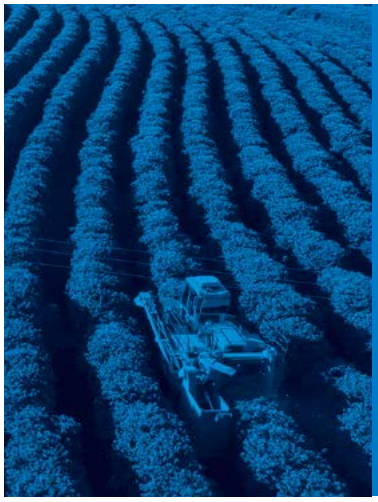

# Overview of Public Incentives for Methane Abatement Practices in Brazilian Agriculture

March 2025

**Contents**



## Report summary

**This brief will present a comprehensive analysis of the panorama of public incentives related to agricultural methane abatement currently in force in Brazil. It assesses the main instruments and policies including the Safra plan, the ABC+/RenovAgro plan, the Brazilian Sustainable Taxonomy, the Ecoinvest programme, the Brazilian sovereign debt agenda, the decree on the National Programme of Conversion of Degraded Pastures into Sustainable Agricultural and Forestry Production Systems (PNCPD), as well as commitments made in the climate plan and the nationally determined contribution (NDC), highlighting how each addresses practices and technologies aimed at mitigating methane emissions in the agricultural sector.**

**The analysis will focus on the objectives, guidelines and mechanisms implemented by these initiatives, seeking to highlight their alignment with the country's climate goals and their effectiveness in promoting sustainable practices in the context of agriculture.**

Climate Bonds Initiative

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Global Methane Hub

**17%**

**Methane accounts for around 17% of the total volume of GHG released into the atmosphere**

# Introduction

**Methane ($CH_4$) is the second largest contributor to climate change among greenhouse gases (GHGs) in terms of volume,** accounting for around 17% of the total volume of GHGs released into the atmosphere.[1] Despite this relatively lower volume, the global warming potential of $CH_4$ is more than 80 times greater than that of carbon dioxide ($CO_2$) during the 20 years following its emission into the atmosphere. This potential is due to the amount of energy the gas absorbs while it is in suspension. In contrast, methane has a much shorter lifetime in the atmosphere than $CO_2$, which has profound implications for target setting and metrics.[2]

**Due to its high potency as a GHG and its short stay in the atmosphere, reducing methane emissions quickly, significantly, and sustainably is crucial to limiting global warming in the short term.** In this sense, public policies aimed at $CH_4$ abatement play a fundamental role both in encouraging investments and new technologies, and in directing capital to this end.

**This brief aims to provide an overview of how current policies and programmes in Brazil encourage methane abatement practices in agriculture (the main $CH_4$ emitting sector in the country), in order to serve as a starting point for a discussion on improving these instruments.**

# 3%

**Brazil emits around 3% of the global GHG total**

## General context of methane emissions in Brazil

**Brazil is one of the main global emitters of GHG, with around 3% of the world total.**[3] Despite the significant reduction in deforestation between 2022–2023 (24%), land use change still accounts for almost half of all the country's emissions and individually is the main challenge to be tackled in order to take Brazil on the decarbonisation path it set out in its commitments. However, there are other important decarbonisation levers that can be considered, and methane abatement is an opportunity.

# 5th

**Brazil is the fifth largest methane emitter in the world according to Climate Observatory**

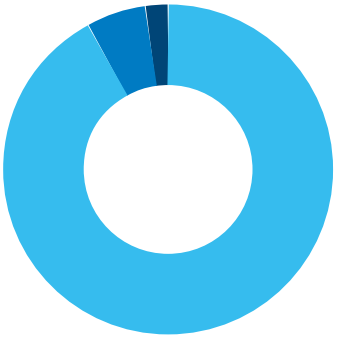
**A report from the Climate Observatory's system for estimating GHG emissions (SEEG) estimates that Brazil is the fifth largest methane emitter in the world, with emissions equivalent to 5.5% of the total global volume of $CH_4$.** Based on consolidated data up to 2020, it was estimated that Brazilian methane emissions were in the order of 21.7m tonnes, which corresponds to around 565m tonnes of $CO_2$ equivalent, around 25% of the country's total GHG emissions.[4]

**Agriculture is the largest emitter of methane in Brazil, responsible for 72% of the country's total emissions.** Other relevant sectors and activities in the context of $CH_4$ emissions in the country are waste management, with 16% of the total volume, as well as land use change, and energy and industrial processes, with 9% and 4% of total methane emissions, respectively.

# 72%

**Agricultural methane is responsible for 72% of Brazil's total emissions**

Chart 1 **Global agriculture methane emissions per sector**



**Livestock** 92%
**Animal waste management** 6%
**Irrigated rice cultivation** 2%

**Looking at agriculture in detail, livestock farming, mainly due to enteric fermentation in cattle, accounts for 92% of all emissions from the sector,** followed by animal waste management and irrigated rice cultivation, with 6% and 2% of total agricultural emissions, respectively.

Between 2005–2020, SEEG data shows that the volume of methane emissions in Brazilian agriculture remained virtually stable, at 14.0–14.5m tonnes per year. When the 10% increase in the cattle herd for the period is taken into account, the data indicates a gain in efficiency in methane emissions per unit of production.[5] However, the total volume of emissions from Brazilian agriculture remains high, with no clear path to absolute reduction. Mitigating methane emissions in agriculture requires both improving existing practices and adopting innovative solutions.

**Reducing the herd, which is the most obvious measure for immediately reducing absolute emissions, should be assessed as part of a strategy for the sector's productive transformation in short-, medium- and long-term stages,** incorporating, for example, plans such as recovering degraded pastures with the promotion of new productive activities (e.g., bioeconomy and agroforestry), integrated crop, livestock and forest systems (ILPF), the development of additive technologies for animal feed, and alternative proteins. In addition, conditions should be discussed for changing consumer behaviour globally that point to a reduction in demand for livestock products.

**To make this transformation feasible at all stages, it is essential to increase funding for activities, projects, and technologies aimed at reducing emissions.** However, the availability of long-term capital is still a challenge, since investments in sustainable agriculture require patient capital to capture the greatest return. In addition, other barriers such as the lack of clear sectoral guidelines, availability of data to measure impact, and adequate financial mechanisms also inhibit investors from acting.

**In order to tackle some of these challenges, public initiatives as well as global climate standards and frameworks play a fundamental role in defining criteria for directing investments** towards mitigating emissions. The section below explores how different policies and programmes in Brazil have addressed this issue. The following section highlights how the Climate Bonds Criteria can help identify investment opportunities in methane abatement in agriculture.

# Public policies and incentives for methane abatement in agriculture

Understanding the current landscape of existing policies is essential to identifying opportunities for improvement and this section highlights several federal public policies and initiatives which Brazil has introduced to encourage methane abatement in the agricultural sector.

**30%**

**Global Methane Pledge (GMP), which is a commitment to reduce methane emissions by 30% by 2030**

### Public initiatives for the Brazilian climate agenda

**Brazil joined the Global Methane Pledge (GMP), which is a commitment to achieve a reduction in methane emissions of 30% by 2030, launched at COP26 in Glasgow. As a direct result, the Brazilian government launched the zero-methane programme at the beginning of 2022, which focuses on the energy use of solid urban and agricultural waste through the production of biogas and biomethane.**[6] The programme's launch document briefly presents some credit and financing measures for the implementation of biodigesters, purification systems, among others, as well as tax breaks for related infrastructure. It also mentions the opportunity to generate methane credits to create additional revenue for the projects. This programme, however, does not target efforts to reduce methane emissions from agriculture and the results so far do not seem to be conducive to achieving Brazil's reduction commitment. No data was found reporting progress in its implementation, which suggests that its guidelines may have been incorporated into other macro initiatives related to climate change after 2023, with the change of government.

**In 2023, in a joint effort by the new Brazilian government and under the leadership of the Ministry of the Environment and Climate Change, the foundations were laid for the climate plan, to redefine the country's climate change mitigation and adaptation strategies.** With a time horizon extending until 2035, the climate plan includes national targets for mitigating GHG emissions, defining the national mitigation strategy, with national guidelines and priorities, as well as sectoral mitigation plans for seven economic sectors including agriculture, livestock, and land use. These plans are still being drafted and are expected to incorporate commitments and actions for methane abatement.

**59-67%**

**Brazil climate target for 2035 is to reduce net GHG emissions by between 59% and 67% compared to 2005**

**In November 2024, Brazil presented its new climate target for 2035 at COP29 in Baku, with a commitment to reduce net GHG emissions by between 59% and 67% compared to 2005.**[7] This commitment entails achieving total emissions of 850m to 1.05bn tonnes of $CO_2$ equivalent in 2035. The text that presented the new NDCs defined 'promoting the widespread adoption of sustainable agricultural and livestock production models with low greenhouse gas emissions' as one of its objectives, but it does not link this promotion to any specific methane abatement action for the sector. It also mentions the reduction of methane emissions in two sectors. Firstly, with reference to the waste sector, as an opportunity to capture gas for energy utilisation, and then to the oil and gas sector, where it mentions a resolution on production and exploration

activities. The expectation is that with the development of the NDCs into sectoral plans, methane will be incorporated into the mitigation strategy for agriculture.

**In another important signal from Brazil regarding its position on the climate agenda, the Ministry of Finance launched the ecological transformation plan (ETP) at COP28 in Dubai, to promote the country's development in a sustainable and inclusive way.**[8] The ETP is structured around six axes: (i) sustainable finance, (ii) technological densification, (iii) bioeconomy and agrifood systems, (iv) energy transition, (v) circular economy and (vi) new green infrastructure and adaptation. According to the Brazilian government, the ETP delivers an innovative approach by integrating the environmental agenda with economic and social development.

In the area of sustainable finance, the ETP has been developing implementation mechanisms such as the Brazilian sustainable taxonomy, a classification system that defines assets and categories of projects that contribute to climate, environmental, and social objectives, offering a standardisation of these concepts that tends to guide decision-making on sustainable investments in the country. The regulated carbon market, the sustainable sovereign bond agenda, and the Eco Invest Programme are other examples of tools being developed under the ETP.

The ETP's bioeconomy and agrifood systems axis covers initiatives aimed at developing products, processes, and services based on the sustainable use of land and natural resources. The Safra plan and the programme for financing sustainable agricultural production systems (RenovAgro), payments for environmental services, and the PNCPD are examples of public initiatives aimed at creating solutions for the sustainable development of agriculture in the country.

**Brazil has a tradition of offering financing to the sector and can use such instruments to increase the impact of sustainable practices**

## Opportunities for financing methane abatement for agriculture in public policy instruments

All these initiatives, from joining the GMP to the ETP, can offer important tools to help direct resources towards investments in methane abatement in Brazilian agriculture. However, these initiatives need instruments that define the scope and conditions under which support should be offered, as well as the expected impacts and means of measuring the results.

Brazil has a tradition of offering financing to the sector and can use such instruments to increase the impact of sustainable practices. They would follow on from other instruments that have already been developed to broaden the scope and encourage a low-carbon economy. Defining and regulating these public policy instruments is fundamental to efficiently directing capital to investments that promote the reduction of $CH_4$ emissions in agriculture. Some of these instruments and their potential for addressing opportunities for methane abatement are outlined below.

The rural credit manual, within RenovAgro, establishes reducing greenhouse gas emissions from agricultural activities as one of the objectives of this targeted credit.[9]

It indicates goals such as the 'implementation, improvement, and maintenance of waste management systems from animal production', but there is no explicit association of purposes or bankable items that specifically promote methane abatement.

The Brazilian sustainable taxonomy, a document still under development at the time of writing, more explicitly describes some practices that promote the reduction of methane emissions in livestock farming. Firstly, in the list of measures that prevent significant damage to each of the climate and environmental objectives in the agriculture booklet, the text highlights: (i)implementation of biodigesters to capture and use the biogas and biofertilisers generated by manure, reducing methane emissions and (ii) use of feed additives that reduce enteric methane production in ruminants'.[10] The document under public consultation still presents a practice aimed at grazing livestock. However, the final text is required before a full assessment of the impact of taxonomy on methane abatement can be made.

The Brazilian framework for sustainable bonds, a document that sets out the conditions for the sovereign sustainable debt emissions agenda, includes a category for uses of resources related to the sustainable management of living and natural resources and land use and lists as eligible expenses 'sustainable agricultural practices and climate-smart agriculture that avoid or minimise soil degradation', 'recovery of degraded pastures', and 'animal waste management', among others.[11] Thus, the framework signals the intention to promote practices to reduce emissions in a broad way but does not directly link the use of resources to investments to reduce methane in agriculture.

Eco Invest is another ETP initiative in the sustainable finance axis, created to promote investments that foster the transition to a sustainable economy. To solve the problem of limited capital for financing sustainable projects, the blended finance solution was launched this year, offering partial funding through an auction process to reduce project costs and risks.[12]

**BRL 44.3bn**

**Nine banks are expected to leverage a total of BRL44.3bn in new sustainable investments in Brazil**

The first Eco Invest auction was concluded in November 2024 and included nine banks that together are expected to leverage a total of BRL44.3bn (USD7.5bn) in new sustainable investments in Brazil. For bioeconomy and agrifood systems, the project values correspond to around 12% of this total. The list of eligible activities for these sectors includes, for sustainable agricultural production, 'implementation and management of crop-livestock-forest integration systems and agroforestry systems, provided that it demonstrates a significant reduction in GHG emissions compared to conventional techniques'.[13] In this way, the programme opens the door to funding methane abatement practices, but there is no direct intention to promote such practices.

These public policy instruments can play a key role in reducing methane emissions in agriculture. Beyond them, it is important that these efforts are complemented by guidelines and frameworks that guide the private sector and financial markets in allocating capital to sustainable solutions. In this sense, initiatives that establish clear standards for financing activities compatible with the climate transition are essential

to ensure greater transparency, credibility, and impact of investments. The following section discusses how Climate Bonds Criteria contribute to this process, providing a technical benchmark for investments aligned with the decarbonisation of the sector.

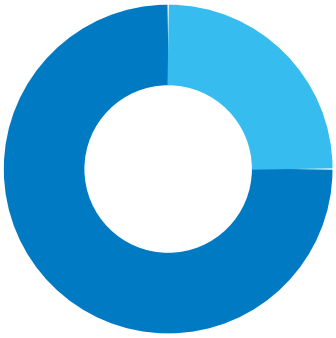
### The new Climate Bonds Agricultural Criteria

**With the aim of promoting the mobilisation of capital for investments in agricultural production in line with the goals of the Paris Agreement, Climate Bonds launched its new Agriculture Criteria in October 2024.**[14] Among the various practices and decarbonisation paths for the sector highlighted by the Criteria, the document also emphasises some of the activities for methane abatement:

**Both the list of activities and, more broadly, the Criteria themselves, should be used as a technical-scientific reference by different stakeholders to accelerate the agricultural sector's transition to a low-carbon economy.** In the context of public policy, the Criteria can be incorporated into financing instruments and incentives, directing resources towards practices aligned with the country's climate goals. In addition, they serve as a basis for structuring labelled debt securities, such as green loans, green or sustainability-linked bonds.

Companies in the agricultural sector can also adopt the Criteria as a reference for developing their transition plans and decarbonisation strategies, signalling to the market, investors, and regulators the ambition of their climate commitments. For investors and financial institutions, the Criteria offer a robust framework for evaluating and selecting projects and assets eligible for sustainable financing, reducing risks and increasing market transparency.

| Certification Route | Eligible Measure |
|---|---|
| A) Production and use of organic fertilisers in crops (perennial and non-perennial, including pastures) and animal production units, to reduce emissions of $N_2O$, $CH_4$ and/or $CO_2$. | Production and use of organic fertilisers on the farm, including composting/biochar from agricultural waste (including vermicomposting). |
| B) Improved flooded rice systems to reduce methane emissions ($CH_4$). | Improved rice production through effective water management and straw residue management, implementing practices aimed at reducing flooding days by at least 10%. |
| C) Transforming animal production systems to reduce $CH_4$ emissions. | Transition from farm income to herd size reduction:<br>- Reducing herd sizes by at least 50% on large operations can decrease methane emissions while supporting carbon sequestration efforts through better grazing practices.<br>- Investments in alternative proteins (e.g., cultured or plant-based meats) and lower-emission animal production systems can provide opportunities. |
| D) R&D on alternatives to replace or reduce animal production systems to reduce $CH_4$ emissions in livestock systems. | R&D into meat and dairy alternatives to replace or reduce animal production systems. |
| E) Use of waste management in crops (perennial and non-perennial) and animal production systems to reduce GHG emissions. | Optimisation of the use of agricultural waste that avoids combustion/degradation and promotes circularity. |
| F) R&D for climate mitigation. | R&D in agricultural practices and technologies to reduce methane emissions from enteric fermentation. |



**25%**

**Methane responsible for around 25% of all Brazil´s GHG emissions**

# Conclusion

**Methane is a relevant gas in Brazil's emissions inventory, responsible for around 25% of all the country's GHG emissions.** Any emissions mitigation strategies to combat climate change must clearly address methane emissions, offering benefits and alternatives for their progressive and consistent reduction.

**Livestock farming is by far the largest contributor to methane emissions in the country and should therefore be the target of specific public policies for this purpose.** Over the last few years, Brazil has developed good policy instruments to support the development of sustainable practices in agriculture, but these are lacking when it comes to targeting incentives to reduce methane emissions in the sector.

**The country has made great efforts to combat illegal deforestation, which is Brazil's main source of emissions, and must increase its ambition to combat all forms of deforestation and conversion.** Equally, the country must target methane reductions from agriculture to accelerate its decarbonisation path. One way to do this is to clearly define policies and incentives for this purpose. While several of the public initiatives analysed lay the foundations for promoting methane abatement in agriculture, the absence of clearer and more targeted strategies aimed at combating $CH_4$ in national agricultural practices may limit the potential to achieve their purpose.

**The challenge of combating climate change is complex and requires various approaches which, to some extent, may involve prioritising the actions with the greatest potential for impact.** Understanding Brazilian agriculture GHG emissions and prioritising actions in the sector can offer an efficient way of coordinating efforts to capture more opportunities, given the sector's natural potential for leadership in the climate agenda.

# End notes

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