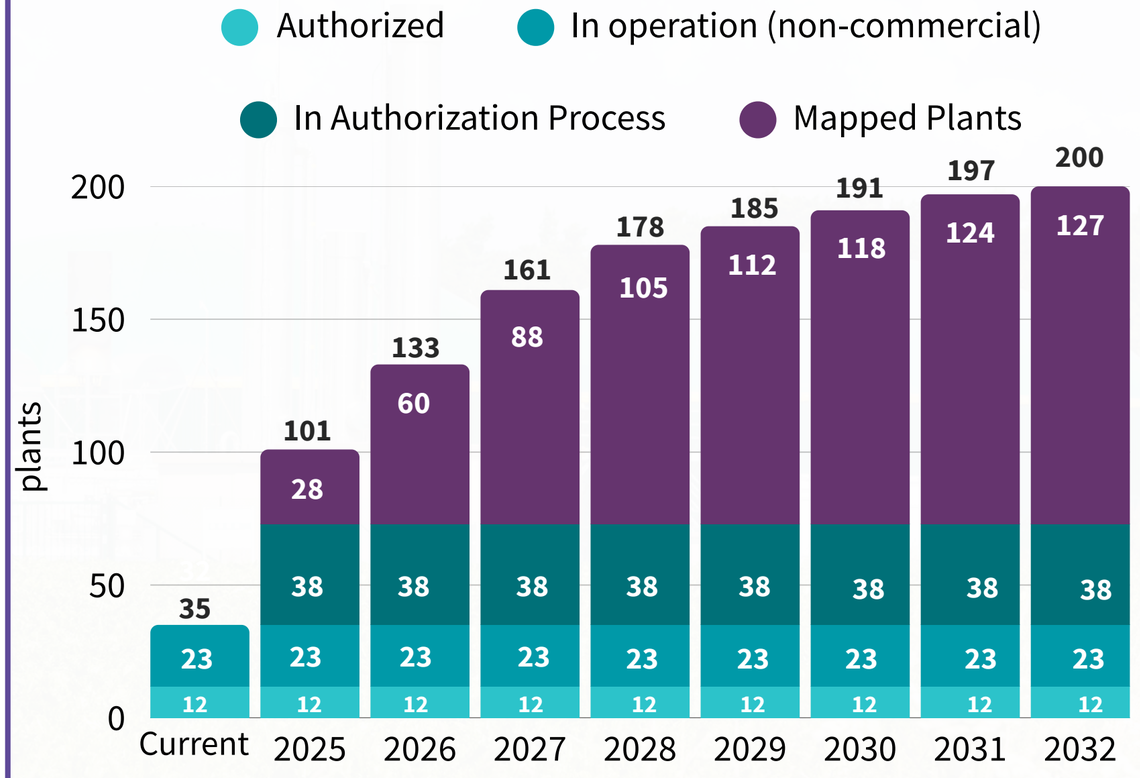
BIOMETHANE



874 thousand m³/day

35 biomethane plants:
12 authorized by ANP
23 self-consumption

ESTIMATED GROWTH OF BIOMETHANE UNTIL 2032



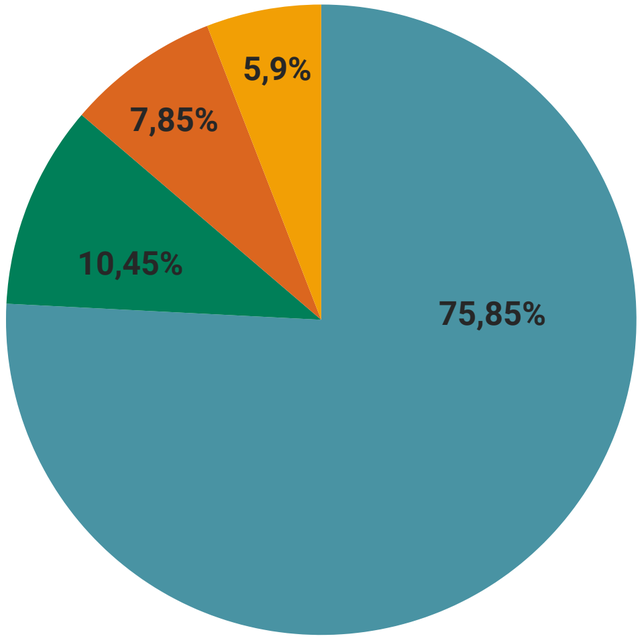
32	7,92 MM³/D
31	7,60 MM³/D
30	7,34 MM³/D
29	7,07 MM³/D
28	6,73 MM³/D
27	5,89 MM³/D
26	4,41 MM³/D
25	1,75 MM³/D

In Authorization Process → 1 509 973 m³/day

Source: ABiogás, ANP and CIBiogás, 2024.

SHORT-TERM POTENTIAL OF ABIOGAS

- Sugar-energy **26.48 million m³/day**
- Animal protein **3.65 million m³/day**
- Urban Solid Waste (MSW) **2.74 million m³/day**
- Sanitary sewage **2.06 million m³/day**



By 2030, biomethane production could reach

34.9 million

m³/day

Source: ABiogás based on the Study for the Development of the Potential for Biogas and Biomethane in the State of São Paulo by FIESP, 2024.

Long-term

Biomethane potential

120 million m³/day

Brazil produces biogas exclusively from waste

Anaerobic digestion is a natural and sustainable process that transforms organic waste into renewable energy, using only waste materials and not relying on any energy crops.



SUGAR CANE INDUSTRY



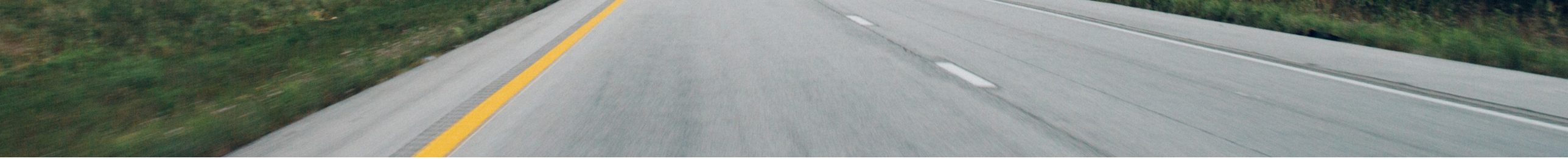
AGRICULTURE



ANIMAL MANURE



SANITATION



TRANSPORT

GÁS VERDE - URCA ENERGIA

Seropédica, RJ - Brazil



Substrate:
Landfill

Biomethane Volume:
120,000 m³/day

COMPANIES THAT USE BIOMETHANE IN THEIR FLEETS













TransMaroni chega a 50 caminhões











INDUSTRY

GEO BIO GAS&CARBON

Tamboara, PR - Brazil

INDUSTRIAL USE: FURNACES AND FORGES FOR METALLURGICAL PRODUCTION AT AESA AUTOMOLAS



Substrate:
Agroindustry

Biogas Volume:
86,880 m³/day

ZEG BIOGÁS

São José dos Campos, SP - Brazil

INDUSTRIAL USE: INDUSTRIAL CONSUMERS IN THE CHEMICAL AND GLASS SEGMENT



Substrate:
Sanitation

Biogas Volume:
30,000 m³/day

CIRCULAR ECONOMY

BLEY ENERGIAS

Londrina, PR - Brasil

CIRCULAR ECONOMY: TRANSPORT OF MILK AND ANIMAL FEED



Substrate:
Animal Manure

Biomehane Volume:
200 m³/day

ADECOAGRO

Ivinhema, MS - Brazil

CIRCULAR ECONOMY: POWER GENERATION AND TRANSPORTATION FUEL



Substrate:
Sugar cane industry

Biomethane Volume:
6,600 m³/day

YARA FERTILIZANTES

Cubatão, SP - Brazil

CIRCULAR ECONOMY: 5 THOUSAND TONS/YEAR OF RENEWABLE AMMONIA



Substrate:
Sugar cane industry

Biomethane Volume:
20,000 m³/day

FEDERAL REGULATORY INCENTIVES

FUELS OF THE FUTURE:
Creates of a decarbonization target that will be met through the mandatory purchase of biomethane by producers and importers of natural gas and creation of a certificate of guarantee of origin of biomethane. Decarbonization target of SAF.

MOVER:
Establishes that all government incentives must consider life cycle energy analysis when making policies to incentivize green mobility.

NATIONAL BIOFUELS POLICY - RENOVABIO:
Program that sets decarbonization goals for liquid fuel distributors, who need to acquire decarbonization credits(CBIOs) from biofuel producers.

PATEN:
Its objective is to facilitate access to credit for sustainable development projects. The program uses corporate tax credits with the federal government to finance initiatives related to the energy transition, including biogas and biomethane projects among its priority sectors.

HYDROGEN LEGAL FRAMEWORK AND INCENTIVES TO GREEN AND RENEWABLE HYDROGEN:
Regulates the production of hydrogen considered low-carbon and establishes a voluntary certification.

NEW GAS LAW:
Brought measures to opening the gas market in Brazil and establishes that biomethane that complies with ANP standardization must have equal regulatory treatment of natural gas.

NATIONAL POLICY FOR SOLID WASTE:
Established targets for improving the management of urban solid waste, including biogas production.

CARBON MARKET:
Established a regulated carbon market, creating mechanisms for the trading of carbon credits. This initiative aims to encourage the reduction of greenhouse gas emissions and promote investments in clean technologies, such as biogas and biomethane.

LAW No. 14,993/2024

Promotion of sustainable low-carbon mobility and the capture and geological storage of carbon dioxide.

National Program for Decarbonization of Natural Gas Producers and Importers and Incentive to Biomethane

GUIDELINES

I

Recognition of the use of biogas and biomethane to meet decarbonization goals.

II

Recognition of LCA as the best methodology for measuring the reduction of GHG emissions and the environmental benefits of technological routes.

GOALS

I

Stimulate the production and consumption of biomethane and biogas with projects in the production chain.

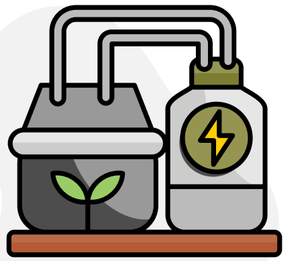
II

Encourage heavy vehicles, agricultural machinery and engine conversion to methane.

III

Promote infrastructure to connect biomethane plants to natural gas networks, with economic viability.

NATIONAL PROGRAM FOR DECARBONIZATION OF NATURAL GAS PRODUCERS AND IMPORTERS AND INCENTIVE OF BIOMETHANE



1

DECARBONIZATION GOAL

CNPE defines the mandatory decarbonization target, from 1 to 10% from 2026.

DEFINITION OF THE VOLUME OF BIOMETHANE TO BE ACQUIRED

2

The ANP will define the volume of biomethane according to the percentage of the mandatory annual target for reducing greenhouse gas emissions in the natural gas market.

BIOMETHANE OR CGOB

3

Natural gas producers and importers must prove decarbonization through the purchase or use of a minimum volume of biomethane or the acquisition of a Biomethane Origin Guarantee Certificate - CGOB.





CGOB MARKETING

4

The CGOB and biomethane acquired may be freely traded until their retirement by those who are interested in effectively decarbonizing, but may only be used to achieve objectives once.

CGOB NEGOTIATION

5

The Biomethane Origin Guarantee Certificate may be traded in organized markets, including at auctions.





CGOB REGULATION

6

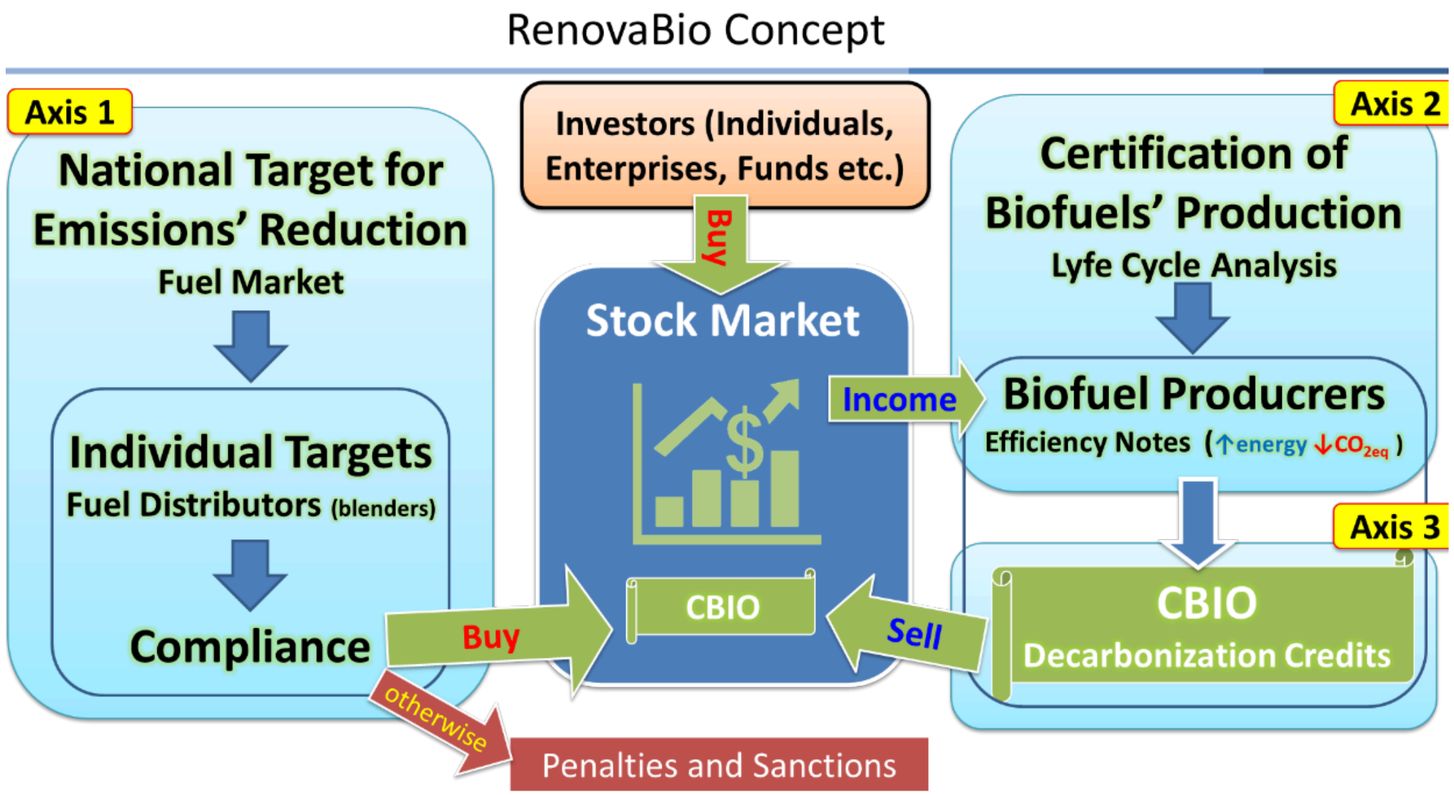
The regulation will provide for the issuance, maturity, intermediation, custody, bookkeeping, negotiation and other aspects related to the CGOB.

REGULATORY INCENTIVES

NATIONAL BIOFUELS POLICY - RENOVABIO: Program that sets decarbonization goals for liquid fuel distributors, who need to acquire decarbonization credits(CBIOs) from biofuel producers.

US$ 19,30 (average value on April 12, 2024)

Since the beginning of RenovaBio, the prices of credits have ranged from US$ 2,89 to US$ 40,31



STATE REGULATORY INCENTIVES

GREEN SUPPLY CONTRACT:

Natural Gas distribution companies in the State of São Paulo may sign with consumers a contract that will provide biomethane to consumers, by charging an additional price.

PARANÁ RENEWABLE RURAL ENERGY - RENOVAPR:

Special financing conditions for renewable energy generation, including biogas and biomethane production.

SIMPLIFICATION OF ENVIRONMENT LICENSING BUREAUCRACY:

State of Paraná establishes different environmental licensing process according to the environment risk presented by different sizes and kinds of residues used in plants.

THE SUSTAINABLE CORRIDORS PROGRAM:

State incentives to adapt fuel stations to supply trucks with natural gas and biomethane and federal incentives for the substitution of diesel truck fleet to CNG and LNG motors.

BIOMETHANE MANDATORY MIXTURE:

State of Rio de Janeiro obliges natural gas distribution companies to have a 10% mixture of biomethane, but it sets a very low cap price for the acquisition of biomethane.

PUBLIC CALLS FOR BIOMETHANE PROCUREMENT:

In 2024, eight public calls for biomethane highlighted the sector's growth and its role in energy diversification. Initiatives in states like Alagoas, Bahia, Pernambuco, Paraná, São Paulo, and Mato Grosso do Sul are driving investment and regional integration.

TAX INCENTIVES

CONSTITUTIONAL AMENDMENT Nº 123/2022

Established that taxation of biofuels and renewable hydrogen must be lower than the taxation of fossil fuels, to guarantee competitiveness.

SPECIAL REGIME OF INCENTIVES FOR INFRASTRUCTURE DEVELOPMENT (REIDI)

Reidi's tax incentive consists of suspending the incidence of contributions to PIS (1.65%) and COFINS (7.6%) on revenues arising from the acquisitions of good necessary to the construction of biogas and biomethane plants

REDUCTION OF ICMS (IVA) RATE FOR BIOGAS AND BIOMETHANE

Reduces tax rate on biogas and biomethane transactions to 12% in some states.

TAX REFORM

It simplifies taxes and strengthens the competitive advantage of biofuels, setting IBS and CBS rates at up to 60%, in relation to fossil fuels.

INCENTIVATED DEBENTURES AND BONDS

Tax reduction for renewable energy infrastructure companies that issue bons and debentures.

ABiogás

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Alessandro Gardemann

Chairman of the Board