

Brazil Joins Global Biomethane Expansion

International study commissioned by Instituto MBCBrasil places the country alongside the USA, China, India and Spain in renewable fuel for transport

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EINPresswire.com/ -- ["From Waste to Wheels"](#) – Turning Organic Waste into Renewable Fuel for Transport," an

international study commissioned by Instituto MBCBrasil, places Brazil among the world's fastest-growing biomethane markets, alongside the United States, China, India, Spain, Ireland, Austria and Belgium.

The study maps the development of biomethane across approximately 40 countries. The fuel is already used in transport in nearly 30 markets and has reached commercial scale in more than 12. At the other end of the spectrum are established markets such as Sweden, Germany, Italy, France, the Netherlands, Denmark, Finland, Switzerland, the United Kingdom and Norway, as well as the U.S. state of California, where biomethane already accounts for 97% of the gaseous fuel used in road transport.

Each market has followed a different pathway. Europe has 1,678 biomethane plants in operation and more than 100,000 industrial facilities that could be adapted for biomethane production. China, with a 260,000-kilometer natural gas network, already operates approximately 40 million biodigesters. In the United States, the study identified 470 biomethane projects in 2023, while India has 7.7 million gas-powered vehicles, supported by a natural gas vehicle market of 7.6 billion m³ per year. Automakers already offer CNG- and LNG-powered platforms for passenger vehicles, freight transport, municipal fleets and agricultural applications, while tanker-truck distribution networks — known as virtual pipelines — are bringing the fuel to regions without physical pipeline infrastructure.

The pace of growth is also reflected in projections for Europe, which currently accounts for approximately 22 billion m³ of biomethane per year. Under the REPowerEU plan, the European Union has set a target of reaching 35 billion m³ by 2030. The study projects an increase to approximately 132 billion m³ by 2040, with the sector potentially reaching between 181 and 205 billion m³ per year by 2050.

In Brazil, the landscape combines a largely untapped resource with an industry that is already operating at commercial scale. The country currently has 755 biogas plants and approximately 345 sugarcane processing facilities in operation, yet less than 2% of the estimated biomethane



Photo: Cocal/Narandiba Plant.Credit: Esquina.CC

potential of 41.4 billion m³ per year from the sugarcane sector alone is currently utilized. In São Paulo, according to the study, biomethane is already competitive with diesel and could replace approximately 50% of the fossil fuel used in regional freight transport. Beginning in 2026, the program established under Brazil's Fuel of the Future Law sets greenhouse gas emission reduction targets for the natural gas market through incentives for biomethane. For 2026, the target was set at 0.5% and may be gradually increased in subsequent years, up to a maximum of 10%.

Evidence that this potential is already being translated into real-world operations can be found at Cocal's facility in Narandiba, São Paulo, which has been operating since 2020. There, vinasse and filter cake — residues generated during sugarcane processing — feed vertical biodigesters capable of monitoring parameters such as pH and temperature in real time, resulting in daily production of approximately 50,000 Nm³ of biomethane.

The facility is featured in a new documentary produced by Instituto MBCBrasil-, which also presents the BioRota project and shows in practice how residues can be converted into renewable fuel — precisely the type of solution highlighted by the study as a pathway for Brazil to unlock its biomethane potential.

"The study shows that Brazil is not trying to catch up with a trend; it is joining a movement that is already a reality in nearly 30 countries. The difference is that few of these markets have the scale of feedstock available in Brazil. Being alongside the United States, China, India and Spain among the markets experiencing rapid expansion is recognition of our potential, but it is also a call to action to unlock it," says José Eduardo Luzzi, Chairman of the Board of Instituto MBCBrasil.

For Professor Gláucia Mendes Souza of the University of São Paulo (USP), leader of IEA Bioenergy Task 39 and one of the study's authors, looking at these figures side by side changes the way the topic is traditionally discussed in Brazil.

"Biomethane is not a bet being made by a single market. It is already being tested, scaled up and financed in very different economies, from California to India. Brazil joins this group with an advantage that few countries have: the volume of agro-industrial residues available. The case of São Paulo shows that this advantage can already be translated into real-world operations," says Souza.

About Instituto MBCBrasil

Instituto MBCBrasil is a multisectoral organization dedicated to accelerating the decarbonization of mobility in Brazil. Established through the collaboration of companies, associations, research institutions and workers, the Institute's mission is to translate technical evidence into public policy and foster sustainable mobility solutions.

Its work focuses on promoting viable decarbonization pathways, advancing technologies related to bioelectricity and supporting a fair energy transition. Guided by the principle of technology neutrality, Instituto MBCBrasil encourages the integration of biofuels, electrification and new renewable energy sources, strengthening industrial competitiveness and fostering jobs, income and innovation while positioning Brazil as a global leader in the energy transition.

For more information, visit Instituto MBCBrasil's website and follow the Institute on LinkedIn and YouTube.

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