



FAEP SYSTEM AT COP 30

PARANÁ AGRICULTURE AND
LIVESTOCK SOLUTIONS FOR
THE CLIMATE AGENDA



FAEP SYSTEM

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Brazil will host the 2025 United Nations Climate Change Conference, known as COP 30, between November 10 and 21. This means the world's eyes will be focused on our country. At the conference, dozens of nations will discuss ideas and projects to lay the groundwork for public policies and actions on a global scale for the sustainable development of our planet. The event provides an opportunity for the agricultural sector to demonstrate not only its importance and relevance, but also its decisive role in achieving the 17 Sustainable Development Goals (SDGs), with 169 targets to be attained by 2030.

Our rural producers have masterfully accomplished the mission of producing sustainably, while respecting natural resources and people. It has always been the case, and it will remain so. The matter now is ensuring that the world is made aware of the activities of the agricultural sector.

Nowadays, a series of ideological factors impede the achievements of agriculture and livestock farming from coming across clearly, especially in urban areas. We have an urgent duty to reverse this situation. The world needs to learn about the agricultural sector's contributions. The starting point for this change relies on us, producers, and every organization involved in agricultural production. We have to communicate more effectively with the public in terms of our daily activities, as we produce with excellence and sustainability.

This report is no less than part of this process. The document presents countless solutions from Paraná's agriculture and livestock sector for the climate agenda. The list is extensive and encompasses sustainable management techniques and practices focused on the reasonable usage of technologies and inputs, which align Paraná's production with the global challenges of sustainable production.

The planet is to be aware of all the work carried out by the FAEP System and our rural producers in Paraná. We will put the spotlight on the various sustainability initiatives implemented in Paraná that comply with the SDGs. We set an example; I can assure you. Now, we just need to convey this to the world.

Ágide Eduardo Meneguette,
Provisional President of FAEP System



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INTRODUCTION

The 30th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP30-UNFCCC) in Belém, in November 2025, will be the milestone for the first ten years of the Paris Agreement and the time to learn about the updated goals for the period from 2031 to 2035, whose purpose is increasing the target of capping global temperature rise at a maximum of 1.5° C.

Debates on agriculture have evolved significantly at the UNFCCC over the last decade, establishing agriculture as a provider of solutions to tackle global warming. In practice, farming that adopts technologies designed to preserve and maintain soil health and fertility; integrated systems—including crops, livestock, and forests, where feasible—or agroforestry systems; improved no-till farming systems; integrated pest management, along with the use of bio-inputs and biological nitrogen fixation, among other technologies and practices, allows us to meet the global demands of sustainable development progressively.

herefore, we strive to position Paraná's agriculture and livestock industry as part of a set of solutions that contribute to the decarbonization of the Brazilian economy, promoting sustainable development.

It is a unique privilege for the FAEP System to host COP30 in Brazil as a way of acknowledging the contributions of agriculture and livestock farming in tackling climate change and, consistent with ongoing discussions, emphasizing the need to enable constant cooperation and increase the availability of lower-cost and affordable funding so that producers in all agricultural systems, in different parts of the world, may progress in the food, renewable energy, fiber, and biomass production sectors, thereby contributing to a thriving and equitable future for all.

1.

PRODUCTION AND CONSERVATION AS PRODUCTIVE APPROACH

Paraná boasts one of the highest food security indices in Brazil, according to data from Brazilian Institute of Geography and Statistics (IBGE). This is largely due to the state's robust agricultural sector, which operates effectively across nearly all of its 339 municipalities.

In several key sectors, Paraná ranks highly in national production and export figures. Crucially, this is accomplished using only a small land area and with strong guarantees of environmental preservation. This high performance by Paraná's agribusiness has allowed the food supply to expand significantly each harvest, catering to both foreign and local markets.



11.6

million inhabitants



1.53

million is the state's rural population

Agriculture and livestock farming in Paraná covers

52.9%

of the state territory

6.62 MILLION HECTARES
of cropland

3 MILLION HECTARES
of pasture

1.12 MILLION HECTARES
of commercial forests



The native vegetation areas cover:

29.6%

of the state territory

3.8 MILLION HECTARES
of remnants of native vegetation

2.66 MILLION HECTARES
of Legal Reserve Areas

1.42 MILLION HECTARES
of Permanent Preservation Areas (PPAs)



85%

rural properties are smaller than 50 ha



AGRICULTURAL POTENTIAL

4th **LARGEST**

economy in the country



77%

of exports originated from agrobusiness



1st



national meat producer



2nd

national grain producer

PARANÁ'S EXPORTS AND PRODUCTION - NATIONAL RANKING

AGRICULTURE

SOY

2nd Producer
3rd Exporter



BEANS

1st Producer
1st Exporter



CORN

2nd Producer
6th Exporter



WHEAT

2nd Producer
2nd Exporter



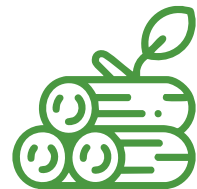
SUGARCANE

5th Producer
3rd Exporter



FORESTS

1st Producer
1st Exporter



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LIVESTOCK

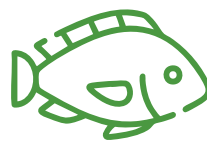
POULTRY

1st Producer
1st Exporter



TILAPIA

1st Producer
1st Exporter



PORK

2nd Producer
3rd Exporter



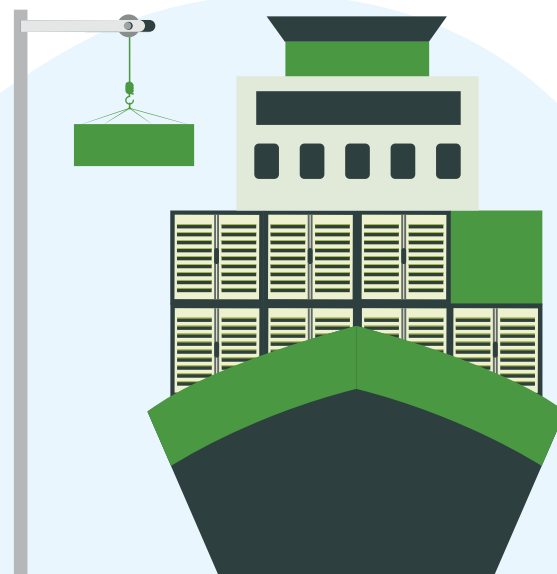
MILK

2nd Producer
5th Exporter



BEEF

9th Producer
10th Exporter



RENEWABLE ENERGY

The production of sugarcane ethanol, and more recently, corn ethanol, plays an essential role in the energy transition of Paraná's transport sector.

The **production of sugarcane ethanol** reached

1.3
BILLION

liters in the 2024/2025 harvest. Currently, drought and high temperatures have reduced sugarcane productivity, with the 2025/2026 harvest estimated to reach 1.09 billion liters.

The Paraná Renewable Rural Energy Program (RenovaPR), established in December 2020, aims to expand the energy supply in rural areas using renewable sources, especially solar and biomass. This is intended to stimulate the competitiveness, sustainability, and efficiency of production systems, as well as the generation of new businesses in Paraná's agribusiness.

Estimates of biogas production potential could generate up to 15,147 GWh/year of electricity and substitute up to 3.6 billion liters of biodiesel.

ELECTRIC POWER POTENTIAL FROM BIOGAS

Sugar-Energy Sector

1.1
BILLION
Nm³/year

Agricultural Production

1
BILLION
Nm³/year

Animal Protein

1.6
BILLION
Nm³/year

Sanitation

104.9
MILLION
Nm³/year

Biogas-Based Electricity Generation Potential

15,147
GWh/year

Diesel potentially replaceable by biomethane

3.6
BILLION
Nm³/year

Source: Abiogás (s.d.).

The growing importance of producing renewable energy from agricultural sources underscores the sector's vital contribution to advancing the global energy transition. By harnessing bio-based resources, agriculture can help expand cleaner energy alternatives while generating measurable reductions in greenhouse gas emissions across the energy system.

2. LOW-CARBON AGRICULTURE IN PARANÁ

In 1972,

in the city of Rolândia, the farmer Herbert Bartz pioneered the adoption of no-tillage farming in Brazil, inspired by practices he had observed in the United States. Alongside Frank Dijkstra and Manoel Henrique Pereira, from Ponta Grossa, in the Campos Gerais region, Bartz refined and introduced the technique of producing under no-tillage with crop residue cover—known as *plantio direto na palha* in Portuguese. This innovation made Paraná the cradle of the no-tillage system as a production method grounded in three fundamental principles: minimal soil disturbance (limited to the seed row or planting hole), permanent soil cover (using living plants or crop residues), and diversified crop rotation.

The no-tillage system became a key reference for the **first phase of the Low-Carbon Agriculture Plan (Plano ABC)**, launched by Brazil's Ministry of Agriculture, Livestock and Food Supply in 2010. At that time, Brazil introduced sectoral initiatives aimed at voluntarily contributing to the country's greenhouse gas (GHG) emission reduction targets.

Between 2010 and 2020, the no-tillage system was adopted across 14.59 million hectares, resulting in an estimated reduction of 26.7 million tons of CO₂ equivalent (CO₂e).

Together with no-tillage farming, the **integration of crop and livestock production** — in some cases combined with forestry components, forming integrated crop-livestock-forestry systems (ICLF) — as well as the restoration of degraded lands, the establishment of commercial forest plantations, biological nitrogen fixation, and the treatment of animal waste, represent a suite of technologies that both reduce greenhouse gas (GHG) emissions and help production systems adapt to the effects of climate change.

Plano ABC 2010-2020 enabled the large-scale implementation of these technologies, reaching **54 million hectares nationwide**, addressing

38.34

million m³ of waste, and reducing up to

193.67

million tons of CO₂e⁷.

In 2021,

the Ministry of Agriculture approved the **Adaptation and Low-Carbon Emission Plan for Agriculture - ABC+ (Plano ABC+)**, expanding the range of available technologies and aiming to reach 72.68 million hectares by 2030, with the potential to reduce up to 1 gigaton (1 Gt) of greenhouse gas emissions.

CO₂

IN PARANÁ,

Plano ABC+ set the following **targets for 2030**, with the goal of implementing the ABC+ SPS:

RESTORE:

350,000 hectares of degraded pasture (RPD)

IMPROVE:

the use of No-Tillage Grain Production System (NTGPS) on **400,00 hectares**

EXPAND:

the adoption of No-Tillage Vegetable Production System (NTVPS) by **4,000 hectares**;

the adoption of Integrated Crop-Livestock-Forestry Systems by **500,000 hectares** (ICLF);

the adoption of agroforestry systems by **30,000 hectares** (AFS);

the adoption of planted forests by **220,000 hectares** (PF);

the use of bioinputs by **430,000 hectares** (BI);

the use of irrigated systems to cover **48,000 hectares** (IS);

Animal Production Waste Management (APWM) in **78.9 million m³**;

the slaughter of **60,000 finished** cattle under intensive production systems (IPS).

Given the diversity of Paraná's agricultural sector and the crucial role that technology plays in boosting production, the promoting of low-carbon agriculture will enhance the state's agribusiness. As shown, the adoption of these technologies has expanded steadily in recent years.

1.

Degraded areas restored in recent years for agriculture and livestock production

351,131 hectares of degraded areas under restoration between 2010 and 2023.

The goal is to restore additional **251,000 hectares by 2030**.

Source: Paraná (2024).

2.

No-tillage area and no-tillage systems

An area of 10.2 million hectares under no-tillage cultivation in Paraná.

The distinction between "no-tillage area" and "no-tillage system" is complex and often imprecise. Therefore, according to data from the State Secretariat of Agriculture and the Brazilian Federation of No-Tillage on Straw, the 10.2 million hectares reported here include areas that meet at least two of the three core principles of no-tillage system.

3.

Integrated Crop-Livestock-Forestry Area

633,106 hectares

Source: Rede ILPF, 2024.

FAEP SYSTEM + EMBRAPA PARTNERSHIP

Another initiative led by the FAEP System to promote low-carbon agriculture is a project on waste management from intensive livestock production in Paraná, developed in partnership with Embrapa Territorial. The project aims to map, assess, and identify technological solutions for the proper use of waste generated by swine, poultry, cattle, and fish farming.

By analyzing the spatial distribution of production hubs and waste flows, the study aims to support both public and private decision-making by identifying viable technological alternatives. These include, for example, anaerobic biodigestion for biogas production, generating biofertilizers and biomethane, and composting made feasible through cooperative territorial-management models for waste, such as local consortia, cooperatives, and cluster-based systems.

In addition to surveying costs and economic pre-feasibility indicators, the study proposes the formation of local institutional arrangements capable of implementing these solutions on a large scale while promoting the circular, economy.

The project aims to help strengthen production based on mitigating climate change and adapting to its effects by combining land management, tech innovation, and environmental sustainability. This will allow the agribusiness sector in Paraná to help Brazil meet its goals in terms of reducing carbon emissions in agriculture, energy, and land use.



3. AVAILABILITY OF WATER RESOURCES FOR THE AGRICULTURAL SECTOR



At COP28 in 2023, the Global Adaptation Goal was approved, laying out the objective of “achieving climate-resilient food and agricultural production, as well as food supply and distribution, while increasing sustainable and regenerative production and equitable access to adequate food and nutrition for all”.

Another **key goal** of adaptation is:

"significantly reduce climate-induced water scarcity and increase climate resilience to water-related hazards, aiming for climate-resilient water supply, climate-resilient sanitation, and access to safe drinking water".

The water availability of a region is an essential factor for the management and planning of natural resources, which influences the supply of water to the population in cities and rural areas, the development of productive activities and environmental sustainability. The analysis and monitoring of water availability in micro-watersheds is gaining relevance in light of the challenges posed by climate change and the progressive increase in demand for water, both from agriculture and the population.

In the **agricultural sector**, water resources play a fundamental role and are used for:

IRRIGATION OF CULTIVATED LAND

PROVISION OF DRINKABLE WATER FOR ANIMALS

CLEANING AND SANITATION OF FACILITIES AND EQUIPMENT

PRODUCT PROCESSING

As discussions on climate change gain momentum on the international stage, highlighted by COP30 and the expected approval of indicators for the global adaptation goal, water availability, use, and conservation will be at the top of the agenda.

The FAEP System, concerned with land management and water resource use, began a partnership with Embrapa Territorial in 2022 to **diagnose the availability** of surface and groundwater in the river basins and aquifers of the state of Paraná.

This assessment aims to provide technical information to support Watershed Committees and guide the planning of new agricultural projects, ensuring water security and the sustainability of productive activities in rural areas.

Nowadays, Paraná has

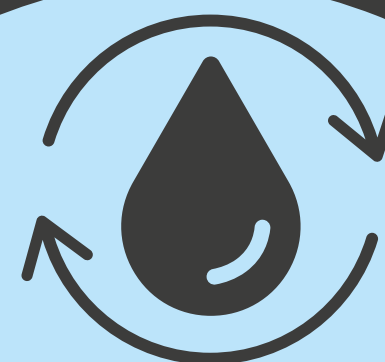
12 RIVER BASIN COMMITTEES

They are responsible for discussions related to water resources in their respective areas, as well as for approving the River Basin Plan, proposing criteria and general standards for the use of water resources, and passing resolutions.



Source: ANA (s.d.).

In addition, **System FAEP** represents the agricultural sector on all state watershed committees, monitoring decisions and providing data, research, and insights from rural producers, while considering water needs for production.



4. TRAINING PROGRAMS FOR RURAL PROFESSIONAL DEVELOPMENT AND SOCIAL PROMOTION

The FAEP System believes that rural vocational training and social promotion activities contribute to professionalization and improved quality of life, preparing people in rural areas to pursue their rights as citizens and engage in sustainable development.

75%

of the courses are **included in the SDG** (Sustainable Development Goals).

772 courses were held in 2022. In 2023, there were 851 courses. In 2024, 855 courses were held and, **in 2025, as of September, 828 courses have already been held.**

An example of training in partnership with the state government is **Poliniza Paraná**, which was launched in January 2022. This project aims to install hives of native stingless bees in cities across the state to promote environmental education about pollinators.



The project is part of the Programa Paraná Mais Verde (Lei Estadual n.º 20.738/2021) and helps meet the UN Sustainable Development Goals, especially Goal 15 – Life on Land.

The project currently operates in **ten state parks** and has already distributed **70 bee colonies** in rational beehives.



SDGS IN PROFESSIONAL TRAINING COURSES

ORGANIC FARMING



APICULTURE (ELEMENTARY)



INTEGRATED MANAGEMENT COURSES



FISH FARMING



PRECISION FARMING (INTRO)



RESTORATION OF RIPARIAN VEGETATION



FOREST RESTORATION



HORTICULTURAL BEST PRACTICES



GOOD DAIRY FARMING PRACTICE



SOIL CONSERVATION IN VEGETABLE GARDENING



HEIRS OF THE COUNTRYSIDE



TODAY'S WOMAN PROGRAM



Learn more about FAEP System courses. Scan this QR Code.



17

Sustainable Development Goals (SDGs)

The SDGs represent a global commitment towards transforming the world, tackling urgent challenges such as hunger, inequality, and climate change.

1 No Poverty
End poverty in all forms everywhere

2 Zero Hunger
End hunger, achieve food security and improved nutrition and promote sustainable agriculture

3 Good health and well-being
Ensure healthy lives and promote well-being for all at all ages.

4 Quality education
Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

5 Gender equality
Achieve gender equality and empower all women and girls.

6 Clean water and sanitation
Ensure availability and sustainable management of water and sanitation for all

7 Affordable and clean energy
Ensure access to affordable, reliable, sustainable and modern energy for all

8 Decent work and economic growth
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

9 Industry, innovation and infrastructure
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation for all

10 Reduced inequalities
Reduce inequality within and among countries

11 Sustainable cities and communities
Make cities and human settlements inclusive, safe, resilient and sustainable

12 Responsible consumption and production
Ensure sustainable consumption and production patterns.

13 Climate Action
Take urgent action to combat climate change and its impacts.

14 Life below water
Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

15 Life on land
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

16 Peace, justice and strong institutions
Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

17 Partnerships for the goals
Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

The FAEP System has a dedicated space on its website with full details on the link between the SDGs and the rural sector. Scan the QR Code to access it.



It is important to emphasize the following **technical assistance** and **rural extension projects** related to low-carbon agricultural technologies.

5. TECHNICAL AND MANAGERIAL ASSISTANCE (ATeG)

This program aims to provide support to producers in terms of income generation, production improvement, and rural management through an educational approach. Field technicians provide personalized assistance to rural producers through monthly one-on-one follow-ups, contributing to their socioeconomic development, the diffusion of technologies, and environmentally friendly food production.

ATeG is based on a **five-step** methodology:

1. Gathering of productive, environmental, social, and economic information about the rural property to establish goals and a program of monitored actions.
2. Producer and technician define goals and objectives for productive activity based on diagnosis.
3. Implementation of technician's guidelines to improve production and management processes using ATeG tools.
4. FAEP system offers training to support technology adoption and decision-making, while technicians identify needs and refer candidates to positions.
5. Assessment of property performance, converting ATeG data into indicators to inform future decisions and planning.

NOWADAYS, THERE ARE

58  ATeG GROUPS

WITH
1,449
RURAL PROPERTIES IN
123 MUNICIPALITIES 



The groups are divided according to **these themes**:

APICULTURE

3 groups



BEEF

2 groups



MILK

19 groups



COFFEE FARMING

1 group



FRUIT CULTIVATION

7 groups

Avocado, atemoya, banana, persimmon, guava, orange, passion fruit, dragon fruit, grape.



GRAINS

3 groups



HORTICULTURE

20 groups

lettuce, sweet potato, broccoli, chives, chayote, kale, cauliflower, peas, cassava, watermelon, strawberries, cucumber, bell peppers, cabbage, tomatoes



SHEEP FARMING

3 groups



The **26 properties** served by ATeG in Mandirituba recorded a productivity increase of more than

25%

over **2 years** of work, resulting in approximately **71 tons** more in production between 2023/24 e 2024/25 cycles.

In the same period, **gross income** of producers grew

32%

while profits jumped even more significantly, with a **growth of almost 82%**, reflecting the positive impacts of improved management and production efficiency promoted by the program.

The main challenges in implementing low-carbon agricultural technologies based on the courses are the lack of skilled labor, rural producers' poor grasp of the value of management and record keeping, poorly-funded producers, debt, and difficulty in gaining funding.

6. FAEP STATE COMMISSION FOR WOMEN (CEMF)



Initially composed of 19 groups and 615 rural producers, CEMF aims to promote the integration of women and their families into rural unions by training, developing leadership, and encouraging representation. The initiative was launched in January 2021 to strengthen women's participation in agribusiness in Paraná.

THERE ARE CURRENTLY

104
LOCAL COMMISSIONS,
+4.000 
RURAL PRODUCERS

The actions are consistent with Sustainable **Development Goal (SDG) 5: Gender Equality**, which promotes women's leadership in rural areas and increases women's participation in decision-making processes in the agricultural sector.



Each commission develops its own strategic plan, according to the CEMF's annual work plan. Meetings, training sessions, and local actions are promoted using this structure, which encourages women to play an effective role in unions, thereby reducing inequalities and increasing access to economic and social possibilities in rural areas.



These initiatives included the launch of **Projeto Sindicato Protagonista (PSP)**, presented by CEMF at the FAEP General Assembly on January 29, 2024. The PSP is part of the Union Sustainability Program (USP) and aims to enhance political representation of rural producers, develop leadership, and expand the role of unions in their communities.

The **Projeto Sindicato Protagonista (PSP)** shows how strong women's involvement is and reasserts the commitment of FAEP System to **fairer, more inclusive, and sustainable agriculture**, consistent with **the principles of the Agenda 2030**.

Scan the **QR Code** to learn more about the project.



70 unions joined the project in the first cycle of the PSP, and the results were remarkable:

69
new services implemented

62
new members in FAEP technical commissions

67
new representatives on municipal councils

1.072
new services implemented

878
new members in rural unions

7 AGRIBUSINESS-POWERED PROGRAM – ETHANOL

The **Agribusiness-Powered Program – Ethanol** campaign was originally developed by the FAEMG System, with the FAEP System joining the effort in early 2025. This initiative encourages people to use a renewable fuel sourced from sustainable farming. This action not only creates jobs and generates income nationally, but also cuts CO2 emissions, leading to improved air quality and health for the population.

ETHANOL IS A RENEWABLE, SUSTAINABLE FUEL THAT POLLUTES

90%

LESS THAN GASOLINE.

In Brazil, ethanol production primarily relies on sugarcane and corn, which constitute key crops for the sustained development of Paraná's agribusiness sector. The campaign incorporates several distinct approaches. From an institutional perspective, the FAEP System developed specific public relations content demonstrating the substantive importance of ethanol for economic, social, and environmental progress. These materials effectively conveyed the comparative advantages of this renewable fuel relative to fossil-fuel derivatives.

In a separate, more internal dimension, the **FAEP System** fuels its fleet of

52 VEHICLES

exclusively with ethanol.

This move is projected to prevent the emission of **263,000 kg of CO₂** annually.

All vehicles were also branded with the campaign logo, driving across Paraná and sparking curiosity wherever they travel. Within the internal dimension, the FAEP System is actively promoting ethanol use among its staff. Every month, ten ethanol vouchers are raffled off. To be eligible, employees simply need to fill their private vehicles with ethanol and display a campaign sticker.

Thus, the FAEP System expects to achieve several goals: reducing CO2 emissions; boosting local development; dispelling common misconceptions about ethanol; and making a meaningful contribution towards energy transition.

SUGARCANE OR CORN?

In 2024, 348.1 million tons of raw material were required for ethanol production.

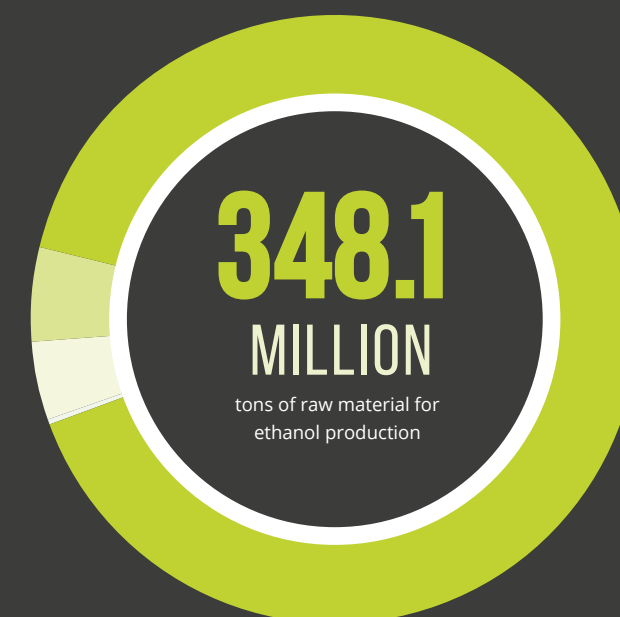
90.6%
315.4 million tons of sugarcane

4.96%
17.27 million tons of corn

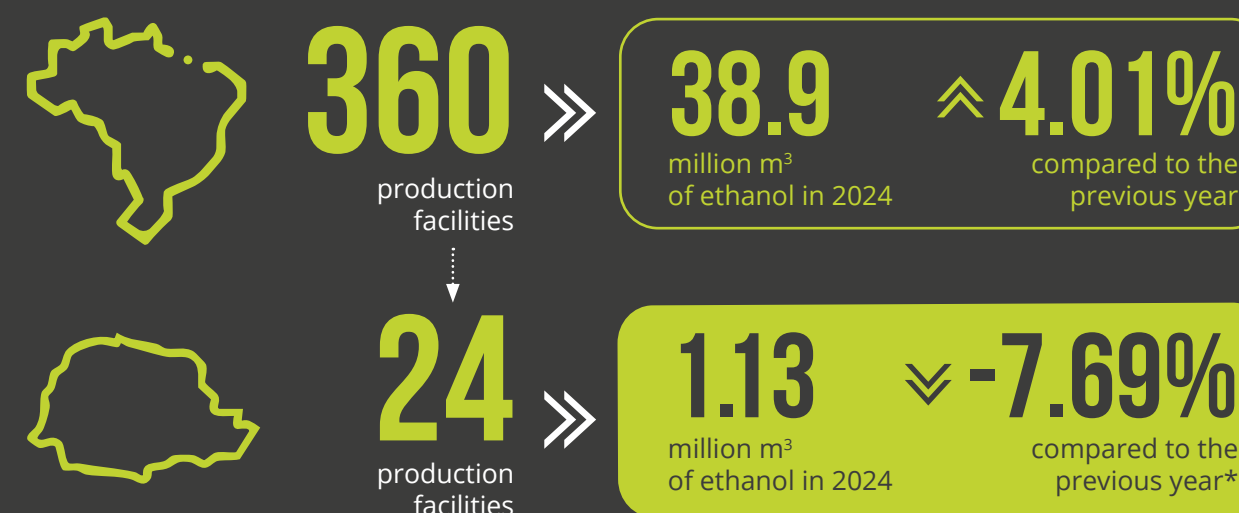
4.27%
14.9 million tons of molasses

0.15% - other raw material.

Source: Agência Nacional do Petróleo, Gás Natural e Biocombustíveis (ANP)

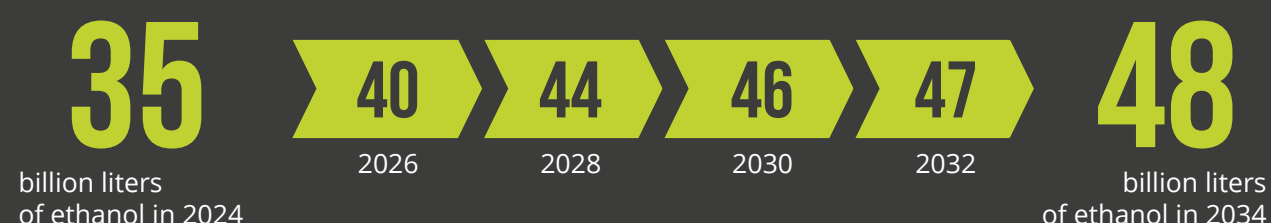


HIGHLIGHTS OF ETANOL IN BRASIL AND PARANÁ



TEN-YEAR ENERGY EXPANSION PLAN 2034

Projection of Total Ethanol Supply



8. PARANÁ NETWORK FOR APPLIED AGRIBUSINESS RESEARCH AND TRAINING



The **Paraná Network for Applied Agribusiness Research and Training** (the Network) was established by Decree No. 2,475, on September 28, 2015, serving as another tool to foster innovation and scientific and technological research within the state's production environment. The Network's organization and centralized efforts are focused on the agribusiness sector. Its strategy involves structuring intelligence networks by sharing the assets of Paraná's universities and research institutions.

The first project financed by the Network was the erosive and hydrosedimentological monitoring of Paraná State. The work involves assessing erosion in six regions of the state (Campos Gerais, Central, Southwest, West, North, and Northwest, with the latter having two monitoring areas) and the effect of this erosion on first-order rivers. The objective is to develop technologies suitable for the use, management, and conservation of soil appropriate to Paraná's specific edaphoclimatic conditions.

The work, which spanned the last **seven years**, concluded in July 2024 and received an investment exceeding **R\$ 13 million**.

In August 2024, the cooperation agreement for research was **renewed** for another five years, for

18 
MILLION

which will be equally funded by the FAEP System, the Araucária Foundation, and the Secretariat of Science, Technology and Higher Education (Seti).



As a result of the first years of research, the book **Manejo e conservação de solo e água: Volume 1 – Formação, implantação e metodologias** (Soil and Water Management and Conservation: Volume 1 – Formation, Implementation, and Methodologies) was published in August 2023.



The Network's **second book**, published in 2025, detailed the results achieved during the seven years of research, demonstrating that the benefits of soil conservation go beyond erosion control. It showed positive outcomes in increased available water, reduced fertilizer use, improved water quality, and consequently greater productivity and income for rural producers.



The research results have been disseminated through countless technology transfer initiatives.

9. CORE ISSUES IN NEGOTIATIONS AT COP30

Agriculture in Climate Negotiations – A Timeline to COP30: Evolution, Agendas, and Benefits of the Discussions on Agriculture at the COPs

○ **1992**

UNFCCC

- To ensure the safety of global food supply;
- Recognizing agriculture's vulnerability to climate change.

○ **2007**

Bali Action Plan

- Agriculture takes center stage in climate talks;
- Emphasis on long-term cooperative actions.

○ **2009**

COP15 (Copenhagen)

- The commitment by developed countries to mobilize USD \$100 billion annually for developing nations by 2020;
- The genesis of Green Climate Fund (GCF).

○ **2017**

COP23 (Bonn)

- The genesis of Koronivia Joint Work on Agriculture (KJWA);
- Progress on soil, nutrients, water, livestock, and food security;
- Agriculture recognized as part of the climate solution.

2022

COP27 (Sharm el-Sheikh)

- Sharm el-Sheikh Joint Work on Implementation of Climate Action in Agriculture and Food Security (SJWA);
- Recognition that agriculture offers solutions to, and is impacted by, climate change, requiring further progress to ensure food security;
- Launch of the Sharm el-Sheikh Portal for projects e funding.

○ **2025**

COP30 (Belém do Pará)

- Progress Reports and New Workshops;
- Consolidating the Sharm el-Sheikh Portal as a global showcase for agricultural solutions.

Negotiation Summary and Key Benefits

- Soil, water, and sustainable livestock management;
- Access to innovation and technology;
- Climate funding and support for small-scale producers;
- International cooperation and applied science.

Ultimate Benefit:

- Sustainable Food Security and Climate-Resilient Agriculture.

FUNDING ROADMAP

• *Climate Funding – Roadmap Baku-Belém*

Even though it isn't an item under negotiation, climate finance will be absolutely critical at COP30. It is the indispensable factor needed to hit the Paris Agreement's goals and successfully kick off this new decade of implementation. The Presidencies of COP29 and COP30 are set to unveil an action plan to secure the \$1.3 trillion funding goal.

• *New Collective Quantified Goal – NCQG (COP29)*

Approved at COP29, it set an annual destination of at least USD \$300 billion by 2035, with developed countries taking the lead, and a target of USD \$1.3 trillion, involving all countries and actors.

• *What's next for the Funding Roadmap?*

A document proposing the roadmap should include topics such as: diversifying financing sources, including public, private, bilateral, and multilateral funds; reform of multilateral development banks; the creation of national platforms; and the structuring of innovative financial instruments. These topics must also be covered.

METRICS FOR ADAPTATION

GLOBAL GOAL ON ADAPTATION

The purpose of approving adaptation indicators is to guide nations in enhancing global adaptive capacity, strengthening resilience, and reducing vulnerability to climate change, a phenomenon to which agriculture is one of the most susceptible sectors. To develop effective public policies and direct financing towards adaptation measures, it is essential to have clear indicators and metrics for assessing progress.

THE UAE FRAMEWORK FOR GLOBAL CLIMATE RESILIENCE (COP28)

It identified priority areas requiring urgent adaptation measures, such as agricultural production and food, ecosystems and biodiversity, water, and infrastructure. It also established objectives to guide countries in planning, implementing, and monitoring their adaptation strategies.

UAE-BELÉM WORK PROGRAM ON THE GLOBAL GOAL ON ADAPTATION

The program is designed to identify and develop the metrics necessary to track progress toward achieving the global adaptation goal. Its final deliverable calls for the presentation of up to 100 globally applicable indicators capable of accurately reflecting a wide range of adaptation contexts.

THE IMPORTANCE OF THE ADAPTATION AGENDA

The sheer frequency of extreme weather events makes it abundantly clear how vital the adaptation agenda is for tackling climate change, especially when it comes to safeguarding agriculture and food supplies. The FAEP System highlights that farmers in Paraná are leading the way by adopting sustainable methods to build climate resilience. These include no-till planting, integrated crop-livestock-forestry systems, and leveraging biogas technology.



RELEVANCE FOR THE AGRIBUSINESS SECTOR

Since agribusiness is one of the most severely compromised sectors by the effects of climate change, the FAEP System believes that adaptation indicators must specifically address agriculture, emphasizing the execution of climate-related actions for farming and food security.

Scan the QR Code beside to access the full document produced by the FAEP System.



JUST TRANSITION

JUST TRANSITION – WORK PROGRAM AND CHALLENGES IN CLIMATE NEGOTIATIONS

- The goal is to design strategies that ensure the Paris Agreement targets are met fairly and equally, while incorporating social safety nets to cushion the effects of the transition.

DIFERENCES IN PERSPECTIVE

- The concept of Just Transition varies between developed and developing nations. For the latter (developing countries), the concept must be grounded in the principle of common but differentiated responsibilities, supported by adequate means of implementation.
- The responsibility for a just transition should rest with individual nations and must be customized to fit the specifics of each production system, steering clear of any cookie-cutter solutions.

AGRICULTURE AND LIVESTOCK SECTOR

- For the agricultural sector to successfully implement just transitions, it will require dedicated funding, robust training programs (capacity building), and technology transfer. These efforts will ultimately create economic co-benefits and reinforce global food security.

10. THE COP30 MOMENT AND OPPORTUNITIES FOR AGRICULTURE

As a multilateral conference of an environmental treaty, COP30 will be a time to debate and present solutions aimed at boosting climate action aligned with the implementation of the Paris Agreement.

According to the emphasis adopted by the COP30 presidency, led by Ambassador André Correa do Lago, it is expected that COP30 should create a new momentum for the implementation of the Paris Agreement, whose aim is catalyzing the achievement of climate actions that deliver mitigation and adaptation results.

The timing of the discussions on agriculture is very favorable. On the one hand, there is recognition that agriculture provides solutions that generate adaptation, mitigation, and co-benefits in all production systems, in accordance with the climate actions for agriculture and food security defined by countries. On the other hand, it is anticipated that the Sharm El-Sheikh Portal will evolve so that it is possible to learn about the scope of the climate actions in agriculture that countries are adopting. It is worth noting that there are 141 NDCs that include agriculture as part of the actions that countries intend to adopt.

For the FAEP System, COP30 presents a unique opportunity for Brazil to showcase its low-carbon agriculture model — one that combines productive efficiency with the conservation and restoration of native vegetation under the Forest Code. This approach strengthens the link between agricultural output, climate resilience, and food security.

A key goal of the agricultural negotiations, supported by the online portal and grounded in the recognition that countries must be assisted in implementing climate and food security actions, is to connect projects that deliver both adaptation and mitigation benefits with channels for cooperation and financing.

As of February 28, 2025, the Green Climate Fund (GCF) portfolio dedicated to agriculture and food security projects had reached US\$ 2.1 billion worldwide. While this is a substantial amount, it remains far from sufficient to address the global challenges of adaptation and mitigation that lie ahead.

One of the major challenges for COP30 will be precisely to **strengthen this integration, linking agricultural systems to various funding sources and fostering partnerships that enable project implementation**. Achieving this will be a key success indicator for the Belém COP, allowing it to demonstrate to the world the critical role that tropical agricultural systems play in the global response to climate change.

Following the approval of the new collective quantified goal (NCQG) on climate finance at COP29—a goal that approved \$300 billion USD annually for climate actions in developing countries until 2035, with funds mobilized by developed nations—and considering the call for all countries and stakeholders to mobilize \$1.3 trillion USD annually by 2035, COP30 is now tasked with directing the financing agenda to unlock more accessible funding sources.

Considering these developments, the Baku-Belém Roadmap for \$1.3 trillion, coordinated by the COP29 and COP30 Presidencies in consultation with the Parties, is designed to set the direction for expanding public, private, bilateral, multilateral, and alternative financing streams. The paramount objective is to reinforce multilateral funding to support projects that deliver tangible adaptation and mitigation outcomes.

According to estimates from the Independent High-Level Expert Group on Climate Finance (IHLEG), these countries, excluding China, will need to channel \$2.4 trillion USD into investments annually until 2030 to meet their climate targets. That figure breaks down into approximately \$1.4 trillion from domestic funding and \$1 trillion from foreign investment.

A key initiative backing the development of the roadmap is the **COP30 Finance Ministers' Circle**, which has outlined the following elements as strategic pillars:

- Reform of multilateral development banks;
- Expansion of concessional finance and climate funds;
- Establishment of national platforms and enhancement of national capacity to attract sustainable investment;
- Development of innovative financial instruments for private capital mobilization;
- Strengthening of regulatory frameworks for climate finance.

The roadmap is expected to be developed based on these pillars and presented at the presidential high-level meeting scheduled for the eve of COP30 in Belém.

The FAEP System understands the necessity of elevating the financing agenda to drive cheaper and more accessible financial resources, which are essential for catalyzing the adoption of climate actions across agriculture, energy transition, forest conservation, waste treatment, and industrial sectors—all of which must act in concert to generate adaptation and mitigation outcomes.

Closely linked to finance is another theme warranting attention: the critical role the carbon market, operating under Article 6 of the Paris Agreement, is poised to take in scaling up mitigation gains across various economic sectors, including the agriculture and livestock industries.

Crucially, as more capital is channeled into financing projects that can generate carbon credits, this will directly translate into stronger mitigation results and yield greater benefits for the economic transition. New renewable energy ventures, cutting-edge technologies that promote soil carbon sequestration, the rehabilitation of degraded lands, among other initiatives, stand to generate not only mitigation outcomes but also crucial co-benefits targeting enhanced food production, renewable energy use, the circular economy, and overall sustainable development.

It is crucial that Brazil, having approved a regulated carbon market—the Brazilian Emissions Trading System (SBCE)—begins integrating with the regulated market under the Paris Agreement, particularly the cooperative arrangements (Article 6.2) and the credit mechanism (Article 6.4). The opportunity for certain agricultural and bioenergy production practices within the agriculture and livestock sector to engage in projects where carbon pricing acts as a catalyst is a path Brazil cannot afford to forgo.

Furthermore, it is essential that COP30 make strides in its adaptation indicators to fully highlight the critical need for effective water stewardship, soil restoration, and the ongoing deployment of technologies that enable farmers, across all cropping systems, to maintain productivity despite climate shocks. The sheer breadth of agricultural and livestock production in Paraná clearly demonstrates the leverage that adaptation technologies and strategies can provide in managing climate risks.

The escalating frequency of extreme weather events vividly underscores the crucial nature of the adaptation agenda in tackling climate change, particularly as it relates to agriculture and food security. Against this backdrop, the FAEP System is keen to emphasize the sustainable practices embraced by the Paraná agriculture and livestock sector to enhance climate resilience, notably no-till farming and the adoption of integrated systems.

Given that the agriculture and livestock sector is among the most significantly affected by the impacts of climate change, the FAEP System believes that adaptation indicators must encompass the agricultural sector, thereby reinforcing the implementation of climate actions in agriculture and food security. Furthermore, these indicators should remain flexible, allowing for their proper adjustment to local realities.

A decision regarding a just transition within the framework of the Paris Agreement is expected to be adopted at COP30. From the Sistema FAEP's point of view, this transition needs to be grounded in acknowledging each country's unique challenges and circumstances as they implement the climate actions outlined in their NDCs. It is simply not realistic to expect every nation to embrace identical solutions.

A just transition should not lead to unilateral actions that result in trade barriers for products. Instead, we must recognize that sectoral measures adopted by countries to meet mitigation and adaptation goals, provided they align with national targets, should set the direction towards a just transition.

Paraná's agribusiness is key to Brazil's strategy for meeting its climate goals. The focus for the next decade will be on the critical challenge of expanding the adoption of low-carbon farming. This involves recovering degraded land, significantly scaling up integrated farming systems to boost soil health and fertility, and diversifying crop production within the same plot. Crucially, it also requires getting all farmers on board through ongoing training, better access to technical support, and securing the necessary funding from innovative new sources.

*The **FAEP System** is fully equipped to drive producers forward as they implement actions that not only lead to gains in emission reductions but, more importantly, facilitate adaptation. This support aims to expand sustainable production, aligning with the dual goals of contributing to food security and the energy transition, a transition that relies, in part, on solutions provided by the agricultural sector.*



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