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BRAZIL OF SOLUTIONS

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INTRODUCTION

By Marina Grossi
President of CEBDS and Special Envoy of the Business Sector to COP30

Brazil of Solutions highlights the business sector's role in driving the transition toward a low-carbon economy. Conceived by CEBDS in partnership with its member companies and supported by Accenture, the initiative demonstrates that Brazil is already achieving tangible results by aligning competitiveness, innovation, and sustainability along a single path.

Brazil of Solutions is built on three complementary pillars: knowledge, connection, and capital. The initiative consolidates a comprehensive portfolio of sustainable, scalable solutions underway in Brazil, fosters strategic partnerships between companies, and identifies financing opportunities, connecting projects with green investment funds interested in scaling them up. This collaboration fosters a cooperative environment that accelerates and promotes the adoption of best practices across value chains.

It will be integrated into the Granary of Solutions—a global platform coordinated by the COP30 Presidency and the High-Level Climate Champions—further reinforcing Brazil's position as a global leader in climate solutions. This initiative will directly support the achievement of the Paris Agreement goals and the advancement of the Global Climate Action Agenda.

It is the convergence of action, capital, and purpose—not to promise tomorrow, but to shape it. Brazil of Solutions is a portrait of a country that turns urgency into invention and makes sustainability a daily practice in shaping the future.

INTRODUCTION
BRAZIL OF SOLUTIONS

Brazil is a country of continental scale and unparalleled natural wealth. It is home to some of the most important biomes on the planet, one of the world's cleanest energy systems, and a society distinguished by its creativity and resilience. This combination shows the world that economic development, social inclusion, and environmental preservation can go hand in hand. And the private sector plays a vital role in driving this sustainable development.

It is in this spirit that **Brazil of Solutions** was launched — an initiative by **CEBDS, the Brazilian Business Council for Sustainable Development,** with the support of Accenture. The goal is to shine a light on concrete projects that are shaping a sustainable future, connecting companies, communities, and investors around the shared purpose of accelerating the climate transition toward a low-carbon, inclusive, and resilient economy.

The results of this mobilization are impressive. A total of 1**35 initiatives have been mapped**, led by **companies affiliated with CEBDS**, representing **18 strategic sectors of the Brazilian economy**. Of these, **we have selected 84 for this publication** as examples of solutions already underway and with strong potential for scaling up.

These initiatives span across all regions and biomes of Brazil:



69.6%

IN THE SOUTHEAS



61.5%

IN THE NORTH



51.9%

IN THE NORTHEAST



45.9%

IN THE CENTRAL-WEST



2.6%

IN THE SOUTH



22.2%

HAVE NATIONWIDE COVERAGE

From an ecological standpoint, the initiatives are also widely represented:

30.4%
OF THE CASES OPERATE IN THE CERRADO



27%
IN THE ATLANTIC FOREST



27%
IN THE AMAZON



10.4%
COVER ALL BIOMES



The solutions highlighted in this publication are grouped into six main themes that reflect Brazil's key drivers of transformation:

FORESTS:

23 INITIATIVES IN BIOECONOMY, SOCIO-BIOECONOMY, AND BIODIVERSITY;



ENERGY:

25 INITIATIVES IN RENEWABLES AND ENERGY EFFICIENCY;



INDUSTRY:

10 INITIATIVES IN CIRCULAR ECONOMY, WASTE MANAGEMENT, AND MINING;



AGRICULTURE:

12 INITIATIVES IN CONSERVATION, PRODUCTIVE INCLUSION, AND MONITORING;



INFRASTRUCTURE:

9 INITIATIVES IN WATER, MOBILITY, AND SUSTAINABLE CITIES;



LIVESTOCK:

5 INITIATIVES IN REGENERATIVE PASTURES, MANURE MANAGEMENT, AND TRACEABILITY



More than just numbers, our complete portfolio reveals a consistent movement:

54 **Initiatives are already scaling up**, demonstrating maturity and the potential for replication;

81.5% **Of projects are backed by technical** documentation verifying their socio-environmental impact

79% **Focus on climate mitigation and adaptation,** including emissions reduction and carbon credits;

53% **Monitor their results through internationally recognized methodologies,** such as the **GHG Protocol;**

79% **Are directly linked to the reduction of emissions,** whether in Scope 1 (21%), Scope 2 (15%), or Scope 3 (42%);

85% **Are connected to the Sustainable Development Goals (SDGs),** with emphasis on **SDG 13 – Climate Action (66%), SDG 12 – Responsible Consumption and Production (41%), and SDG 9 – Industry, Innovation, and Infrastructure (38%).**

The social dimension is also central:

58% **Of projects target local communities,** increasing income and inclusion;

40% **Are partnered with educational institutions,** strengthening research and innovation;

59% **Involve collaborations with other organizations,** reinforcing that sustainability is built through networks

However, the figures also reveal challenges. **Half of the projects assessed need to secure additional funds** if they are to be implemented or scaled. Although **70% already report investment amounts**, most do not have payback calculations or financial self-sustainability plans. Only **7.4% have accessed climate or impact funds, 6 projects obtained green credit,** and only **8 use Payments for Environmental Services (PES).** The message is clear: we have robust, mature solutions, but more connections with financial mechanisms are needed to enable them to scale.

This book is, therefore, more than a compilation of case studies. It is a narrative about how Brazil can — and already does — lead the transition toward a sustainable future through business sector initiatives.

Each chapter reveals stories that bring together technology and tradition, science and culture, competitiveness and inclusion. Stories that prove that it is possible to reduce emissions while creating jobs, restoring ecosystems, strengthening production chains, and inspiring new ways of living in harmony with the planet.

In the following chapters, you will learn about cases that combine technology and tradition, innovation and local knowledge, competitiveness and inclusion. Each project proves that Brazil is not just the country of the future: it is a country of solutions for today. And that, by scaling up these initiatives, we position Brazil as a global leader in creating a fairer, more resilient, and sustainable future.



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AGRICULTURE

This theme features 12 case studies, including projects such as **Bayer's** PRO Carbono Commodities, which promotes sustainable production of agricultural commodities with traceability and reduced carbon footprint; **Yara**, which implements regenerative coffee practices using low-carbon fertilizers; **Caramuru's** Sustentar program, aimed at certifying sustainable practices among producers; and **Elera's** Quintais Produtivos project, which focuses on fostering family farming, promoting food security and income generation. Other initiatives, such as the decarbonization of **PepsiCo's** production chain and **Syngenta's** Reverte program, focus on the recovery of degraded areas and the promotion of responsible agricultural practices.

In addition, **Nestlé's** "Mais Inteligência, Mais Cacau" (Smarter, More Cocoa) project seeks to increase the productivity and profitability of cocoa farmers by promoting sustainable practices and access to knowledge. **AMAGGI**, with its "Amaggi Regenera" initiative, focuses on regenerative agriculture to strengthen soil health and biodiversity. **Mosaic** uses agricultural gypsum to improve soil quality and promote a circular economy, while **Caixa Econômica's** project, targeting the jabuticaba production chain, provides training for farmers in agroecological practices. Finally, Tim provides quality connectivity to rural Brazil, enabling digitalization, while **Itaú Unibanco** develops ESG products for agribusiness, aligning business strategies with sustainable practices.



AMAGGI

AMAGGI REGENERA

CASE PRESENTATION

To strengthen its decarbonization efforts and achieve its climate ambition approved by the SBTi, AMAGGI implemented Amaggi Regenera, its regenerative agriculture strategy, aimed at supporting the transition to low-carbon agricultural systems, promoting the regeneration of soil health, biodiversity, and climate resilience.



► Knowledge sharing: Producers and specialists exchanging experiences to advance regenerative agriculture.

AMAGGI REGENERA (AMAGGI REGENERATES)

METHODOLOGY

The initiative began on AMAGGI's own farm, and based on the results achieved, the program was expanded to other farms owned by the company and its partner producers. Quantitative soil health indicators are monitored to assess the impacts of regenerative practices over time, including soil carbon and biodiversity indicators. Furthermore, the program promotes the dissemination of knowledge among family farming communities and rural producers and relies on partnerships with Embrapa and other strategic partners.

RESULTS

Currently, the Program includes farms owned by AMAGGI and its supply chain, covering 232,000 hectares, 124,000 of which are arable, with monitoring of agricultural practices, carbon, soil, and biodiversity. Knowledge dissemination events were held for 15 family farmers and 70 participants, including rural producers and technical staff. The main factors for the initiative's success include effective integration of monitoring tools, the work of multidisciplinary teams, and engagement with the market to increase demand for regenerative products.



▶ Regenerative practices in the field: Vegetative cover as an ally in soil conservation and carbon sequestration.

SUPPORTING MATERIAL

https://www.amaggi.com.br/amaggi_regenera/

PRO CARBONO COMMODITIES

CASE PRESENTATION

It offers an innovative solution for industries that include agriculture in their production chain, promoting the sustainable production of agricultural commodities such as soybeans, corn, and cotton. Using primary data to calculate carbon footprints at scale, we develop effective intervention plans to reduce emissions in agricultural operations.



► Technology, sustainability, and innovation side by side. Bayer advances in traceability and carbon management in production.

PRO CARBONO COMMODITIES

METHODOLOGY

With traceability via QR Code and blockchain, audited by Bureau Veritas, we offer transparency on the origin of grains, allowing the development of management plans to reduce the carbon footprint. Through Footprint PRO Carbon, a tool from Bayer and Embrapa, farmers can measure GHG emissions in soybean, corn, and cotton production using primary data. The Guided Recommendation Module generates management plans based on regional scenarios, aiming to increase productivity, reduce emissions, and optimize inputs, promoting profitability and sustainability.

RESULTS

The program delivered the first shipment of Brazilian soybeans with a measured footprint and deforestation-free, reaching 10 farmers in the Cerrado and Amazon biomes. It achieved a 64% footprint reduction, with 4 million bags produced on 64,000 hectares, preserving 90,000 hectares of forest. 240,000 tons of soybeans were registered, audited by Bureau Veritas, and delivered to ADM with certified origin, containing traceable production information and emissions calculations, and in line with socio-environmental analyses.

► The first Brazilian soy with a measured and audited carbon footprint. Complete traceability, from farm to consumer.



SUPPORTING MATERIAL

www.agro.bayer.com.br

CAIXA ECONÔMICA FEDERAL

PROFISSIONALIZAÇÃO DA CADEIA PRODUTIVA DA JABUTICABA

(PROFESSIONALIZATION OF THE JABUTICABA PRODUCTION CHAIN)

CASE PRESENTATION

Implemented by Probiomas, with financial support from the CAIXA Socio-Environmental Fund, the project aims to sustainably strengthen the jabuticaba production chain in Sabará, Minas Gerais. The initiatives include restoring native vegetation and providing technical training to producers involved in the cultivation and processing of the fruit.



► Cultivation with purpose: seedling production and regenerative practices drive environmental restoration and the future of jabuticaba.

CAIXA ECONÔMICA FEDERAL

PROFISSIONALIZAÇÃO DA CADEIA PRODUTIVA DA JABUTICABA

(PROFESSIONALIZATION OF THE JABUTICABA PRODUCTION CHAIN)

METHODOLOGY

Faced with challenges such as inadequate orchard management, low technical qualifications, and the lack of quality control, the project prioritized training farmers in jabuticaba cultivation and processing, promoting rural entrepreneurship and the appreciation of its derivatives. Actions included agroecological practices, environmental restoration, and the socio-productive inclusion of traditional communities and family farmers. Supporting this was the implementation of a shared agroindustry, a quality control laboratory, and a technology consulting unit.



▶ Flavors of tradition with added value: Jabuticaba-based products transformed into a source of income and local identity.

RESULTS

The project has already directly benefited 386 producers of water, fruit, and derivatives, and indirectly impacted 4,710 people through training, courses, and technological consulting. In the Agroforestry System, 189,714 seedlings were planted, including approximately 50,000 jabuticaba trees, and 32 springs were restored. With the support of the quality control laboratory and a refrigerated agroindustry, structured in accordance with health requirements, many beneficiaries have improved their products, increased production, and increased their income.



▶ Reforestation in practice: Over 189,000 seedlings planted and 32 springs restored, driving regional sustainability.



▶ Sustainable production and energy: Clean innovation and tradition come together in the new phase of the jabuticaba value chain.

SUPPORTING MATERIAL

www.caixa.gov.br/

CARAMURU

PROGRAMA SUSTENTAR
(SUSTENTAR PROGRAM)

CASE PRESENTATION

Sustentar encompasses social, environmental, economic, ethical, and governance areas, in accordance with legal requirements, focusing on adapting the property to the well-being of the farmer and his or her family, employees, pets, and livestock; fully respecting applicable legislation and standards; and adhering to good agronomic practices.



METHODOLOGY

Sustentar is implemented through technical inspections conducted by a team of trained agronomists, with at least two visits per supplier. Forms and a data collection app are used, based on ISO 19011. Actions include interviews, document analysis, property photos, and verification of 164 indicators covering social (e.g., decent work), environmental (e.g., zero deforestation), and economic (e.g., profitability, taxes, and duties collected) pillars. These indicators also undergo analysis by the company's Compliance department, in accordance with Caramuru's Supplier Policy.

RESULTS

Since 2015, Sustentar has positively impacted the environment and communities. In 2024, 22,974 producers were registered in our database, with 10,205 analyzed. Of these, 4,974 producers supplied with the Sustentar Seal, 927 were audited under the Sustentar standard, and 799 achieved Certification. The program was validated and certified by the International Trade Centre (ITC) and published by this UN agency in StandardsMap.

SUPPORTING MATERIAL

https://sustentar.caramuru.com/

PROJETO QUINTAIS PRODUTIVOS — QUEM QUEM, JANAÚBA
(SUSTAINABLE BACKYARDS)

CASE PRESENTATION

The Quintais Produtivos project focuses on supporting family farming, promoting food security, and generating income. Through family training and the installation of productive systems, Elera Renováveis and Minerva Foods have sought to create the conditions for residents of the Quem-Quem community in Janaúba (MG) to grow their own food — and, when possible, sell their surplus. The initiative also includes partnerships with SENAR to provide training on sustainable farming techniques, which help improve local agricultural practices. In addition to strengthening the rural economy, the project encourages sustainable production and empowers the families involved.

METHODOLOGY

Elera Renováveis is one of Brazil's largest 100% renewable energy companies, operating in 12 states with solar, wind, and hydro power assets, including the Janaúba Solar Complex, the largest in the Southern Hemisphere and the Americas. The Janaúba Solar Complex is located approximately 2 km from the Quem-Quem community, a rural district of the municipality of Janaúba.

As part of their social and environmental initiatives, the company developed a participatory socioeconomic assessment of the project's area of influence to support decision-making regarding the development of social projects and private social initiatives in the region.

As a result of this study, an opportunity was identified in the Quem Quem community to develop a project aimed at improving quality of life by enhancing agriculture through the implementation of technologies suited to local conditions, helping ensure food security for beneficiaries and generating surplus for potential sale.

The project was carried out in five main stages: technical planning and preparation of the work plan; community mobilization through an opening meeting; selection of beneficiaries based on socioeconomic and technical criteria; installation of 23 productive structures tailored to local conditions; and technical training in poultry farming and horticulture.

The selection of beneficiaries was guided by technical and socioeconomic criteria, prioritizing families facing greater vulnerability and possessing suitable conditions for the installation of the structures. The process sought to ensure equity, transparency, and alignment with social responsibility guidelines, considering factors such as per capita income, degree of food insecurity, family composition, and available space on the properties.

Beyond the physical installation of the productive structures, the project incorporated training activities designed to strengthen beneficiaries' technical capacities in horticulture and poultry management. Designed to deepen participants' hands-on knowledge and enhance their self-reliance in managing productive ventures, these activities play a key role in ensuring the project's sustainability in the medium and long run.

The project concluded with an official closing ceremony attended by representatives from Elera, Minerva Foods, Seteg, and SocialX. During the ceremony, participants received certification for completing the training courses in Poultry Management and Horticulture, as part of the productive backyard installation project in the Quem-Quem community. In total, 24 community members were awarded certificates, as outlined earlier.

elera RENOVÁVEIS

PROJETO QUINTAIS PRODUTIVOS — QUEM QUEM, JANAÚBA
(SUSTAINABLE BACKYARDS)



RESULTS

Among the 23 selected participants, 11 experienced some degree of food insecurity, and 22 reported a per capita income below the minimum wage.

In total, 17 poultry houses, two gardens—one of which was equipped with a fish-farming tank—and four targeted strategic interventions were implemented. All structures were delivered completed, equipped, and fully operational, with no outstanding issues: the gardens were already planted, the poultry houses populated with 52 birds each, and both irrigation and rainwater harvesting systems installed and functioning. Furthermore, the fish-farming tank was delivered stocked with 15,000 liters of water and 50 tambaqui fingerlings (a native Amazonian fish species). The beneficiaries were also provided with enough inputs for at least one full production cycle, including seeds, fruit tree seedlings, and feed for the free-range chickens.

The project's impact on local socioeconomic development is particularly noteworthy, especially considering its direct connection to the Sustainable Development Goals (SDGs), which are central to today's global development agenda. In this context, the project contributes to

SDG 1 (No Poverty) and SDG 2 (Zero Hunger and Sustainable Agriculture) by creating income-generating opportunities and tackling food insecurity.

SDG 3 (Good Health and Well-Being): by promoting access to natural foods produced in the beneficiaries' own backyards.

SDG 5 (Gender Equality): as the majority of participants are women, and by prioritizing the inclusion of female-headed households in the selection process.

SDG 8 (Decent Work and Economic Growth): by fostering sustainable economic activities in rural areas.

SDG 10 (Reduced Inequalities): through selection criteria that prioritized residents in situations of greater socioeconomic vulnerability.

SDG 11 (Sustainable Cities and Communities): by promoting solutions adapted to local realities.

SDG 12 (Responsible Consumption and Production): by encouraging agroecological practices and the efficient management of natural resources.

SUPPORTING MATERIAL

www.elera.com

PRODUTOS ESG AGRO
(AGRO ESG PRODUCTS)

CASE PRESENTATION

In 2021, we established a specialized area for developing ESG products for agribusiness, seeking to combine our commercial and decarbonization strategy for the segment with best sustainability practices. The product line features five lines and Reverte, a partnership with Syngenta, whose goal is to convert degraded areas into cropland.



▶ Productive conversion with preservation: Degraded areas transformed responsibly through the Reverte program. Photo: Fazenda Bola Sete / Jack Roges

METHODOLOGY

In partnership with Imaflora, guidelines were established for the creation of ESG products for agribusiness, aligned with the Loan Market Association's Green Lending Principles. The products aim to contribute to reducing emissions in rural activities, with cover crops for annual crops, avoided deforestation, and conversion of degraded pastures into crops. In addition to the criteria for each modality, additional socio-environmental criteria are considered, including a commitment to not deforest, even legally, in the financed area during the transaction.

RESULTS

In 2024, R$2.5 billion in ESG agricultural products were granted through the Bioinputs Use and Commercialization, Solar Energy, Certifications, and Cover Crops lines. In 2024, R$669 million was contracted for the conversion of 79,000 hectares of degraded pastureland into crops. Since the program began in 2021, R$1.6 billion has been contracted for the conversion of 239,000 hectares. Finally, we aligned some products with IFACC, which totaled US$344 million in financing within the commitment (150,000 hectares), representing approximately 70% of the total reported last year.

SUPPORTING MATERIAL

www.itau.com.br

GESSO PARA AGRICULTURE
(AGRICULTURAL GYPSUM)

CASE PRESENTATION

To reduce risks in the storage and stacking of gypsum, a byproduct of the production of phosphate fertilizers, Mosaic invested in its commercial development, as agricultural gypsum can be used to improve soil quality, promoting the circular economy and reducing the environmental impacts of the industrial process.

Mosaic

GESSO PARA AGRICULTURE (AGRICULTURAL GYPSUM)

METHODOLOGY

The project was initiated by the company itself. The agricultural use of phosphogypsum aims to improve the soil by supplying calcium to subsurface layers, neutralizing toxic aluminum present in the subsoil, and serving as a source of calcium and sulfur for plants. Gypsum also deepens plant roots, and by better exploiting the root system, there is better absorption of water and nutrients, reducing water deficits, and increasing soil carbon sequestration, contributing to sustainability, agricultural efficiency, and mitigating environmental impacts.



▶ Agricultural gypsum: a sustainable solution that prevents industrial waste and turns a liability into a regenerative input.

RESULTS

The development of gypsum as a product has made it possible to reduce stacking areas and environmental storage risks. Approximately 5 million tons of gypsum per year are no longer sent to landfills and dams. From the Uberaba and Cajati units, gypsum is shipped to more than 10 states, benefiting approximately 5 million hectares of productive land. It has become Mosaic's second-most-sold product by volume. In 2022, gypsum was certified as an agricultural input for use in organic farming, allowing it to be used by farmers who produce using this type of system.



▶ Large-scale use of agricultural gypsum improves soil and contributes to productivity and carbon sequestration

SUPPORTING MATERIAL

www.mosaicco.com.br/

ALAVANCANDO O POTENCIAL DO CACAU BRASILEIRO

(LEVERAGING THE POTENTIAL OF BRAZILIAN COCOA)

CASE PRESENTATION

In 2024, Nestlé, after more than a decade of the Nestlé Cocoa Plan program to develop Brazilian cocoa farming, launched the **"More Intelligence, More Cocoa"** project with 24 farms located in Pará, in the Medicilândia region, aiming to test a model that seeks to increase cocoa producers' productivity by 20% and profitability by 30% within three years. Through comprehensive technical and managerial guidance, the project offers certified producers the opportunity to improve their practices and reach new levels of success within a short timeframe that is feasible for the region. In addition to providing technical knowledge, the project promotes the adoption of sustainable practices, preserving the environment and ensuring the longevity of cocoa production for future generations.

ALAVANCANDO O POTENCIAL DO CACAU BRASILEIRO
(LEVERAGING THE POTENTIAL OF BRAZILIAN COCOA)

METHODOLOGY

Farms participating in the "More Intelligence, More Cocoa" program receive monthly part-time visits from agricultural engineers, all with a high level of knowledge of cocoa farming. They share best management practices with these farmers, explaining and monitoring fundamental practices such as pruning, fertilization, harvesting, and processing/storage of the beans. Furthermore, these technicians support the farm by creating and implementing a detailed property management plan, whereby cocoa farmers are encouraged to record all purchases and activities on the farm, improving financial control and property management. This results in more assertive decision-making and increased operational efficiency, as well as contributing to traceability and transparency in agricultural practices. It is worth noting that, despite its simple methodology, the project is crucial in a region with a lack of knowledge and a great need for modernization of practices and access to technology. It also offers a low-investment, high-yield model for productivity in a short period of time. This project, due to its high capacity for scaling and replication, becomes a fundamental tool for not only elevating Brazilian cocoa to the productivity levels it once enjoyed, but, most importantly, putting Brazilian cocoa on the global map as the most sustainable, responsible, and highest-quality cocoa available.

RESULTS

In the first pilot, which included 24 participating farms, the group achieved an average 18% productivity gain and increased profitability by 44% in the first year of the project. Some farms achieved average productivity almost 3x higher than the Brazilian average. Due to the exceptional results and the strong receptiveness of participating producers, we expanded the "More Intelligence, More Cocoa" project to 76 additional farms in new regions: Bahia, Espírito Santo, and a new region in the state of Pará. In addition to this expansion, we believe in free and widespread access to knowledge. Therefore, the Nestlé Cocoa Plan program, of which the "More Intelligence, More Cocoa" project is a part, created the chatbot Theo in 2021. Theo uses WhatsApp to answer farmers' questions about cocoa cultivation and also share relevant information. Theo, the virtual assistant, was named after Theobroma Cacao, the scientific name for the cocoa tree.



▶ From cocoa to agrodiversity: Personalized technical assistance and attention to the reality of Amazonian farmers.

SUPPORTING MATERIAL

www.nestle.com.br

DESCARBONIZAÇÃO DA CADEIA PRODUTIVA DE BATATAS

(DECARBONIZATION OF THE POTATO PRODUCTION CHAIN)

CASE PRESENTATION

PepsiCo uses innovation and technology in its Regenerative Agriculture Program to decarbonize the potato production chain, improve soil, optimize water use with efficient irrigation and rainwater harvesting, promote biodiversity, and support farmers with productive and sustainable solutions.



DESCARBONIZAÇÃO DA CADEIA PRODUTIVA DE BATATAS
(DECARBONIZATION OF THE POTATO PRODUCTION CHAIN)

METHODOLOGY

PepsiCo promotes regenerative agriculture through technology, innovation, and strategic partnerships with companies, universities (such as IFGO), and the open innovation ecosystem. The difference lies in the integration of projects, supported by long-term partnerships with producers (up to 40 years). Each project is implemented in the area whose needs and specificities justify its application, with impacts monitored by Cool Farm Tool, which uses mini-sprinkler irrigation, low-carbon nutrition, cover crops, soil sensors, and biological inputs.



▶ Regenerative agriculture at scale: Integrated systems and biodiversity driving sustainable potato production.

RESULTS

On 3,600 hectares, we applied large-scale regenerative solutions: 85% of the area with cover crops and biological systems, 54% with efficient irrigation, and 21% with soil sensors. As a result, we reduced carbon emissions by 6% (2015 baseline) and water consumption by 20.3% per ton of potatoes, increasing productivity with a lower environmental impact and rational use of natural resources.



▶ Smart irrigation: efficient water use as a pillar for decarbonization in the field.



syngenta®

REVERTE (REVERT)

CASE PRESENTATION

Reverte aims to address the challenge of degraded pastures in Brazil, which affects 85 million hectares. With the goal of restoring one million hectares by 2030, it seeks to transform degraded areas into productive areas, promoting food security without encroaching on new areas. The program adopts regenerative practices, improving soil health and carbon capture.



► Productivity with balance: Integration of crops and pastures in areas restored through the Reverte program.

syngenta®

REVERTE (REVERT)

METHODOLOGY

Interested farmers undergo a socio-environmental eligibility assessment. If approved, they receive agronomic consulting and support, including a guide for restoring degraded areas and monitoring. The agreement involves a 10-year credit line with a 3-year grace period. The program has two main partners: Itaú BBA, a financial partner, and the NGO TNC, a partner in the Cerrado region and vital to the program's design. Reverte innovates by integrating socio-environmental, financial, and agricultural objectives. Promoting sustainable agricultural practices that combine profitability and sustainability.



▶ Harvest with a positive impact: Regenerated agricultural production in previously unproductive areas.

RESULTS

Reverte has 86 participating producers, 361 farms with 258,000 hectares under restoration, with a total financed value of R$1.9 billion. Due to its zero-deforestation policy on the benefiting farms, the program has a legal reserve surplus of over 18,000 hectares. The program promotes the conversion of degraded areas into productive agricultural areas, improving soil health and local biodiversity, increasing soil carbon sequestration through regenerative agriculture practices, and increasing productivity, contributing to higher income for farmers.



▶ Technology and regeneration: Degraded areas gain new life through irrigation and efficient management.

SUPPORTING MATERIAL

https://www.syngenta.com.br/programa-reverte

4G TIM NO CAMPO (TIM 4G IN RURAL AREAS)

CASE PRESENTATION

TIM 4G in the Field was born from the meeting of business vision and the purpose of bringing high-quality connectivity to rural Brazil, enabling digitalization and more sustainable business models.

The agribusiness sector represents 23.2% of Brazil's GDP[1], currently being one of the main contributors to the country's[2] exports and trade balance. In recent years, Brazil has established itself as the world's largest exporter of corn, soybeans, and sugar.

Broad and reliable coverage for Brazilian agribusiness not only generates direct impacts and contributes to a more efficient and sustainable production model, but also benefits surrounding communities — bringing connectivity to public schools, health centers, and other facilities, promoting digital inclusion and the development of rural areas.

TIM 4G in the Field is a rural transformation platform designed to integrate technology, sustainability, and inclusion. With measurable results, the project has become a benchmark in innovation, leadership, and partnership between the telecommunications sector and Brazilian agribusiness.

Today, TIM serves over 60 agribusiness groups, including São Martinho, Belém Bioenergia, BP Bunge Bioenergia, Citrosuco, Amaggi, Agropalma, and Adecoagro, covering 23 million hectares across the country.

[1] CNA/CEPEA. Source available at: https://www.cnabrasil.org.br/noticias/pib-do-agronegocio-fecha-2024-com-crescimento-de-1-81

[2] INSPER. Source available at: https://agro.insper.edu.br/storage/papers/February2025/EUA%20x%20Brasil.pdf

4G TIM NO CAMPO (TIM 4G IN RURAL AREAS)

METHODOLOGY

The initiative uses the same 700 MHz LTE 4G technology already installed in cities, ensuring world-class compatibility and performance. Furthermore, the network is ready for NB-IoT (Narrow Band Internet of Things), a technology that allows the connection of sensors and devices with low power consumption, expanding the possibilities for automation and monitoring in the field.

The project offers farmers, in addition to connectivity itself, several integrated solutions through technological partnerships, providing easier communication with customers and suppliers, access to new precision agriculture and automation technologies, solutions for processing and remotely monitoring field data (land, machinery and implements, animals, and labor), and time savings, competitiveness, and productivity by increasing the quality of crops and agricultural products and reducing costs.

4G TIM no Campo aims to go beyond connectivity. The project paves the way for a cycle of business model development in Brazilian agriculture that boosts and balances productivity, sustainability, and innovation. Connectivity creates a digital infrastructure that integrates people, machines, and sensors, transforming data into information that guides more assertive and sustainable decisions. In the field, each tower installed becomes a point of transformation, where technology enhances work, brings producers closer to the market, and creates opportunities for future generations.

RESULTS

Aiming to demonstrate how connectivity increases farm productivity while contributing to a more sustainable business model, even in a region already recognized for its high yields, harvest after harvest, a study was conducted by Agricef and Unicamp. The analysis was structured around three main pillars: Agricultural Efficiency, Economic Viability, and Sustainability.

In the 2022/23 harvest, the Connected Farm, a project developed in partnership with Case IH, achieved a total production of 12,925 tons, 18% more productive than the previous harvest and 13.4% above the national average.

In a comparison with another farm in the same region, but without connectivity, and after accounting for other factors, it was found that connectivity was responsible for a 3.5% increase in productivity—equivalent to 2.35 more bags of soybeans per hectare in a 3,200-hectare area. Operational efficiency also showed significant gains. Three harvesters analyzed across both harvesting seasons showed that, with connectivity, there was a 5.7% reduction in engine idle time and a 4.2% increase in effective working time, resulting in three fewer days in the harvest window.

Furthermore, real-time machine management resulted in 25% savings in fuel consumption, representing over R$300,000 in savings in the 2022/2023 harvest.

Under the sustainability pillar, the study indicated a reduction of 12.5 kg of CO_2 equivalent per ton of soybeans produced, corresponding to a 10% decrease in emissions intensity.

TIM's 4G in the Field program has demonstrated how technology can be a vector and a meeting point between productivity, transformation, and social, environmental, and climate responsibility, consolidating connectivity as a fundamental element for the development of more sustainable business models.

CAFÉ REGENERATIVO DE BAIXO CARBONO

(LOW-CARBON REGENERATIVE COFFEE)

CASE PRESENTATION

Agriculture is responsible for 20% of global GHG emissions, but it can reduce and sequester emissions with regenerative soil practices and decarbonized inputs. To address these challenges, Yara has partnered with Cooxupé to produce regenerative coffee using fertilizers with a lower carbon footprint, produced with Biomethane: Climate Choice™.

METHODOLOGY

Globally, Yara has developed routes for producing nitrogen fertilizers from renewable ammonia, reducing GHG emissions by up to 90%. Furthermore, it has built connections with the food chain—such as Cooxupé—so that these inputs reach farmers and consumers worldwide. In the first year, 29 coffee growers who are benchmarks in sustainability used these fertilizers and regenerative practices in the 24/25 harvest, such as the efficient use of nutrients based on nutritional recommendation tools, the use of cover crops between the rows, and organic compost.

RESULTS

Previous studies on the use of regenerative practices in coffee, combined with Yara fertilizers, delivered a 14% increase in productivity (48 to 55 bags/ha), a 3-point increase in sensory quality (81 vs. 84), a 22% smaller carbon footprint, and an increase in income of R$5,000/ha. With the use of Climate Choice™ fertilizers, this carbon footprint reduction can reach 40%, an important factor in reducing roasters' carbon footprint. With Yara's solution, Brazilian farmers are already generating value for their production while protecting the planet.

SUPPORTING MATERIAL

www.yarabrasil.com.br

cebds accenture

ENERGY

This theme involves 25 companies, including **CEMIG**, which supplies energy to low-income families in Minas Gerais. **DEEP ESG** has launched the Decarbonization Journey, automating the measurement of emissions and decarbonization. **Vibra** is developing a platform to cut energy-related emissions by 90%. **Energisa** is decommissioning oil-fired thermal power plants in the Amazon, reducing CO_2 emissions. **Mondelez** uses eutectic plates in transportation, reducing emissions, while **Compass** introduces a low-carbon logistics solution by replacing diesel with natural gas (CNG). **Helexia** is bringing electricity to remote communities in the Amazon, reducing diesel consumption, while the Sol de Jaíba project in Minas Gerais aims to lower energy costs and expand the use of renewable energy in **Assaí** through solar self-generation. **Edenred Brazil** has launched the Move For Good program to reduce corporate emissions. The **L'Oréal Group** is decarbonizing its logistics. **Vivo** involves 87% of suppliers in reducing emissions. **Vale** has developed iron ore briquettes that reduce emissions in steel production. **Solví** is replacing its diesel fleet with natural gas vehicles. **Copa Energia** develops Renewable Liquefied Gas (RLG), reducing emissions. **Shell Brazil** is implementing the BRAVE program, using agave for ethanol production. **Motiva** Trilhos is deploying its own renewable energy, while **Klabin** is reducing CO_2 emissions through biomass gasification. **ENGIE Brazil** has put in place a supplier decarbonization program to achieve Net Zero. **Petrobras** has launched Diesel R5, a renewable fuel **FS** is a pioneer in the production of corn ethanol with carbon capture. **TotalEnergies** has created the Five Levers program to promote sustainable practices. **VLI** is enhancing locomotive efficiency, by reducing fuel consumption. Eneva is focusing on producing green diesel from Amazonian biodiversity. **Volkswagen** has launched Brazil's first fully electric truck, while **Prumo** is developing a sustainable marine fuel project with CO_2capture.



PROJETO SOL DE JAÍBA
(SOL DE JAÍBA PROJECT)



CASE PRESENTATION

The Sol de Jaíba project, in Minas Gerais, seeks to reduce energy costs and expand the use of renewable energy in Assaí through solar self-generation. The initiative ensures financial predictability and reinforces the commitment to sustainability and decarbonization.

METHODOLOGY

Implementation via a lease consortium, with contracts for property transfer, equipment leasing, and O&M. Includes land, environmental, and energy due diligence, approval by the Council, CADE, and ANEEL. Partners: Lefosse, Grupo Energia, and Auren. Installed capacity: 159.96 MWp.





RESULTS

Cost reduction of up to R$175 million and a R$353 million 5-year contract. Generation of 315,360 MWh/year (100% renewable), serving 93 stores (30.6%) and avoiding approximately 15,000 tCO2/year. Energy certified with I-REC, contributing to a 42% reduction in direct emissions by 2030 and ensuring 100% renewable energy for operations.

PROGRAMA ENERGY LEGAL
(LEGAL ENERGY PROGRAM)



▶ Aerial view of the Izidora Occupation, one of the largest in Latin America, where over 4,000 families benefited.

CASE PRESENTATION

Given the lack of access to regular and safe energy for 240,000 families in low-income communities in Minas Gerais, and aware of its commitment to reversing this situation, Cemig identified the need to implement a program focused on this group to guarantee their access to affordable, clean, and reliable energy. The proposed solution involved the implementation of new energy networks and the promotion of social initiatives in Belo Horizonte and the metropolitan region. The idea arose from technical studies and exchanges with the communities involved.

METHODOLOGY

The initiaive was implemented in three stages: community assessment, technical engineering planning and participatory stakeholder relationship planning, and energy regularization. These initiatives included modernizing the regions' electrical infrastructure, replacing light bulbs with more efficient models, and including families in the Social Electricity Tariff, which reduces electricity bills for low-income consumers. The project was supported by local municipal agencies, the Public Prosecutor's Office, leaders, and community associations.

RESULTS

Since 2023, 20,000 families in vulnerable urban areas have received regular, safe energy. A milestone was the work in Izidora, one of the largest urban occupations in Latin America. The R$25 million investment benefited more than 4,000 families. With legalized energy, they experience more reliable street lighting, the use of electric showers, and safe food preservation, in addition to obtaining proof of residence—an essential document for access to various public services. The plan is to regularize approximately 240,000 families in the state by 2027.

SUPPORTING MATERIAL

www.cemig.com.br

COMPASS

LOGISTICS FLEET DECARBONIZATION: FUEL REPLACEMENT

CASE PRESENTATION

In the field of sustainable mobility, Ypê has increased the use of Compressed Natural Gas (CNG) in its fleet, adding a total of new vehicles to its fleet. At the same time, a project is underway to replace diesel-powered trucks with CNG models, with the expectation of reducing the fleet's carbon emissions by up to 30%. To facilitate this transition, construction is underway on two CNG fueling stations at the Amparo (SP) manufacturing complex, with operations scheduled to begin in August 2025.

METHODOLOGY

The project aims to promote transportation solutions with low-emission technologies, expand low-carbon mobility infrastructure, and optimize logistics networks. logistics, and integrate scalable, cost-effective solutions to decarbonize urban freight transportation. The project introduces a low-carbon logistics solution by replacing diesel with natural gas, with support for the construction of fueling stations and the integration of natural gas-powered vehicles.

The project was developed in partnership with Comgás (a piped gas distributor in São Paulo) and TIXLOG.

Fully operational natural gas infrastructure, vehicles purchased and leased, and logistics operations with a natural gas-powered fleet began in August 2025 after successful commissioning and testing.

RESULTS

- 30% reduction in fuel costs on the Amparo–Salto route
- Positive economic impact through reduced fuel costs and operational savings
- A 25% reduction in CO2 emissions was achieved due to the replacement of diesel use on the Amparo–Salto route with natural gas. This result is in line with the comparative
- Life Cycle Assessment (LCA) study of fuels conducted by ACV Brasil and audited by KPMG, with additional benefits in 12 categories of environmental impact.

SUPPORTING MATERIAL

www.compassbr.com

COPA energia

COPA ENERGY INVESTE EM P&D DO GÁS LIQUEFEITO RENOVÁVEL (GLR)

(COPA ENERGIA INVESTS IN R&D OF RENEWABLE LIQUEFIED GAS (RLG))

CASE PRESENTATION

Copa Energia is leading the energy transition in the LPG sector with the development of Renewable Liquefied Gas (RLG), also known as Renewable Liquid Gas (RLG). Produced from renewable raw materials such as vegetable oils and residual fats, RLG is a sustainable alternative to fossil LPG, enabling a reduction in greenhouse gas (GHG) emissions by more than 80%. The initiative positions Brazil as a potential producer and significant consumer of this advanced biofuel.

METHODOLOGY

The initiative involved strategic partnerships with two Brazilian universities: USP and UFRJ. At USP (University of São Paulo), a multi-period Mixed Integer Linear Programming (MILP) model was developed to evaluate and optimize the LNG supply chain over 20 years. The model encompasses four decision-making layers: raw material acquisition, installation and operation of production plants, storage infrastructure, and market allocation. Based on different technological pathways and Brazilian conditions, the model integrates investment, operating, and transportation costs, as well as revenue from the sale of LNG, co-products, and CBIO credits. Life Cycle Assessment (LCA) is incorporated via the RenovaCalc methodology, allowing for the estimation of the fuels' carbon intensity and the quantification of CBIO generation, which directly impacts the system's Net Present Value (NPV). At UFRJ (Federal University of Rio de Janeiro), research focused on the development of innovative catalysts for the conversion of glycerol and ethanol into LRG, considering different chemical production routes. These catalysts aim to increase conversion efficiency under conditions compatible with Brazil's technological and economic reality, contributing to alternative and sustainable LRG production routes.

RESULTS

The research conducted at USP is ongoing, and global results have not yet been obtained, only case studies. However, they indicate a positive NPV, indicating the economic viability of producing LNG and a reduction in GHG emissions of up to 83% using the Renovacal methodology. The research conducted at UFRJ resulted in catalysts capable of converting glycerol into LNG with a 76% yield under reaction conditions of 120 bar and a temperature of 380°C.

DEEPESG
IMPACT THAT MATTERS

JORNADA DE DESCARBONIZAÇÃO
(DECARBONIZATION JOURNEY)

CASE PRESENTATION

Faced with growing pressure for decarbonization, Comerc Energia and DEEP ESG created the Decarbonization Journey project, which automates emissions measurement and accelerates the provision of decarbonization solutions for Brazilian companies of all sizes and at different levels of sustainability maturity.



DEEPESG
IMPACT THAT MATTERS

JORNADA DE DESCARBONIZAÇÃO (DECARBONIZATION JOURNEY)

METHODOLOGY

The project was implemented through the Carbono IA digital solution, which automates carbon inventories based on accounting data, following the GHG Protocol standard for calculating GHG emissions. The process includes submitting a standard tax file and automatically generating the inventory, which generates data intelligence for implementing the best decarbonization solutions to reduce the carbon footprint.

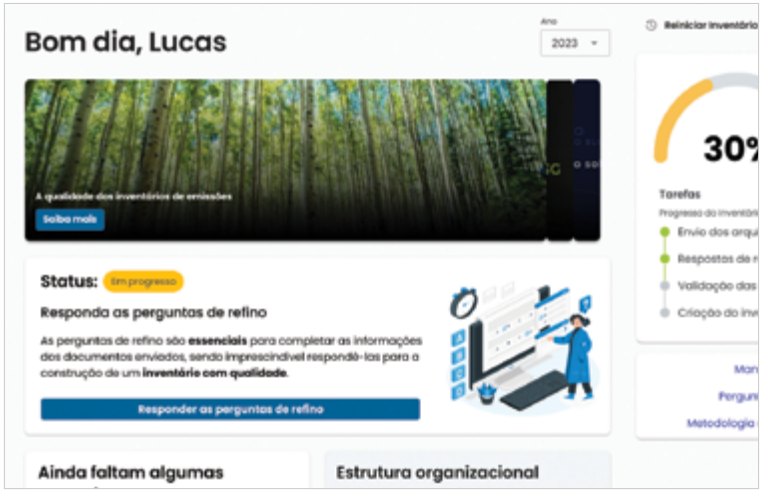


RESULTS

Since 2023, the milestone of 500 GHG inventories has been reached, equivalent to 34% of the country's public inventories in the same period. The solution reduced the average time for compiling inventories from months to about 30 days. The project accelerated the adoption of solutions such as renewable energy and energy efficiency. Furthermore, it helped DEEP ESG raise R$22 million in investments and receive the National Innovation Award, consolidating its position as a benchmark in impact measurement in Latin America.



▶ DEEP ESG team during the 2nd International Congress on Open Innovation Cases, where the case was presented.



▶ DEEP Platform – AI Carbon.

MOVE FOR GOOD

CASE PRESENTATION

Given the impact of fossil fuels, which account for 20% of global greenhouse gas emissions, Edenred launched Move For Good. The program, a first in the sector, supports companies in the transition to low-carbon mobility, through a comprehensive journey that ranges from measuring their emissions to optimizing their decarbonization process.



► A team member handles seedlings in a nursery, symbolizing the beginning of the environmental preservation journey of the Move For Good program.

MOVE FOR GOOD

METHODOLOGY

Move for Good is a decarbonization journey based on the pillars: Measure & Reduce, Offset & Preserve, and Raise Awareness. After mapping the challenges of this market, we calculate the emissions of our clients' fleets based on the GHG Protocol. We develop data-driven technological solutions, such as the Emissions Calculator, which monitors and identifies reduction opportunities. Finally, residual emissions are offset through carbon credits from certified projects, closing the cycle of the journey, focusing on decarbonization through sustainability and economic management.

► Edenred volunteers and partners plant native trees as part of the program's offsetting actions.



RESULTS

Last year, customers who used the emissions calculator were able to reduce their environmental impact by more than 98%, saving over R$1.5 million. Since its launch, Move For Good has benefited more than 1,900 customers and offset 70 million liters of fossil fuels, equivalent to 135,000 tons of CO_2eq. Through the program, we also planted 15,000 native tree seedlings. The initiative is led by Brazil and is already present in other countries where Edenred operates.

► Edenred volunteers.





SUPPORTING MATERIAL

www.edenred.com.br/

GRUPO energisa12

ENERGISA ATUA NA AMAZÔNIA

(LEGAL ENERGISA OPERATES IN THE LEGAL AMAZON)

CASE PRESENTATION

Energisa operates in the Legal Amazon with integrated projects that address the challenges of energy isolation, GHG emissions, and social exclusion. The complexity of project execution and the expertise generated by a century-long journey allow Energisa to lead decarbonization and universal access initiatives that change the lives of thousands of people.



► An Energisa technician performs maintenance on a transmission tower, reflecting the technical challenges of integrating the Amazon into the national power system.

GRUPO energisa12

ENERGISA ATUA NA AMAZÔNIA LEGAL
(LEGAL ENERGISA OPERATES IN THE LEGAL AMAZON)

METHODOLOGY

The strategy combined the decommissioning of 20 fuel oil and diesel-fired thermal plants (195 MW), integration into the National Energy System (SIN) (+1,000 km of lines), 6,000 km of grids, and 75 substations; universalization of energy access with +14,000 SIGFIs and a 100% off-grid solar microgrid (580 panels, 325 kWp, lithium batteries, and two biodiesel generators). The operation required complex logistics, with routes over land, water, and air. Multidisciplinary teams worked with respect for Indigenous peoples and constant dialogue with FUNAI. This action promotes citizenship and a fair, inclusive, and replicable energy transition.



▶ Children in a classroom benefited from electrification—one of the structural changes enabled by the arrival of reliable energy.

RESULTS

The set of initiatives presented for the sustainable transition in the Legal Amazon: has resulted, by December 2024:

- Avoided emissions of 597,000 tCO_2/year;
- Reduction in diesel consumption of 5 million liters;
- Savings of R$865 million/year in the CCC;
- Investment of approximately R$1.76 billion;
- Benefiting 475,700 people with clean energy and continuous access.
- 16 cities
- It's not just about decarbonizing; it's also about ensuring decent and continuous access to energy for those who previously lived in the dark or with precarious energy supplies.



▶ Aerial view of Vila Restauração, highlighting the solar microgrid that provides clean and continuous energy to the community.

SUPPORTING MATERIAL

www.energisa.com.br

eneva

DIESEL VERDE COM OLEAGINOSAS DA AMAZÔNIA

(GREEN DIESEL USING OILSEEDS FROM THE AMAZON)

CASE PRESENTATION

The global demand for renewable energy sources, driven by decarbonization efforts, is driving the search for renewable fuels. In this sense, the vast biodiversity of the Amazon region offers unique potential for the production of green diesel, a drop-in biofuel capable of reducing greenhouse gas emissions.



► MiprowaR rectangular channels, where the flow enters forming a grid.

eneva

DIESEL VERDE COM OLEAGINOSAS DA AMAZÔNIA
(GREEN DIESEL USING OILSEEDS FROM THE AMAZON

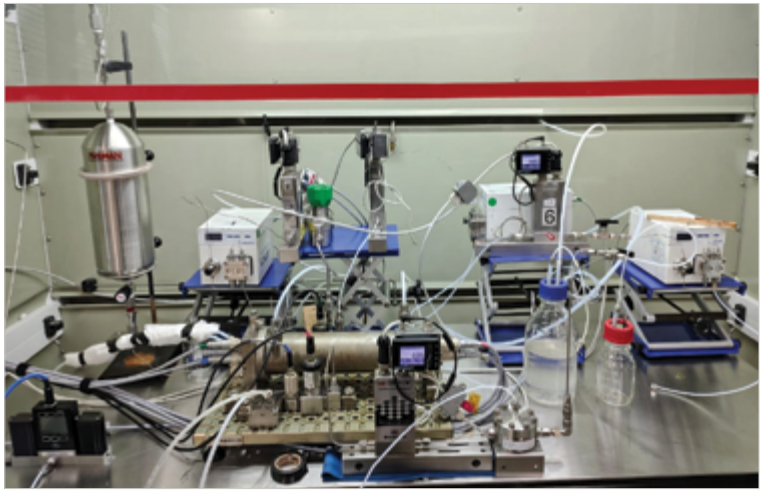
METHODOLOGY

The initiative seeks to identify oilseed species from the Amazonian biodiversity with potential application in green diesel production. The oils obtained from the extraction will be subjected to green diesel conversion processes in microfluidic systems and subsequently evaluated under specific conditions for commercial application. These processes will have their technical and financial viability and sustainability assessed using simulation and modeling techniques. Finally, the initiative seeks to use these processes as a platform for sustainable regional socioeconomic development.

RESULTS

The expected results include a description of the oilseeds' characteristics, the definition of the best technological arrangements for green diesel production, the identification of logistics and supply issues necessary to enable industrial processes, and the definition of regulatory frameworks for commercializing the biofuel. The process parameters and technical indices for the detailed development of economic and financial modeling and the basic design of the demonstration unit will all be identified throughout the initiative and aim for sustainable regional development.

► Laboratory equipped for testing and analyzing oils extracted from Amazonian oilseeds in the green diesel production process.





PROGRAMA DE DESCARBONIZAÇÃO DE FORNECEDORES

(SUPPLIER DECARBONIZATION PROGRAM)

CASE PRESENTATION

The supplier decarbonization program, launched in 2024, is part of engie brasil energia's (EBE) climate journey. It aims to engage suppliers in setting Reduction targets, guaranteeing the engie group's net zero 2045 commitment. Currently, more than 70% of ebe's emissions come from the 52 invited suppliers.

▶ Engie – UN Global Compact recognizes ENGIE Brasil as a Climate Guardian.



METHODOLOGY

The program is structured in 5 macro-steps::

1. Defining target suppliers (together they represent over 90% of supply chain emissions);
2. Conducting interviews to diagnose climate change maturity;
3. Signing the membership agreement, which guarantees access to benefits, such as a platform for inventory preparation, training, energy efficiency diagnosis, and discounts on i-recs;
4. Collection of ghg inventory and alignment on reduction targets and decarbonization actions;
5. continuous monitoring of kpistargets and decarbonization actions; continuous monitoring of KPIs.

RESULTS

Main results include:

- Over 50% of target suppliers' admission, which were responsible for approximately 60% of ebe's supply chain emissions in 2024;
- In 2024, an estimated reduction of approximately 4,000 tCO_2e is expected;
- Award in the ""guardians for the climate"" category during cop29 and at the 31st expression of ecology award, in the environmental management category;
- 4 Training courses were held, covering topics such as ghg inventory, climate risks and opportunities, the carbon market, and sustainable taxonomy.

FS Fueling Sustainability
ENERGIA QUE ABASTECE O BEM

BECCS - BIOENERGY WITH CARBON CAPTURE AND STORAGE

CASE PRESENTATION

FS is a pioneer in the production of second-harvest corn ethanol. In 2024, it announced the second phase of investments in BECCS. This initiative, by storing the CO_2 produced during the fermentation stage, corn ethanol will have a negative carbon footprint. Storage is scheduled to begin in June 2026, positioning Brazil as a leader in carbon removal in Latin America.



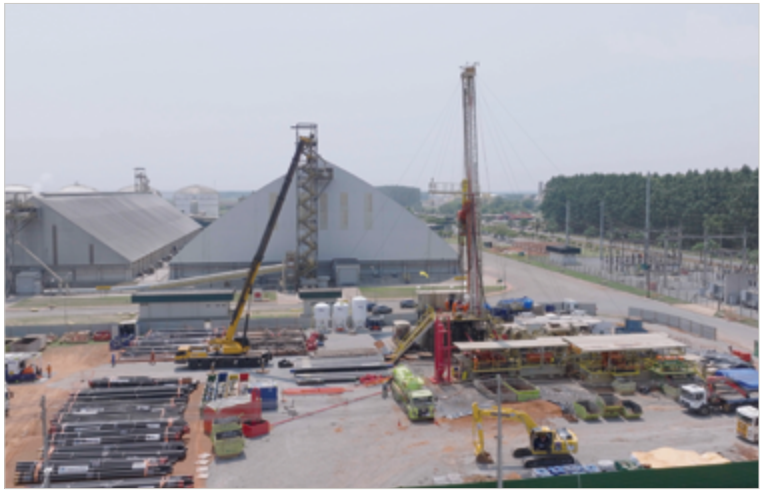
► Aerial view of the FS construction site during drilling and geological testing for BECCS technology implementation.

FS Fueling Sustainability
ENERGIA QUE ABASTECE O BEM

BECCS - BIOENERGY WITH CARBON CAPTURE AND STORAGE

METHODOLOGY

BECCS technology combines bioenergy with carbon capture and storage. The CO_2 generated during fermentation is captured, dehydrated, compressed, and injected into geological reservoirs approximately 1,200 meters deep. Technical studies have confirmed its feasibility, identifying porous formations for storage and sealing layers that prevent leakage. Project development is structured in four main stages: geological validation, regulation, environmental licensing, and operation.



▶ Detail of drilling operations and stratigraphic well testing, marking the first feasibility phase of the BECCS project in Brazil.

RESULTS

FS successfully advanced through the initial phases of the BECCS project, validating its geological feasibility and drilling a stratigraphic well with authorization from the National Petroleum Agency (ANP) in Lucas do Rio Verde. A pioneer in Latin America, the project is supported by the Fuel of the Future legal framework. In the first phase of the project, FS invested approximately R$110 million for technical studies and drilling a stratigraphic well. In 2024, it announced the second phase with an investment of approximately R$350 million. The project inspired its controlling shareholder to launch the largest carbon capture project in the US.





SUPPORTING MATERIAL

www.fs.agr.br/

Helexia

ELETRIFICAÇÃO EM COMUNIDADES REMOTAS

(ELECTRIFICATION FOR REMOTE COMMUNITIES)

CASE PRESENTATION

Thousands of isolated communities in the Amazon rely on diesel generators costing up to R$7.00/kWh. The Solar Project, led by the Sustainable Amazon Foundation (FAS) in partnership with Helexia, Schneider Electric, and Enerwatt Engenharia, will replace these generators with community and residential photovoltaic systems. The pilot phase covers the communities of São Francisco do Caribi (Uatumã Reserve, Itapiranga, Amazonas) and São Francisco do Caramuri (rural area of Manaus, Amazonas), installing 800 panels (420 kWp) under the "Energies of the Amazon" program, which aims to reduce diesel consumption in the region by 70% by 2030.



► FAS – Inauguration of the Inglês Community Solar System (CamD_drone) (June 15, 2021).

Helexia

ELETRIFICAÇÃO EM COMUNIDADES REMOTAS
(ELECTRIFICATION FOR REMOTE COMMUNITIES)

METHODOLOGY

Infrastructure: SIGFI systems with 36 hours of autonomy (180 kWh/month per residence) integrating solar panels and lithium batteries.

- Management & Monitoring: Sustainability Control Tower (SAP) displays SDG indicators in real time; socio-environmental diagnosis (baseline) and ex-post evaluation measure impacts.
- Community Engagement:
- Awareness-raising workshops on clean energy and safe use of electricity.
- Technical training (320 hours) in photovoltaic operation, maintenance, and monitoring.
- Health training (chronic condition card, telemedicine) and complementary education (300 hours, entrepreneurship & innovation).



▶ Inauguration of the Inglês Community Solar System.

RESULTS

Indicator	Target	Deadline
System availability	≥ 98 %	Year 1
Homes served	100	Year 1
CO2 reduction	250 t/year	Year 1
Average energy expenditure	-85 %	Year 1
Professionals/CHAs trained	40	Year 1
Young people graduated from additional courses	40	Year 1



▶ Installation of photovoltaic panels.



▶ Entrance of the São Francisco do Caramuri community, one of the beneficiaries of the solar system installation.

SUPPORTING MATERIAL

www.helexia.com.br/

Klabin

GASEIFICAÇÃO DE BIOMASSA PARA DESCARBONIZAÇÃO

(BIOMASS GASIFICATION FOR DECARBONIZATION)

CASE PRESENTATION

Klabin is committed to reducing greenhouse gas emissions. Its bioeconomic solutions aim for low carbon emissions and the efficient use of natural resources. Biomass gasification was implemented as an alternative to fossil fuels, making operations more sustainable and mitigating the impact of climate change.



► Ortigueira-Puma II Gasification Plant – Photographer Rafael Chuí – 2022

Klabin

GASEIFICAÇÃO DE BIOMASSA PARA DESCARBONIZAÇÃO
(BIOMASS GASIFICATION FOR DECARBONIZATION)

METHODOLOGY

The biomass gasification plant allows the replacement of BPF oil, a fossil-based fuel, with Syngas (synthesis gas) generated from the thermal decomposition of wood chips from the Company's planted forests. The solution helps reduce GHG emissions from its operations and is part of the KODS (Klabin Sustainable Development Goals), aligned with the UN 2030 Agenda. The goal is to reduce direct GHG emissions by 42% (base year 2022) and ensure an energy matrix of at least 92% renewable energy by 2030, in addition to the NetZero commitment by 2050.

RESULTS

The Biomass Gasification Plant allowed Klabin to reduce consumption by approximately 18,000 tons of BPF oil per year. As a result, its energy matrix increased the share of renewable fuels, exceeding 92%. Replacing fossil fuels with Syngas resulted in approximately 56,000 tons of CO_2eq avoided in the company's operations. This work directly contributes to Klabin's SBTi target achievement and is aligned with the NetZero commitment, which envisions a reduction of at least 90% in absolute GHG emissions under scopes 1 and 2 by 2050.

► Ortigueira Unit – General View



SUPPORTING MATERIAL

https://rs2023.klabin.com.br/

L'ORÉAL GROUPE

GREENBOUND

CASE PRESENTATION

Climate change is an urgent reality. Actions that promote systematic transformations are essential to limit emissions by 2030. In this regard, the L'Oréal Group is developing the GREENBOUND case, applying biogas to decarbonize its logistics operations and stimulate the development of a renewable biofuels market.



► L'Oréal Group in Brazil – Greenbound Case.

L'ORÉAL GROUPE

GREENBOUND

METHODOLOGY

Decarbonizing the logistics chain is a strategic challenge in Brazil. It was essential to work in partnership to advance legislation on the use of biogas, mobilize internal departments to transform operations, work with suppliers, and create the first dedicated fueling point. The project is supported by Gás Verde, which supplies clean fuel from landfill waste, Reiter Log, and Scania.

A methodology for monitoring results and influencing the partner ecosystem are essential to amplifying the positive impact across the entire value chain.

RESULTS

It enabled a reduction in CO_2 emissions of 2,200 tons in operations, compared to 2023, using 80% of direct shipments to São Paulo and 100% of the Factory-Distribution route. With this case, the L'Oréal Group influences the supply chain and fosters collaboration with other industries, suppliers, and customers for more sustainable practices, encouraging other players to apply the operational model. Scalability extends beyond Brazil's borders, offering a replicable and adaptable model for different regions, catalyzing an alternative transition to a low-carbon economy.





► Truck refueling with biomethane at the Gás Verde station, a project partner.



SUSTENTABILIDADE É INOVAR: PLACAS EUTÉTICAS

(SUSTAINABILITY MEANS INNOVATING: EUTECTIC PLATES

CASE PRESENTATION

Maintaining the ideal temperature for sensitive products like chocolates and snacks during transportation has always been a challenge in the food industry. Therefore, Mondelez implemented an innovative solution: the use of eutectic plates in trailers. This allows us to eliminate the traditional use of diesel in the truck air conditioning process and reduce our carbon emissions when transporting refrigerated products.



METHODOLOGY

Seeking innovation in logistics, we developed a solution for using eutectic plates in trailers, in partnership with the transportation company TecPet. The plates function as "cold accumulators" and reach their freezing point through charging, allowing them to maintain low temperatures for up to 10 hours with minimal energy consumption. The implementation of the eutectic plates was carried out strategically and gradually, with technical and financial feasibility studies, pilot tests, partnerships, training, and other initiatives being conducted. The technology is currently undergoing intellectual property review for use in trailers for Mondelez.

RESULTS

The initiative resulted in a reduction in greenhouse gas emissions of up to approximately 25% per truck. Furthermore, costs were also reduced due to reduced fuel consumption and the need for maintenance on diesel generators Product quality during transportation was also improved, ensuring they arrive at points of sale in perfect condition, preserving their flavor and texture, which increases customer satisfaction and reduces losses and damage. Currently, Mondelez Brazil has 11 partner trucks equipped with the technology and is considering expanding its fleet.

SUPPORTING MATERIAL

www.mondelezinternational.com/brazil/

motiva

AUTOPRODUÇÃO DE ENERGIA ELÉTRICA/ RENOVÁVEL

(SELF-GENERATED ELECTRICITY/ RENEWABLE ENERGY)

CASE PRESENTATION

In 2025, Motiva Trilhos (São Paulo lines 4, 5, 8, and 9) set a milestone in the metro-rail sector by adopting clean and renewable energy. This pioneering initiative reduces emissions and reinforces its sustainability strategy, with a goal of neutralizing scope 1 and 2 emissions by 2035 and a SBTi goal of reducing scopes 1 and 2 emissions by 59%.



► Wind energy powering São Paulo rails with a 100% renewable source.

motiva

AUTOPRODUÇÃO DE ENERGIA ELÉTRICA/RENOVÁVEL
(SELF-GENERATED ELECTRICITY / RENEWABLE ENERGY)

METHODOLOGY

The methodology was based on the partnership between Motiva and Neoenergia for self-production of renewable energy at the Oitis Wind Farm (PI), aiming to meet the demand of metro-rail lines. The process included long-term contracts, optimized consumption management, additional acquisitions on the free market, strategic energy planning, technical-operational adjustments, and integration with monitoring systems.



► Wind energy powering São Paulo rails with a 100% renewable source.

RESULTS

In 2024, the energy consumption of the four lines totaled 394,051.68 MWh, corresponding to 21,407.29 tCO_2e. Self-production will supply 385,440 MWh in 2025, neutralizing 16,227.06 tCO_2e. For 2025, Motiva has guaranteed full offsetting of emissions (scope 2) associated with the electricity consumption of the lines operated. The Initiative estimates a 15% savings in the overall energy costs of the units, reinforcing the company's leadership in sustainability and operational efficiency in the sector.



SUPPORTING MATERIAL

www.motiva.com.br

PETROBRAS

DESCARBONIZAÇÃO DO SETOR DE TRANSPORTE — DIESEL R5

(DECARBONIZATION OF THE TRANSPORT SECTOR - DIESEL R5

CASE PRESENTATION

Petrobras' strategy emphasizes the supply of products with lower greenhouse gas emissions, demonstrating a commitment to sustainability. We seek cost-effective solutions for decarbonization, expanding energy supply. During this journey, we have already implemented several initiatives to diversify our product portfolio, meeting society's demands for a fair energy transition.

▶ R5 diesel transfer for locomotives on the railway network.



METHODOLOGY

Considering the uncertainties facing the energy sector, we work to build visions of the future through the development and monitoring of scenarios.

Our scenarios explore new possibilities and dynamics in the energy sector, which manifest themselves through perspectives on geopolitical arrangements and aspects, and changes in consumer habits, new technologies, and government policies. Using all these variables, we seek to map the critical uncertainty for the future of the energy sector: the pace of the energy transition.

RESULTS

Petrobras' energy production will grow in a cleaner way, ensuring its relevance in the national energy matrix and its role in society. Therefore, we launched innovative products to meet the demand for more sustainable alternatives.

We launched Diesel R (R5), a renewable fuel that does not require engine modifications, facilitating the transition for consumers. We already produce and sell it at the REPAR and RPBC refineries, and in 2024, we reached 100,000 m3 of sales and avoided approximately 10,000 tons of CO_2e. Other refineries, such as REPLAN, REDUC and REGAP, are also ready to produce, optimizing the use of our infrastructure for a cost-effective transition.

SUPPORTING MATERIAL

www.petrobras.com.br/sustentabilidade

PRUMO
LOGÍSTICA GLOBAL

DAC-TO-SEA: COMBUSTÍVEL MARÍTIMO A PARTIR DA CAPTURA DO CO_2

(DAC-TO-SEA: MARITIME FUEL FROM CO_2 CAPTURE

CASE PRESENTATION

Repsol Sinopec and the Port of Açu have partnered to develop a sustainable marine fuel based on CO_2 captured from the atmosphere for decarbonization. The proposal originated from Repsol Sinopec's R&D&I expertise in individual technologies, combined with the Port of Açu's ecosystem conducive to sustainable innovation.



► Strategic platform for the application and testing of sustainable marine fuel.

PRUMO
LOGÍSTICA GLOBAL

DAC-TO-SEA: COMBUSTÍVEL MARÍTIMO A PARTIR DA CAPTURA DO CO_2

METHODOLOGY

The project envisages combining technologies for capturing CO_2 from air and producing synthetic fuels, such as e-MGO or SAF. Planned steps:

- Pilot plant in partnership with PUCRS;
- Construction of a direct air capture module;
- Installation of a reactor that will convert the captured CO_2 into syngas;
- Implementation of a reactor to convert the syngas into liquid synthetic hydrocarbons, which will later be distilled into marine fuel;
- Use of the Port of Açu as a base for demonstration-scale development.



► Project DAC to Sea.

RESULTS

Repsol Sinopec has implemented both technologies in Brazil, with R&D&I investments exceeding R$100 million in decarbonization. The DAC unit is the first in Latin America, while the technology for producing sustainable fuels from CO_2 is a pioneer in Brazil. The Port of Açu has a low-carbon H2 hub and an R&D&I ecosystem dedicated to leveraging innovative projects. It is an ideal location for a pilot demonstration plant with the capacity to capture 5,000 tons of CO_2 per year and produce 300 liters of e-MGO per day, suitable for testing and validation on support vessels.





SUPPORTING MATERIAL

https://caisaculab.com.br/

PROGRAMA BRAVE
(BRAVE)



CASE PRESENTATION

To meet the growing demand for biofuels and find solutions for the energy transition, diversifying raw materials is essential. Shell Brazil's BRAVE program seeks to promote agave, a plant adapted to the semi-arid climate, as a source of ethanol. The idea brings together academic and industry partners to develop a solution with social and environmental benefits.

METHODOLOGY

The program is divided into BRAVE-Bio, coordinated by UNICAMP, focusing on generatingscientific and technical foundations for the use of agave as a biomass source; BRAVE-Mec, SENAI/CIMATEC, seeking technological solutions for mechanizingagave planting and harvesting processes; and BRAVE-Ind, SENAI/CIMATEC, focusing onagave processing routes to obtain first- and second-generation ethanol, biogas, and co-products. BRAVE has nearly 30 researchers, in additionto more than 100 fellows and technicians from different institutions, and began in November 2022, with a five-year duration.

RESULTS

At BRAVE-Bio, a seedling production protocol was developed using tissue micropropagation; the first genetically modified agave variety with glyphosate resistance was obtained; and positive results were obtained using growth biostimulants. At BRAVE-Mec, the harvesting machine project was completed, and at BRAVE-Ind, the process for producing ethanol from agave juice and the pyrolysis reaction to produce biochar was defined. As the program is halfway through its implementation, the scaling-up of results will occur over the next two and a half years.

DESCARBONIZAÇÃO NA GESTÃO DE RESÍDUOS DOMICILIARES

(DECARBONIZATION IN HOUSEHOLD WASTE MANAGEMENT)

CASE PRESENTATION

Given the opportunity to reduce greenhouse gas (GHG) emissions in household waste collection, Solví — through its subsidiary Loga, responsible for managing household and healthcare waste in part of São Paulo city — began gradually replacing its diesel-powered fleet with vehicles powered by compressed natural gas (CNG) and, soon, by biomethane.

METHODOLOGY

For the past 20 years, Solví has been developing fleets powered by alternative fuels to diesel, initially working with vehicle manufacturers and later carrying out operational tests. With the renewal of its concession with the City Hall, Loga started gradually replacing its fleet with new CNG-powered vehicles (to be fully completed by 2032), a pioneering initiative in Brazil. As Solví becomes a biomethane producer (generated by purifying biogas from landfills), it will enable the replacement of CNG with biomethane, further contributing to emission reductions.

RESULTS

The use of CNG already implemented in 32 vehicles (and reaching 335 by 2032) in the fleet allows for a significant reduction in GHG emissions. With the replacement of CNG by biomethane, vehicle performance increases, enhancing emission reduction by 90% compared to diesel and 2.5 times greater than electric vehicles. This also promotes circularity of organic matter present in waste (since the waste generated by the population is transformed into fuel for the vehicles), driving decarbonization and a low-carbon economy.

O PROGRAMA 5 ALAVANCAS
(THE 5 LEVERS PROGRAM)

CASE PRESENTATION

The 5 Levers Program was launched as part of TotalEnergies' transition strategy, with the goal of mobilizing employees toward more sustainable practices in their daily lives, aligned with the ambition of carbon neutrality by 2050.



► Solar energy and inclusion: Social project provides urban communities with access to clean energy.

O PROGRAMA 5 ALAVANCAS (THE 5 LEVERS PROGRAM)

METHODOLOGY

The sustainability journey follows a clear methodology based on five levers: energy consumption, GHG emissions reduction, environment, communities, and care for people. For each, roadmaps were developed based on technical and social diagnoses, targets, and indicators. This approach allows for the alignment of environmental, social, and governance commitments with the company's long-term objectives. Among the highlighted projects are the Biodiversity Plan, carbon reduction initiatives, and the Care Together program, focused on the physical and mental well-being of employees.

RESULTS

Using AI to optimize energy consumption in production. Eliminating routine burning of ares, achieving OGMP 2.0 certification - maximum level - 5. Sharing AUSEA technology (drones) with partners to quantify CH4 and CO_2 emissions. Recycling 65% of waste. Social partnerships benefiting more than 10,000 people, providing access to solar energy, education, and training for young people, women, and adults in general in digital literacy, technology, and energy; and promoting a culture of mutual care, with benefits and initiatives for the physical and mental health of employees.

► Emission monitoring with AUSEA drone on an offshore platform.



VALE

BRIQUETE DE MINÉRIO DE FERRO

(IRON ORE BRIQUETTES)



CASE PRESENTATION

We are committed to reducing the impact of mining on the environment and have been working to help curb global warming caused by greenhouse gas emissions. To this end, we have sought solutions to reduce and offset all carbon dioxide emissions from our operations and to help our steel customers reduce their emissions as well.
This challenge gave rise to a pioneering and innovative solution: iron ore briquettes, a new product that we have developed over almost 20 years of research. Briquettes can contribute to reducing greenhouse gas (GHG) emissions in steel production by up to 10% compared to traditional processes because they eliminate the carbon-intensive sintering stage. This reduction is significant when considering that the steel industry is responsible for about 8% of global emissions.

METHODOLOGY

Iron ore briquettes are a new product developed by Vale based on low-temperature agglomeration of iron ore using a technological solution of binders, which gives the final product high mechanical strength.

Key advantages of iron ore briquettes:

Lower CO_2 emissions: Briquettes emit less carbon dioxide than traditional agglomeration processes (pelletizing and sintering).

Water: No water is used in their manufacture.

Lower gas emissions: Iron ore briquettes reduce emissions of gases such as sulfur dioxide (SOx) and nitrogen oxide (NOx).

Production process: Reduces particulate emissions and can use sand from mining tailings in its production process.

RESULTS

Product undergoing industrial testing with customers, with the first shipments already completed.

SUPPORTING MATERIAL

https://conhecaobriquete.com.br/

VIBRA

PLATAFORMA MULTIENERGY

(MULTI-ENERGY PLATFORM)

CASE PRESENTATION

With 99.9% of its greenhouse gas emissions in Scope 3, Vibra, a leader in the energy distribution sector in Brazil, has established itself as the largest multi-energy platform to support customers in reducing their emissions with tailored solutions for the energy transition.



► Refueling with SAF.

VIBRA

PLATAFORMA MULTIENERGY (MULTI-ENERGY PLATFORM)

METHODOLOGY

Vibra has strategically structured its operations around customized solutions through a multi-energy platform, aligned with its fifth value avenue focused on the energy transition. The approach integrates biofuels, renewable energy, energy efficiency, and environmental certifications, without sacrificing its core business, which remains focused on high-performance fuels and lubricants with technologies that increase efficiency and reduce emissions. Since 2021, approximately R$7.5 billion has been invested in acquisitions and business development in low-carbon energy.



RESULTS

Vibra supports its customers in reducing emissions with solutions that enable up to 90% reductions in emissions associated with energy use. Its operations include renewable energy contracts, fleet electrification infrastructure, jet fuel blends with SAF (10% to 50%), Vibra Renewable Diesel, ODM with biofuel content, and book & claim. In its core business, it has improved the efficiency of fuels and lubricants, expanding the offering of products with lower carbon intensity. These solutions directly impact Vibra's Scope 3 and its customers' Scopes 1 and 2, reinforcing its strategy of offering the best energy for its customers.



SUPPORTING MATERIAL

www.vibraEnergy.com.br

PROGRAMA DE CARBONO NA CADEIA DE FORNECEDORES

(CARBON PROGRAM IN THE SUPPLY CHAIN)

CASE PRESENTATION

A leader in telecommunications in Brazil, Vivo (Telefônica Brasil) has made mitigating the climate crisis—given its urgency, intensity, and environmental impact—one of its top priorities. The company has already reduced its operational emissions (Scopes 1 and 2) by 90% and now faces the challenge of reducing value chain emissions (Scope 3), with the goal of achieving Net Zero by 2035.

METHODOLOGY

We selected 125 companies from the most carbon-intensive categories for Vivo, which together account for more than 80% of supplier emissions. Following this selection, we conducted a diagnosis that revealed only 30% of suppliers measured, mitigated, or were committed to reducing their emissions. To support and build the capacity of these suppliers, Vivo organized a series of webinars and offered free, individualized consulting, in exchange for suppliers committing to climate targets.

RESULTS

With the training provided, participants of the Supplier Chain Carbon Program were able to develop GHG inventories and set targets to reduce their emissions. In 2024, the program trained 86 companies and more than 220 professionals. As a result, 87% of carbon-intensive suppliers participating in the program made voluntary climate commitments. The program continues to engage suppliers, encourage new participation, and monitor the progress of commitments made. The next step will be to recognize the suppliers that stand out most on this climate journey.

LEADER (CASE LEADER)

CASE PRESENTATION

Innovation has driven VLI, bringing improvements in efficiency, safety, sustainability, and logistics integration. The Leader project helps us reduce GHG emissions and mitigate the climate impacts of our operations, reinforcing our commitment to the sustainable transformation of logistics.



► Leader system in operation in the North Corridor, promoting energy efficiency.

LEADER

METHODOLOGY

The Leader system is a technology embedded in VLI's premium fleet of locomotives that enables semi-autonomous assisted train operation, reducing operational variables and equipment wear and tear, while increasing safety and energy efficiency. The system operates in real time, enabling more efficient operation in terms of acceleration, braking, and power consumption, minimizing waste.

RESULTS

In 2024, the Northern Corridor saw the greatest increase in the use of the Leader system, rising from 40% to 83%. With over 80% utilization on a single trip, there were 8.6% fuel savings. Average consumption fell from 1.66 to 1.51 l/ktkb, generating a positive impact on reducing greenhouse gas emissions. The indicator considers the cargo transported and the distance traveled. In 2025, VLI is intensifying the use of the technology, expanding its use in the Eastern and Southeastern Corridors.

► Premium fleet equipped with onboard technology for emission reduction.



Caminhões Ônibus

E-DELIVERY: CAMINHÃO ELÉTRICO BRASILEIRO

(E-DELIVERY: THE BRAZILIAN ELECTRIC TRUCK)

CASE PRESENTATION

For Volkswagen Truck & Bus, acting responsibly toward the environment and society is one of its core purposes—especially in recognizing its important role in transforming the mobility of people and goods in a context of global challenges such as climate change. Following its history of pioneering and innovation, and always seeking to develop sustainable transport solutions for all, Volkswagen Truck & Bus developed the e-Delivery, a 100% locally produced electric truck with proprietary technology. This initiative reinforces VW-CB's commitment to sustainable innovation, transport efficiency, and carbon emission reduction.



Caminhões Ônibus

E-DELIVERY: CAMINHÃO ELÉTRICO BRASILEIRO
(E-DELIVERY: THE BRAZILIAN ELECTRIC TRUCK)

METHODOLOGY

The e-Delivery was designed to meet all the demands currently served by the diesel segment within the Delivery line. From 2017 to 2020, we developed and conducted conceptual engineering tests for the project. During this period, we worked in partnership with our modular consortium—a coalition of companies jointly involved in the development, assembly, and quality assurance of produced vehicles—to create sustainable mobility solutions for customers using the electric truck. In 2021, we began production of the e-Delivery line for the domestic market. Since then, we have expanded into export markets, with new applications in Argentina, Paraguay, Guatemala, Chile, Uruguay, Costa Rica, and Mexico.



RESULTS

The e-Delivery reduces emissions and noise, improves urban quality of life, creates qualified jobs, and reinforces the company's commitment to innovation, efficiency, and sustainability. In terms of environmental impact, the e-Delivery reduces CO_2e emissions by up to 90%, resulting in a reduction of 40 tons of CO_2e per vehicle in well-to-wheel operations. The new generation of e-Delivery has avoided 15,000 tons of CO_2e per year across Latin America between 2021 and 2024. In 2024, we achieved a 49% market share in e-Delivery sales, consolidating our leadership in clean transport solutions.

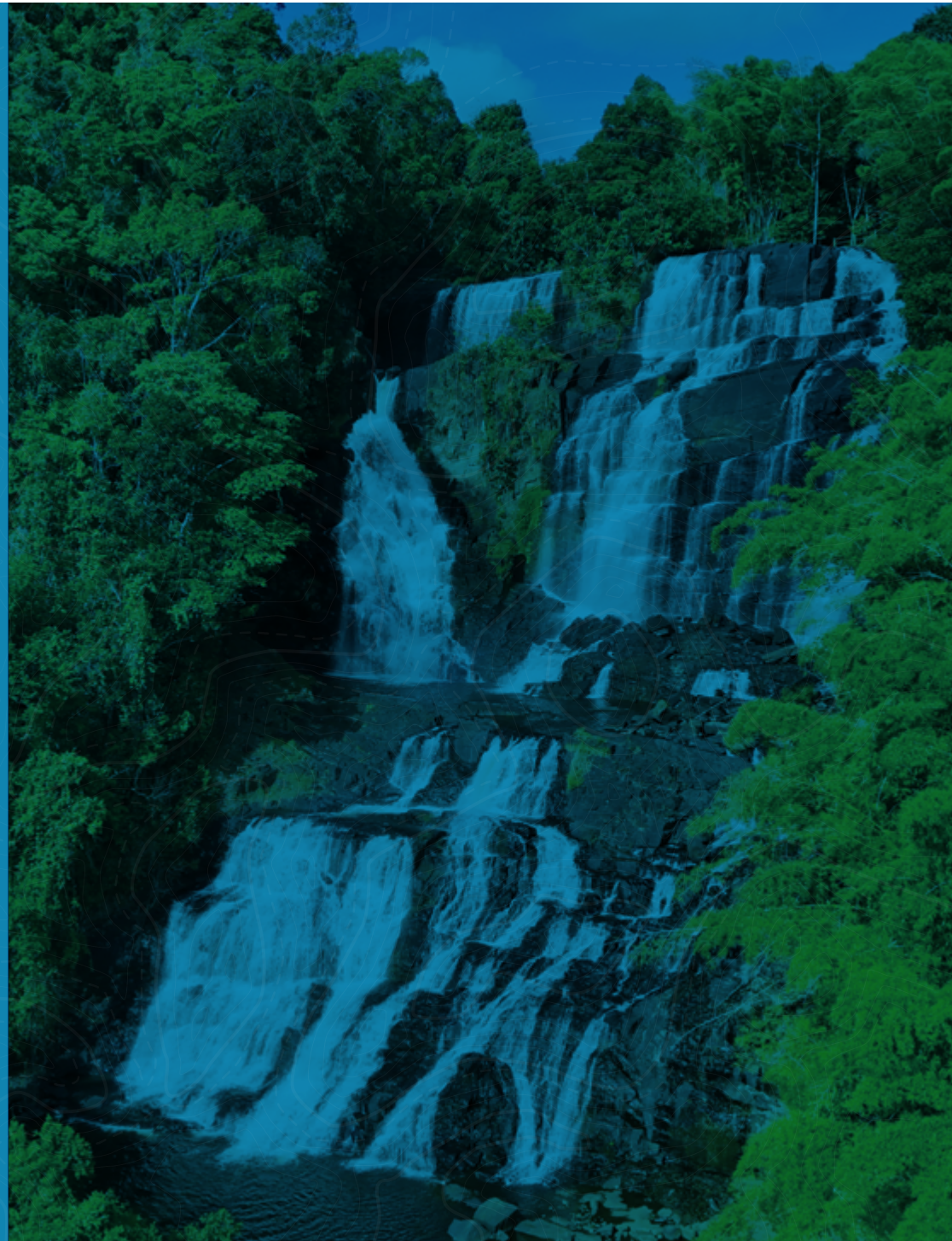
SUPPORTING MATERIAL

www.vwco.com.br

cebds accenture

FORESTS

This theme encompasses 23 corporate initiatives seeking to balance environmental conservation and economic development. Alcoa in Juruti aims to restore degraded areas, increasing the restoration/suppression ratio and benefiting 90 families. The Michelin Ecological Reserve is committed to preserving biodiversity by planting over 114,000 native trees. Natura supports sustainable agribusinesses, boosting community income and reducing CO_2 emissions. Sicoob Metropolitano acquires NFTs to help conserve the Serra da Bocaina, preventing CO_2 emissions. Suzano connects 500,000 hectares for conservation, while Bracell protects areas equivalent to its eucalyptus production sites. BNDES seeks to restore 24 million hectares in the Amazon, while SESC's initiative aims to protect a sample of the Pantanal and be a benchmark in conservation, research, ecotourism, and community action. Citrosuco generates carbon credits by adding value to ecosystem services, Norte Energia's Sidjä Wahiü project empowers Indigenous women in sustainable production, and Microsoft's Cajuína Wind Complex supplies electricity to around 250,000 homes. Banco do Brasil has made access to rural credit easier, benefiting more than 61,000 people.I Care Brasil measures corporate impacts on biodiversity, while M. Dias Branco's Descarbonize (Decarbonize) Program is designed to drive transformation across the entire value chain. Mercado Livre supports the bioeconomy through its "Biomas a um Clique" (Biomes a Click away) program, benefiting 50,000 producers. B3 recognizes sustainable companies with its "Green Stocks" designation, and Bradesco invests in conservation and entrepreneurship in the Amazon. Santander promotes forest restoration solutions, Banco do Nordeste has launched two calls to support projects focused on the recovery and sustainable use of the Caatinga, and ZEG is developing a sustainable supply chain for Brazil nuts. Siemens Energy has launched a renewable energy training program for vulnerable communities in the Amazon. Accenture is co-creating a modular AI and IoT platform that transforms data into alerts for extractive fishing communities, supporting climate adaptation. Finally, Siemens Brasil's Tech4Amazonia initiative aims to foster collaborative innovation by developing scalable technological solutions for sustainable development, promoting decarbonization, efficiency, and a circular economy in the region



accenture

DADOS E IA PARA ADAPTAÇÃO CLIMÁTICA

(DATA ANDAI FOR CLIMATE ADAPTATION)

CASE PRESENTATION

On the Amazon coast, extractive communities face the impacts of climate change and a lack of reliable information on tides. To address this challenge, Accenture, Rare, UFPA/LAPMAR, and SEMAS are co-creating a modular AI and IoT platform that transforms data into accessible alerts, strengthening coastal governance and climate adaptation.



► Extractive fishers from the communities

accenture

DADOS E IA PARA ADAPTAÇÃO CLIMÁTICA
(DATA ANDAI FOR CLIMATE ADAPTATION)

METHODOLOGY

The solution was developed across three key fronts: 1 Installation of low-cost sensors to monitor salinity, tides, and temperature; 2 Use of AI algorithms to process territorial data in real time; 3 Delivery of simple alerts via WhatsApp in an accessible format. The project is co-created with local communities, integrating traditional knowledge, science, and public policy. It involves partnerships with universities, environmental agencies, and the private sector, establishing a replicable model of localized climate intelligence.



▶ Project members: Accenture with the artisanal oyster fishers of Aquavilla, the project's partner association.

RESULTS

The initiative is developing the first territorialized climate intelligence system in the Amazon, connecting science, technology, and traditional knowledge. Expected results include safer fisheries management, reduced losses, and strengthened income—laying the foundation for a sustainable blue bioeconomy. The solution will provide hyperlocal monitoring for rapid responses to climate events, support governments in implementing policies such as the Climate Plan, GERCOZ, and ProManguezal, and structure a replicable and scalable model of coastal co-management.



▶ Oyster farming structures

SUPPORTING MATERIAL

www.accenture.com/br-pt

A OPERAÇÃO DE BAUXITA DA ALCOA JURUTI

(FROM THE FOREST FOR THE FOREST: ALCOA'S BAUXITE OPERATION IN JURUTI)

CASE PRESENTATION

Alcoa overcame rehabilitation challenges in Juruti, Pará, with innovation, integrating mine planning and the environment. With the support of local associations that produce native seedlings, it halved the time between removal, mineral extraction, and rehabilitation, reinforcing its commitment to biodiversity recovery and the legacy of local communities.



► In-field monitoring of forest rehabilitation

A OPERAÇÃO DE BAUXITA DA ALCOA JURUTI
(FROM THE FOREST FOR THE FOREST: ALCOA'S BAUXITE OPERATION IN JURUTI)

METHODOLOGY

In 2023, Alcoa in Juruti updated its PRAD (Degraded Areas Recovery Plan) and developed integrated planning for removal, mining, and rehabilitation. The planning team, which includes a forestry engineer, develops integrated plans, approved by the environmental department, that seek to reduce removal and increase rehabilitation areas. An operational team focuses on the daily execution of the rehabilitation, with goals monitored by leadership, while the environmental team monitors the quality of the rehabilitated areas in the field and recommends corrective actions if necessary.

RESULTS

Rehabilitation performance can be verified through the rehabilitation/suppression ratio, which increased from 0.5 (2023) to 1.5 (2024). There was a 47% reduction in suppression and a 42% increase in rehabilitation (2022-2023). The time between suppression, mineral extraction, and rehabilitation was halved due to the implementation of progressive recovery. Furthermore, 100% of the 150 seedling species come from four local associations, part of a socio-environmental program for 90 families in 18 communities. More than 760,000 seedlings have already been produced, generating revenue of approximately R$192,000/year per association.

► Drainage system in forest nucleation area



AÇÕES VERDES (GREEN ACTIONS DESIGNATION)

CASE PRESENTATION

To bring greater transparency to investors and recognize listed companies that have activities that contribute to protecting the environment and combating climate change, the company launched the B3 Green Shares designation in 2024. The initiative is based on the guidelines of the Green Equities Principles of the World Federation of Exchanges.

METHODOLOGY

To be eligible for the designation, a company must meet the following criteria: 1) more than 50% of annual gross revenue comes from activities that contribute to the green economy; 2) more than 50% of annual investments and operating expenses are allocated to activities that contribute to the green economy; 3) less than 5% of annual gross revenue comes from fossil fuel activities. The company must also be reviewed by an assessment entity accredited by B3, which will verify compliance with the regulation's criteria. The assessment must be updated annually.

RESULTS

To date, we have two companies listed with the Green Shares designation. The title provides clear guidelines and transparency for investors seeking companies with good ESG practices, in addition to adding comparability parameters with other stocks available on the stock exchange, creating differentiation criteria for recognized organizations. Thus, companies with the B3 Green Shares designation receive greater visibility for their good practices, attracting investment and leading the market by example.

SUPPORTING MATERIAL

https://conteudo.b3.com.br/acoesverdes

HUB FINANCEIRO DE BIOECONOMIA
(BIOECONOMY FINANCIAL HUB)

CASE PRESENTATION

Access to rural credit in the bioeconomy was limited due to the lack of maturity and structure of the supply chains. Distances and travel difficulties in the northern region were also obstacles. Short-term credit is scarce and expensive, and intermediaries often finance working capital instead of financial institutions.



► Sustainable agroforestry production integrated into bioeconomy value chains.

HUB FINANCEIRO DE BIOECONOMIA (BIOECONOMY FINANCIAL HUB)

METHODOLOGY

The Bioeconomy Financial Hub, created in April 2024 in Belém, Pará, and expanded to Manaus, Amazonas, in September 2024, facilitates access to public policies for family farming. It stands out for its territorial operations close to the Amazon biome, enabling investments and credit in riverside communities, settlements, and traditional peoples, with technical assistance to finance productive activities. The BB team offers on-site banking services, promoting banking and social inclusion.



▶ Community training on cooperativism within the scope of the Bioeconomy Hub.

RESULTS

As a result, we have contracted new operations in bioeconomy lines and products, increasing the portfolio balance by 72%, which in March 2025 reached R$1.9 billion, directly impacting more than 61,000 people. The Ativa-Cred Forums were held, bringing together government, NGOs, BB, businesses, and local communities to discuss credit strategies and are expected to impact more than 1,500 families. Credit agents will be trained to promote financial education and facilitate access to public policies, benefiting more than 3,500 families in the Legal Amazon and Cerrado, with a credit potential of R$200 million.



▶ Community gathered during the AtivaCred Forum in the Amazon.

SUPPORTING MATERIAL

https://www.bb.com.br/site/sustentabilidade/bioeconomia/

Banco do Nordeste

BIOMACAATINGA E SUA IMPORTÂNCIA PARA A AGENDA CLIMA NA REGIÃO NORDESTE DO BRASIL

(CAATINGA BIOME AND ITS IMPORTANCE FOR THE CLIMATE AGENDA IN BRAZIL'S NORTHEAST REGION)



CASE PRESENTATION

The BNB launched two public calls for proposals, with non-reimbursable resources, aimed at supporting projects aimed at the recovery and sustainable use of the Caatinga: **BNB Call for Proposals No. 01/25 of its Sustainability Fund**, and Call for **Proposals No. 25/24 – Floresta Viva/Caatinga Viva**, in partnership with **BNDES** and **FUNBIO**.

METHODOLOGY

Through **Notice 01/2025** of the **BNB Sustainability Fund** for environmental restoration and sustainable use of the Caatinga biome, R$15 million was allocated to public and private non-profit institutions that present projects in this area. This initiative is in addition to **Notice 25/2024 – Floresta Viva/Caatinga Viva**, with a contribution of R$26.17 million to support ecological restoration and strengthening restoration in conservation units of the biome, initiatives that rely on decades of experience and structure from the BNB in methodology for analyzing, monitoring, and reporting on projects.

RESULTS

Regarding the **BNB Sustainability Fund Call for Proposals 01/25**, the first stage, which involves the registration analysis, was completed. Sixty-nine projects were selected and will proceed to the selection stage, to be announced on 11/25. Regarding the **Floresta Viva/Caatinga Viva** call for proposals, 11 projects were selected (restoration of 1,632 hectares in strategic regions of the Caatinga Biome – funds are currently being disbursed to begin project execution). These initiatives formalize the allocation of R$41.17 million in resources in this area.

SUPPORTING MATERIAL

https://www.bnb.gov.br/fundeci/editais

BNDES

ARCO DA RESTAURAÇÃO
(RESTORATION ARCH)

CASE PRESENTATION

There is an urgent need to reduce the Earth's temperature rise. The most efficient, inexpensive, and mastered technology in Brazil for this mission is forest restoration, which removes millions of tons of CO_2 from the atmosphere. Rebuilding the forest cover of the so-called "Arc of Deforestation," a region of the Brazilian Amazon heavily deforested throughout the 20th century, was announced as a strategic mission of the BNDES (Brazilian Development Bank) in 2024, transforming it into the "Arc of Restoration." To achieve this major objective, the BNDES, as part of a nationwide effort, is already mobilizing resources to restore 24 million hectares of forests by 2050, which will require approximately R$150 billion.

METHODOLOGY

The Restoration Arc mobilizes resources from the BNDES (Brazilian Development Bank) through the Amazon Fund (non-refundable) and the Climate Fund (credit), as well as resources from third parties, such as companies and governments. With resources from the Amazon Fund, three managing partners were selected in a public call for proposals to manage ecological restoration projects with an average value of R$5 million in three macro-regions within the Arc, an initiative called Restore the Amazon. In addition to managing the projects, these institutions are responsible for launching calls for proposals to select non-profit organizations that will implement the projects. The Climate Fund offers long-term loans for restoration projects that generate jobs in the region and capture carbon.

RESULTS

Nine Restoration Amazon calls for proposals totaling R$400 million have already been launched, and financing totaling R$515 million in credit from the Climate Fund has been approved. This has already mobilized R$1.5 billion in investments, with the remainder coming from corporate resources. In 2025, three more Restoration Amazon calls for proposals are expected to be launched, and new Climate Fund credit operations are expected to be approved.

SUPPORTING MATERIAL

www.bndes.gov.br

Bracell

UM-PARA-UM (ONE FOR ONE)

CASE PRESENTATION

Bracell, as a global leader in dissolving pulp production, a benchmark in sustainability and rapidly expanding, seeks to ensure that the growth of eucalyptus production occurs in balance with environmental conservation, especially considering biodiversity and ecosystem services. Bracell's One-for-One Commitment is a conservation initiative unprecedented in the Brazilian pulp sector, launched in 2022, with the goal of protecting biodiversity by supporting conservation areas equal in size to the area of eucalyptus planted under the Company's management.

METHODOLOGY

Bracell has established strategic partnerships with environmental agencies in São Paulo, Bahia, and Mato Grosso do Sul.The agreements with the Forestry Foundation and the Environmental Institute of Mato Grosso do Sul (IMASUL) are for 10 years, reinforcing the long-term commitment. The actions and projects developed are developed collaboratively between the parties, based on an impact strategy comprised of five categories: Territorial protection and forest fire prevention and control; Biodiversity restoration, monitoring, and management; Environmental Training and Education; Caretaker Program; and Technological Innovation.

RESULTS

The Commitment is already showing impressive results: 98% of the target has been achieved by the end of 2024. In São Paulo, more than 69,000 hectares are in strategic areas of the Atlantic Forest and Cerrado, and in Mato Grosso do Sul, more than 116,000 hectares are in regions of high ecological importance. Bracell contributed to the operational structure for firefighting, with the construction and maintenance of firebreaks in Conservation Units, training of firefighters, and donating equipment. It also created direct communication channels between the Bracell fire brigade team and Conservation Unit managers, using technology to monitor and control fire outbreaks.

SUPPORTING MATERIAL

www.bracell.com.br

bradesco

ESTRATÉGIA PARA CONSERVAÇÃO NA AMAZÔNIA

(STRATEGIC PARTNERSHIP FOR CONSERVATION, FINANCIAL INCLUSION, AND ENTREPRENEURSHIP IN THE AMAZON)

CASE PRESENTATION

Strategic partnership for conservation, financial inclusion, and entrepreneurship in the Amazon. Since 1965, we have been promoting financial inclusion in all municipalities in the Amazon. In partnership with FAS for 17 years, we have invested R$129 million in conservation and development. The Tumbira community, located in the heart of the Amazon, within the Rio Negro Sustainable Development Reserve (RDS), is an example of conservation, financial inclusion, and entrepreneurship in the Amazon.



► Community workshop focused on financial literacy and entrepreneurship.

bradesco

ESTRATÉGIA PARA CONSERVAÇÃO NA AMAZÔNIA
(STRATEGIC PARTNERSHIP FOR CONSERVATION, FINANCIAL INCLUSION, AND ENTREPRENEURSHIP IN THE AMAZON)

METHODOLOGY

The initiative was implemented with conservation, financial education, and entrepreneurship in mind. The site has become a benchmark for how good management and the execution of sustainable projects can promote socioeconomic development while also preserving the forest.



▶ Bradesco and FAS teams visiting the model sustainable development community.

RESULTS

The actions implemented boosted the socioeconomic growth of the community, directly benefiting more than 43 families and 20 local entrepreneurs. One of the milestones was the installation of Bradesco Expresso, which eliminated the need for long commutes to access banking services and social benefits. The service point is located at Pousada do Garrido, an inspiring example of sustainable entrepreneurship, also supported by Bradesco's Oriented Productive Microcredit. The combination of microcredit, banking access, and the partnership with FAS strengthened the local economy. The owner of the inn, previously involved in predatory activities such as deforestation, became a tourism entrepreneur. This is just one of many stories that demonstrate how well-structured partnerships can



▶ Pousada do Garrido, a symbol of transforming predatory practices into sustainable tourism.



citrosuco

PSA CARBONO AGRO PERENE
(PSA CARBON AGRO PERENNIAL)

CASE PRESENTATION

Citrosuco, in partnership with Reservas Votorantim and ECCON, launches the Payment for Environmental Services (PSA Carbon Agro Perennial) methodology, which ensures the value of environmental services provided by native vegetation on perennial crop farms, as well as good agricultural management practices that contribute to mitigating climate change.

citrosuco

PSA CARBONO AGRO PERENE (PSA CARBON AGRO PERENNIAL)

METHODOLOGY

The Carbon Agro Perennial PSA focuses on valuing and remunerating Environmental Services, measured through a matrix that evaluates productive and forest areas, using indicators such as: carbon storage and removal, forest conservation and connectivity, biodiversity (fauna and flora), socio-environmental impacts, water and soil resource management, and pesticide and fertilizer management.



► Monte Verde Farm, located in Itapetininga (SP), a Citrosuco-owned farm where the PSA Ca Methodology is being applied.

RESULTS

The implementation of the Carbon Agro PSA will allow the measurement and verification of a series of indicators that will serve as the basis for generating tradable carbon credits (C+). The initiative is expected to strengthen sustainable agricultural practices and promote forest conservation. The main challenge is to consolidate the methodology in the national and international markets so that large-scale implementation can be achieved.



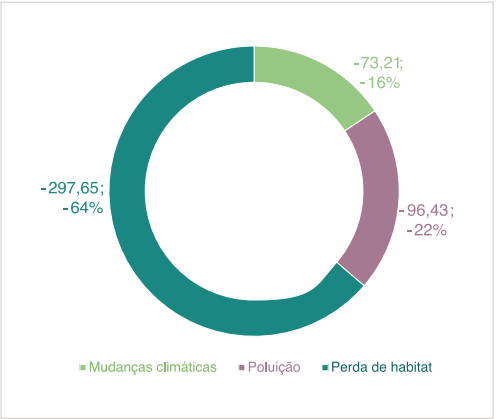


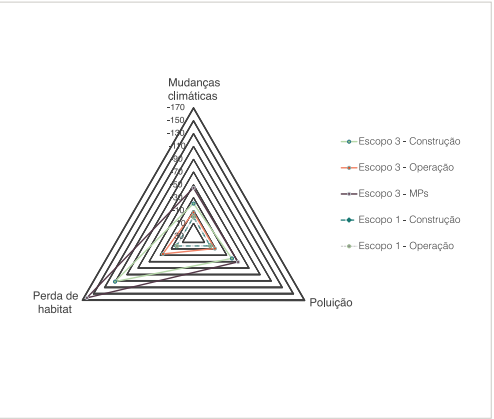
SUPPORTING MATERIAL

https://www.citrosuco.com.br/carbon/

PEGADA DE BIODIVERSIDADE PARA EMPRESAS

(CORPORATE BIODIVERSITY FOOTPRINT CALCULATION TOOL)





CASE PRESENTATION

With the growing demand to measure impacts on biodiversity and meet GBF Target 15, I Care has applied the Corporate Biodiversity Footprint (CBF) tool to calculate the corporate footprint in scopes 1, 2, and 3, translating pressures such as climate change, pollution, and habitat loss into the endpoint in km2. MSA.year, applicable to various sectors.

METHODOLOGY

Data were collected on land use and transformation, fragmentation, pollution, effluents, waste, reforestation and restoration, environmental certifications, raw materials and products, transportation, GHG emissions, etc. Next, Life Cycle Assessment (LCA), geospatial modeling, and ecological analysis of indicators related to the main pressures on biodiversity: habitat loss, climate change, and pollution were integrated. Finally, the impacts were converted to km2.MSA.year (Mean Species Abundance) and analyzed in scopes 1, 2, and 3 for biodiversity.

RESULTS

Biodiversity impact hotspots were identified in the Upstream and Midstream regions, measured in km2.MSA.year, where 1 km2 of MSA is equivalent to the destruction of 1 km2 of pristine ecosystem. The results supported the strengthening of companies' biodiversity strategies, defining mitigation and compensation measures, sustainable sourcing of raw materials, and the adoption of certification standards that ensure reduced impact. Furthermore, they assisted in reporting and compliance with sustainability standards such as GRI, CDP, DJSI, and TNFD, in addition to serving as the structural basis for the Biodiversity Action Plan.

M. Dias Branco
Sonhar, realizar, crescer.

PROGRAMA DESCARBONIZE: “CASE DE INTEGRAÇÃO DO TEMA DE DESCARBONIZAÇÃO NA INDÚSTRIA”

(DECARBONIZE PROGRAM)

CASE PRESENTATION

Decarbonization goes beyond simply reducing or eliminating emissions. It requires reinventing the business model and organizational culture. The Programa Descarbonize [Decarbonize Program] was created based on this principle. It is a pioneering program in the market, driving transformation across the entire value chain. By integrating processes, it ensures decarbonization is considered in every decision, across strategic areas and operations, fostering a cultural shift toward a low-carbon future. The program demonstrates that it is possible to align decarbonization with value creation, financial return, and positive impact.

METHODOLOGY

The program establishes that decarbonization should be understood and discussed naturally by everyone. For this reason, it is integrated across all areas and departments of the company, including procurement, production, R&D, accounting, engineering, and others. It should be embedded in all activities and processes. In this way, the Programa Descarbonize [Decarbonize Program] strengthens organizational resilience and demonstrates that decarbonization can be integrated into business processes, reviewing operations and driving operational and strategic transformation, with positive environmental impact, financial return, and potential for replication.

RESULTS

The program shows that integrating decarbonization drives efficiency, innovation, profitability, and cultural change, producing consistent and replicable results across organizations. Since the beginning of the journey, significant results have been achieved in reducing carbon emissions. In 2024, the company recorded an 18% reduction compared to the 2020 baseline for scopes 1 and 2.

Supplier engagement is a strategic component of the Programa Descarbonize [Decarbonize Program], strengthening the value chain, fostering sustainable practices, enhancing reliability, reducing risks, and capturing opportunities. Although scaling initiatives across units with different operational and technological profiles is challenging, the program has created ripple effects, influencing employees, leadership, and operational efficiency, while supporting the transition to a low-carbon economy.

SUPPORTING MATERIAL

https://mdiasbranco.com.br/mudancas-climaticas/

BIOMAS A UM CLIQUE
(BIOMES A CLICK AWAY)

CASE PRESENTATION

Faced with the market access and logistics challenges faced by bioeconomy businesses, Mercado Livre created Biomas a um Clique in 2019, a pioneering initiative to put its ecosystem of solutions (marketplace, logistics, and fintech) at the service of sociobioeconomy businesses in the country, especially in the Amazon.

METHODOLOGY

Biomas a Um Clique supports entrepreneurs, cooperatives, and sociobiodiversity businesses in accessing new markets, offering and delivering their products to consumers across the country through e-commerce, fintech solutions, and a logistics network that enables express deliveries to much of the country. Participants receive mentoring and training in online sales, commercial strategy, logistics, and digital marketing, as well as benefits in fees and visibility on the platform. Our technical partners, such as Assobio, Origens Brasil, and Idesam, collaborate with business selection and promotion.

RESULTS

Launched in 2019, the program has already expanded to Argentina and Mexico, reaching eight Latin American biomes. Since 2020, we have supported 181 organizations, benefiting more than 50,000 local producers and selling more than 100,000 products. In Brazil, we operate in the Amazon, Caatinga, Cerrado, and Atlantic Forest regions, working with several partners to continue growing. The initiative has already generated R$10 million in the country, generating jobs and income in communities and boosting the economy of the standing forest.

SUPPORTING MATERIAL

sustentabilidadmercadolibre.com/

RESERVA ECOLÓGICA MICHELIN (REM)

(MICHELIN ECOLOGICAL RESERVE)

CASE PRESENTATION

The Michelin Ecological Reserve (REM), established in 2004 in Igrapiúna, Bahia, covers 3,950 hectares and aims to demonstrate that sustainable natural rubber cultivation is possible by restoring and preserving biodiversity. As one of the world's largest rubber consumers, Michelin is committed to investing in practices that balance economic, social, and environmental needs.



► Rem Bahia Cachoeira.

RESERVA ECOLÓGICA MICHELIN (REM)
(MICHELIN ECOLOGICAL RESERVE)

METHODOLOGY

It includes cultivation practices that reconcile rubber production and biodiversity in complementary geographic areas. In the area of biodiversity protection, activities are organized into six programs: protection, restoration, research, environmental education, female leadership, and ecotourism. The reserve collaborates with scientists and academics from around the world on research and forms local partnerships to promote awareness and restoration of degraded areas, connecting ecosystems through vegetation corridors and committing to local communities.



▶ Young participants in the environmental education program at the Michelin Reserve.

RESULTS

Combined with the protection of 3,950 hectares of the Atlantic Forest, with 2,500 registered species, 39 of which are new to science, more than 114,000 trees of 348 native species were planted, restoring 310 hectares. It has become a model for preservation, increasing biological diversity and resulting in 168 scientific articles that highlight its global relevance. It collaborates with scientists, research institutions, and local communities, raising awareness and promoting restoration initiatives that inspire sustainable practices in conservation areas in West Africa and Southeast Asia.



▶ REM field team working on forest restoration and nursery management.



▶ Rem Bahia.

SUPPORTING MATERIAL

www.michelin.com.br

Microsoft

UTILIZAÇÃO DE IA AGREGADA AO CONHECIMENTO LOCAL

(INTEGRATING AI WITH LOCAL KNOWLEDGE)

CASE PRESENTATION

Given the growing demand for açaí from the Amazon, it is urgent to quantify the impacts of extractive activities on biodiversity. We combined artificial intelligence (AI), network ecology, and local knowledge to measure açaí frugivory interactions, which are fundamental for the sustainability of the production chain and ecosystem services. The use of AI streamlines scientific work by automatically excluding videos without animals of interest.

METHODOLOGY

Partnership in the Middle Juruá (Brazilian Amazon) involving scientists, communities, the private sector (Microsoft AI for Good Lab), the non-profit sector (Instituto Juruá), and public institutions (Jardim Botânico do Rio de Janeiro, FAPERJ). We collect data using camera traps in the canopy of açaí trees, applying the MegaDetector V5 model integrated with Time-lapse identification.

RESULTS

Four TB of data were analyzed (84,614 videos, 34 thousand hours), resulting in 4,316 videos with 500 frugivory interactions from 48 species. Extractive activities altered the species composition, with potential impacts on açaí sustainability. AI (MegaDetector V5) automatically identified 44,703 of the 80,298 videos without animals, reducing human effort by half. The collected data helped train the MegaDetector V6 model, which went on to detect 67,054 videos without animals and reduced effort by 82%, an improvement of 32 percentage points. The project also led to a community mini-guide and an AI prototype for the restoration of the Atlantic Forest.

SUPPORTING MATERIAL

Emer, C., L. Chesini Rossi, I. Gonçalves (2025). Miniguia: Os moradores dos açaizeiros do Médio Juruá. Publicação independente. ISBN 978-65-01-52016-2.

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AGROINDUSTRIA EM PARCERIA COM COMUNIDADES AGROEXTRATIVISTAS

(AGRO-INDUSTRIES PARTNERING WITH LOCAL AGRO-EXTRACTIVE COMMUNITIES)

CASE PRESENTATION

Natura, WEG, and ATAIC are developing the first agro-industry in a floodplain area using solar energy for the extraction of vegetable oils in the Amazon. It benefits 470 agro-extractive families on Ilha das Cinzas, Pará, with an income increase of up to 60%. This is the 20th unit supported by Natura and the first in partnership with WEG to include a solar energy system with batteries.



► Entrance to the ATAIC agro-industrial complex, a landmark for local sustainable production on Ilha das Cinzas.

AGROINDUSTRIA EM PARCERIA COM COMUNIDADES AGROEXTRATIVISTAS

(AGRO-INDUSTRIES PARTNERING WITH LOCAL AGRO-EXTRACTIVE COMMUNITIES)

METHODOLOGY

The ATAIC agribusiness is the 20th opened under Natura's industrial decentralization plan, which anticipates production stages for installations in communities. ATAIC has been supplying murumuru, ucuuba, and patauá for nine years and will now process oils and butters, increasing income by up to 60%. Natura supported the implementation of the agribusiness, and WEG supported the implementation of the photovoltaic system with batteries (BESS – Battery Energy Storage System), in a pioneering technological arrangement for the Amazon. The diesel generator will now be used only for emergency use, reducing GHG emissions and production costs.



▶ Team celebrates the inauguration of the vegetable oils and butters agro-industry with solar energy.

RESULTS

The production decentralization model in the Amazon boosts sociobiodiversity chains, generating income and jobs from products with higher added value, while maintaining extractivism in symbiosis with the standing forest. Selling oils and butters instead of seeds and almonds increased the income of 470 families in ATAIC by up to 60%. WEG's battery-based photovoltaic system (BESS – Battery Energy Storage System) ensures energy security from clean sources, eliminating over 30 tons of CO_2e per year and the costs of fossil fuels.



▶ Agro-extractive women strengthen their role in socio-biodiversity value chains.



▶ Technical visit to the industrial plant equipped with a photovoltaic system and BESS batteries.

SUPPORTING MATERIAL

www.natura.com.br/

norteENERGIA
USINA HIDRELÉTRICA BELO MONTE

EMPREENDEDORISMO INDÍGENA NA AMAZÔNIA

(INDIGENOUS ENTREPRENEURSHIP AND SUSTAINABILITY IN THE AMAZON RAINFOREST)

CASE PRESENTATION

Faced with the lack of economic opportunities for Indigenous women in Jericoá 2, Pará, Sidjä Wahiü emerged. Founded by Katyana Xipaya, the project combines traditional knowledge with the sustainable production of chocolates and dried fruits, promoting income, culture, and empowerment.



► Chocolates from Indigenous communities of Volta Grande do Xingu.

norteENERGIA
USINA HIDRELÉTRICA BELO MONTE

EMPREENDEDORISMO INDÍGENA NA AMAZÔNIA

((INDIGENOUS ENTREPRENEURSHIP AND SUSTAINABILITY IN THE AMAZON RAINFOREST)

METHODOLOGY

The project received support from the Belo Monte Empreende program, which offers training and mentoring for young entrepreneurs in the region. The chocolate is produced and sold in partnership with the cocoa producers' cooperative of the Transamazônica region and the Cacau Way factory in Medicilândia, Pará, the first chocolate factory in the region. Cacau Way uses the "tree-to-bar" model, processing the cocoa directly from the beans to the chocolate bar, ensuring quality control and valuing local producers.

RESULTS

Sidjä Wahiü began with dried fruit, but as a result, it expanded into chocolate production, exceeding expectations and gaining recognition as an example of innovation and sustainability. It values Indigenous culture and the knowledge of the Amazon, bringing the power of the forest to new markets. For Katyana, a woman, Indigenous woman, and farmer, supporting her community has transformed her outlook and demonstrates that Indigenous peoples want to undertake business with autonomy and pride.

▶ Indigenous entrepreneurship from cocoa to bar, with identity and purpose



▶ Valuing the standing forest: Sustainable Indigenous production of cocoa.



▶ Chocolat-Xingu.



SUPPORTING MATERIAL

www.norteEnergysa.com.br

Santander

BIOMAS: RESTAURAÇÃO FLORESTAL
(BIOMES: FOREST RESTORATION)

CASE PRESENTATION

Through a dual approach of investor and facilitator, Biomas was created to address the challenge of financing restoration in an emerging sector. By combining traditional financial instruments with an impact vision, we aim to plant 2 billion native trees and restore 4 million hectares, with the goal of reducing approximately 900 million tons of CO_2 equivalent.

METHODOLOGY

The methodology is structured around four pillars:

1. Business case development with leadership support, monitoring its progress, performance, challenges, and the search for solutions;
2. Creation of a multidisciplinary team focused on the restoration sector;
3. Risk framework for sustainable low-carbon innovation, involving emerging businesses with scalability potential;
4. Proprietary rating methodology for evaluating restoration and carbon projects, focusing on financial viability and socio-environmental integrity.

RESULTS

Biomas, in partnership with Veracel Celulose, launched the Muçununga project with R$55 million to restore 1,200 hectares and plant 2 million seedlings and 70 native species, with the expectation of generating 500,000 carbon credits over 40 years. It also facilitated the first operation of the Climate Fund (R$100 million, 1% interest per year), supporting Mombak's expansion and the local economy.

SUPPORTING MATERIAL

www.santander.com.br

CIÊNCIA QUE REGENERA O PANTANAL: O LEGADO DA RPPN SESC PANTANAL PARA UM BRASIL MAIS SUSTENTÁVEL

(SCIENCE THAT REGENERATES THE PANTANAL: THE LEGACY OF RPPN SESC PANTANAL FOR A MORE SUSTAINABLE BRAZIL

CASE PRESENTATION

Brazil's largest Private Natural Heritage Reserve, RPPN Sesc Pantanal, was established 28 years ago, shortly after ECO-92, as a lifelong commitment to nature conservation by the CNC-Sesc-Senac System. The initiative aims to protect a representative portion of the biome and serve as a benchmark in conservation, research, ecotourism, and community action.

METHODOLOGY

The Sesc Pantanal RPPN was established through the acquisition of areas in Barão de Melgaço (MT) and is collaboratively managed by an Advisory Board composed of representatives from local communities, public institutions, and research organizations (UFMT, Embrapa Pantanal, UFRJ, INAU, CNRRPN, Arsapejo, Funatura, National Museum, ICMBio, SEMA-MT, and USP). The Board provides guidance on management and oversees the implementation of conservation and sustainable development projects. Over the past 28 years, more than 300 publications have been produced in this field, which also provide the foundation for its actions through Integrated Fire Management (IFM) techniques.

RESULTS

The RPPN has cemented its position as a leading research center, with over 300 publications and the involvement of 185 institutions. The knowledge yielded has informed fire prevention policies, support for surrounding communities, and the conservation of endangered species such as the jaguar, giant anteater, and maned wolf. Building on the initiative's success, the project has been broadened and now encompasses nine lines of action across four municipalities within the SESC Pantanal Socio-Environmental Hub. The initiative has benefited thousands of people, reinforcing efforts to conserve the Pantanal.

SUPPORTING MATERIAL

www.sescpantanal.com.br/

SICOOB

PRESERVAÇÃO AMBIENTAL COM EMISSÃO DE NFTS

(DIGITAL GREEN ASSET: ENVIRONMENTAL PRESERVATION WITH BLOCKCHAIN

CASE PRESENTATION

With the advancement of the biodiversity agenda and the importance of the Serra da Bocaina — a remnant of the Atlantic Forest, one of the most threatened biomes in the world — Sicoob Metropolitano became the first financial institution in Brazil to acquire NFTs (Non-Fungible Tokens) representing environmental preservation areas, through the startup Preservaland.

METHODOLOGY

The project methodology combines blockchain technology, environmental traceability, and voluntary forest conservation:

- Sicoob Metropolitano formed a partnership with Preservaland, a startup founded in the United States by Brazilians, which transforms surplus preserved areas into digital assets with continuous satellite tracking and validation via blockchain.The acquired
- NFT represents 1 hectare of Atlantic Forest voluntarily preserved and located in an area of high environmental relevance. Preservaland monitors the integrity of the forest, ensuring it remains intact.
- The native vegetation present in this hectare acts as a carbon sink, with the potential to sequester between 10 and 20 tons of CO_2 per year, depending on factors such as the density and stage of forest regeneration.
- The asset is not intended for economic exploitation — its value lies in the conservation of the standing forest and the positive environmental impact generated.
- Continuous monitoring is maintained through Preservaland's work. The contracted company monitors the integrity of the preserved areas via satellite imagery and sensors, ensuring the forest remains intact. It is important to note that, although there is control over the preservation of the area and, consequently, the avoided emissions.

RESULTS

Effective preservation of 1 hectare of Atlantic Forest in one of Brazil's most sensitive and strategic areas, avoiding 15 tCO_2 of deforestation emissions. That is, the estimated amount of CO_2 that was not emitted due to the preservation of the native forest kept standing. Pioneering innovation in the Brazilian cooperative financial sector, uniting sustainability and technology. Indirect environmental contribution, with carbon sequestration potential and local biodiversity protection. Institutional strengthening of the ESG agenda, reinforcing Sicoob's public commitment to responsible and positive impact practices. Strategic visibility, with the possibility of future developments—such as the inclusion of cooperative members who preserve native areas, the generation of carbon credits, and the inclusion of Sicoob in climate impact ecosystems.

SUPPORTING MATERIAL

www.sicoob.com.br/web/sicoobmetropolitano

SIEMENS

TECH4AMAZONIA

CASE PRESENTATION

The Amazon has enormous bioeconomic potential, but faces challenges in infrastructure, logistics, and qualifications. The Tech4Amazonia initiative aims to promote collaborative innovation, developing scalable technological solutions for sustainable development, promoting decarbonization, efficiency, and a circular economy in the region.

METHODOLOGY

Initiative stages:

1. Mapping stakeholders and their regional challenges that may require technological solutions, generating opportunities for decarbonization, energy efficiency, and the circular economy.
2. Challenge Selection: Connecting Siemens' technological solutions with stakeholder challenges in the Amazon.
3. Collaborative development of Proofs of Concept (PoCs) between Siemens and stakeholders in the Amazon.
4. Implementing and scaling the solutions validated in the PoCs.
5. Development of an Open Innovation Platform for the Amazon ecosystem.

RESULTS

We mapped 70 challenges and selected three for PoCs. Difficulties in mapping generated the need for an open innovation platform facilitating connections between stakeholders, challenges, and technology solution providers. Still in testing, it will be delivered to the supporting institution. The PoCs aim to: reduce mortality from 40% to 10% in seedling production with digitization and automation of environmental control; digitize a replicable production model in nanofactories for traceability and socio-productive inclusion; and automate the separation of Brazil nuts based on data and AI.

SIEMENS energy

LEGADO EDUCACIONAL DA AMAZÔNIA

(AMAZON EDUCATIONAL LEGACY)

CASE PRESENTATION

Given the demand for sustainability and innovation in renewable energy, Siemens Energy, in partnership with GIZ, will implement an educational program based on the creation of a technical course in the energy sector at the Federal Institute of Pará (IFPA), for people in situations of economic vulnerability in the Amazon region, with the aim of training them to work in areas related to the energy transition.

METHODOLOGY

The project began with teacher training, educational planning, and the renovation of two laboratories—one at IFPA and the other at a state school. Four technical courses related to the energy sector were created, which will be held sequentially every six months at the Institute, focusing on research into the creation of hybrid solutions that will be implemented in communities without access to the electricity grid. The initiative is funded by Siemens Energy and supported by institutional coordination with GIZ, as well as the support of the Itaú Foundation and SECTEC.

RESULTS

With the goal of fostering a lasting educational legacy, the implementation of the courses and research projects aims to train professionals for the renewable energy market. The goal is to train qualified technicians and create practical hybrid generation solutions for use in isolated communities. Approximately 40 IFPA students will receive scholarships each semester. In addition to the scholarship recipients, another 40 students from a state school and, indirectly, approximately 190 students from other IFPA programs each year will also benefit from the improved laboratories.

CONEXÃO DE FRAGMENTOS PARA CONSERVAÇÃO

(CONNECTING HALF A MILLION HECTARES OF PRIORITY AREAS FOR BIODIVERSITY CONSERVATION IN THE AMAZON, CERRADO, AND ATLANTIC FOREST)

CASE PRESENTATION

Biodiversity loss is the second-highest risk, according to the World Economic Forum, in the next 10 years. Suzano, a nature-focused company, consulted more than 50 stakeholders specializing in the issue and decided to address habitat fragmentation, which is one of the main drivers of biodiversity loss. It committed to connecting 500,000 hectares of priority fragments for conservation by 2030.



suzano

CONEXÃO DE FRAGMENTOS PARA CONSERVAÇÃO (CONNECTING HALF A MILLION HECTARES OF PRIORITY AREAS FOR BIODIVERSITY CONSERVATION IN THE AMAZON, CERRADO, AND ATLANTIC FOREST

METHODOLOGY

Priority areas are connected through the creation of ecological corridors. These corridors are designed by mapping priority fragments for conservation, considering their size and Importance for landscape connectivity. The corridors are implemented through restoration techniques in native and mixed models in productive areas, covering own and third-party properties, such as farms, settlements, traditional communities, and indigenous Peoples. The project has partners and clients such as Inovaland, Ipê, IFC, and Sofidel.

► Chiropote satans (Cuxiú-preto) UNF MA.



RESULTS

By 2024, we had implemented 2,013 hectares of areas in ecological corridors, enabling the connection of 157,889 hectares, including 1,155 hectares of mixed models and 858 hectares of restoration.

We strengthened the territories by delivering three community nurseries, a seed house, and training 120 participants in a seed collection group.

We made progress in monitoring the biodiversity currently present in the corridor, using innovative Environmental DNA techniques and autonomous recorders.

The project's main challenges are third-party engagement, fire pressure, and deforestation.

► Ecological corridor in the Suzano area.



SUPPORTING MATERIAL

www.suzano.com.br

ZEG

CADEIA EXTRATIVISTA DE CASTANHAS-DA-AMAZÔNIA

(STRUCTURING THE BRAZIL NUT EXTRACTIVE SUPPLY CHAIN AT VALE VERDE FARM)

CASE PRESENTATION

In the state of Roraima, where the conversion of up to 50% of land into rural properties is legally permitted, ZEG structured a forest conservation project at the Vale Verde Farm, where it also develops the Amazon Brazil Nut chain, combining standing forests, extractive dignity, and the bioeconomy to generate fair and sustainable income.



► Freshly harvested Brazil nuts a symbol of the bioeconomy that values the standing forest and generates dignified income.

ZEG

CADEIA EXTRATIVISTA DE CASTANHAS-DA-AMAZÔNIA

(SCIENCE THAT REGENERATES THE PANTANAL: THE LEGACY OF RPPN SESC PANTANAL FOR A MORE SUSTAINABLE BRAZIL)

METHODOLOGY

The chain will be structured through the development of a collectors' association with fair governance (supported by GSS) and the collection, lodging, and transshipment infrastructure in the forest (the responsibility of ZEG). Partnerships with EMBRAPA and MAHTA enable logistical and technical innovations, including ergonomic tools, traceability systems, and optimized collection supported by geotechnologies.



▶ Capacity building for collectors to structure the Brazil nut chain, focusing on fair governance and traceability.

RESULTS

By the start of the 2026 harvest, a collectors' association will be formed and collection infrastructure and training will be implemented. Starting in 2027, the Amazon Brazil Nut processing stages will begin operations. The project will generate up to 10 direct jobs and mobilize approximately 50 collectors, aiming for 20% higher pay than the historical average, higher quality, traceability, and dignity in extractive labor, and also aiming for production certifications such as Fairtrade and Organic.





▶ Bertholletia excelsa, the majestic Brazil nut tree of the Amazon protected in the ZEG project in Roraima.

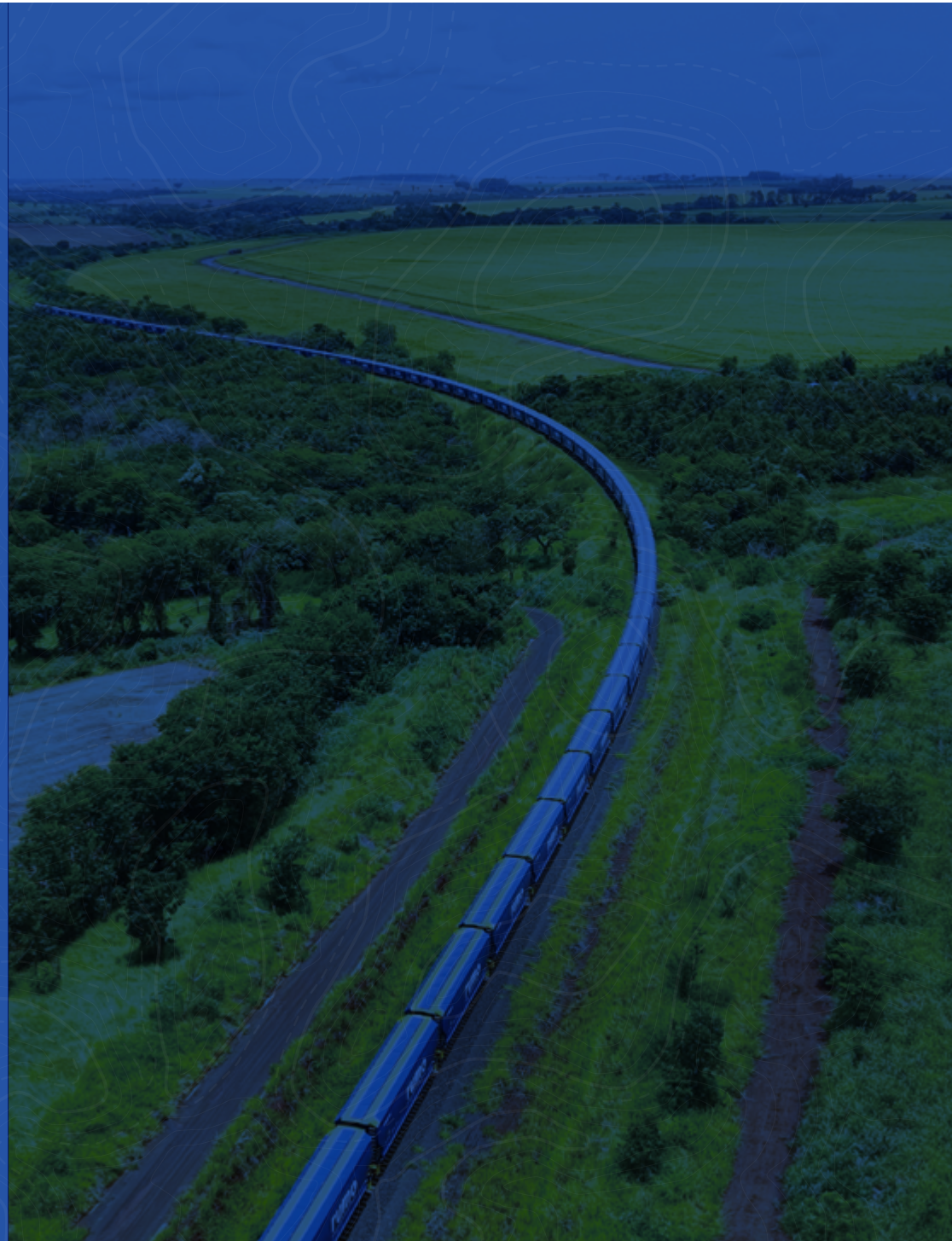
SUPPORTING MATERIAL

zeg.com.br

cebds accenture

INFRASTRUCTURE

This theme features nine case studies that reflect the companies' commitment to sustainability and innovation. **Arcadis** stands out with the "Ressignificação de Territórios" (Reframing Territories) project, which aims to transform non-profitable areas into revitalized spaces, leaving a positive legacy for local communities. **Philip Morris Brazil** is introducing the "Protector of the Waters" program, which benefits 26,000 residents in Vera Cruz, RS, by improving water management and increasing water availability. **Ipiranga** has created Saúde na Estrada (Health on the Road), a national program that provides basic healthcare services while promoting citizenship, health, and preventive care. **Neoenergia** is implementing its "Climate Resilience and Adaptation Plan," engaging over 50 employees to assess climate risks and identify resilience measures, while **Odontoprev** conducted an unprecedented expedition along the Brazilian coast to map waste, promote environmental education, and advance innovative public policies. **Rumo** is investing in "Sustainable Trains," using the Trip Optimizer to reduce diesel consumption and CO_2 emissions. **Zurich** offers the "Climate Resilience Service," delivering climate risk assessments and corporate consulting, while training engineers to implement solutions through 2100. **Ambipar** is launching the "Circular Cities" project, promoting the circular economy in Brazilian municipalities, directly benefiting 7,248 people and enhancing the productive capacity of cooperatives. Finally, **GS Inima** is introducing the "Vitória Reuse Water" project, supplying treated water to industries and eliminating the need to extract water from the Santa Maria River.



ambipar GROUP

CIDADES CIRCULARES
(CIRCULAR CITIES)

CASE PRESENTATION

Circular Cities is a pioneering Brazilian initiative that aims to promote the urban circular economy. We apply "Ambipar Social Technology" to transform municipalities into circular ecosystems, valuing waste, promoting social inclusion, and stimulating sustainable development.



► Facility renovated by Ambipar to expand the sorting and recovery/valorization of recyclables

ambipar GROUP

CIDADES CIRCULARES (CIRCULAR CITIES)

METHODOLOGY

1. Diagnosis – identification of local needs, ensuring the flow of recyclable materials.
2. Training – Training public officials to implement public waste management goals and policies.
3. Strengthening Cooperatives – Professionalization of sorting units through Ambipar Social Technology.
4. Integration – Intermunicipal connections, creating local production arrangements, enabling scalable reverse logistics.
5. Social Franchise Model – Replicable operational management model, standardized for sorting units.

► Cooperative before Ambipar's operation, featuring poor structure and low operational capacity.



RESULTS

In 5 years:

1. Development of 3 regulatory frameworks and 3 municipal selective waste collection plans
2. Structuring and accelerating 5 cooperatives
3. Structuring of 7 recycling centers and establishment of 6 Social Franchises
4. Increased production capacity of cooperatives (313% in Consimares, SP, and
5. 240% in Campos Gerais, PR); processing over 6,000 tons/year per project 7,248 people directly impacted in 7 municipalities
6. Average salary income of R$2,075.66, 37% above the national minimum wage
7. 1,039 technical training sessions
8. 41 exchange experiences

► Team trained through the Social Franchise, generating income and productive inclusion.



SUPPORTING MATERIAL

www.ambipar.com.br

ARCADIS

RESSIGNIFICAÇÃO DE TERRITÓRIO POR MEIO DE PROJETO DE USO FUTURO

(REDEFINING TERRITORIES THROUGH FUTURE USE PROJECTS)

CASE PRESENTATION

Some activities profoundly transform territories and communities. When the activity ceases to be profitable, the questions remain: what to do with these areas? What will become of this territory in the future? Arcadis has been working with various sectors, developing Future Use Studies to contribute positively to this transition process.



METHODOLOGY

The Future Use methodology is based on extensive knowledge of the territory. It delves into the socioeconomic issues of the communities impacted by the activity. It explores territorial conditions and the potential and pressures on existing Natural Capital. In addition, it considers the valorization of Historical Capital, Urban Resilience, and the ESG commitments made by the company. Through a critical and transversal analysis of these elements, it defines strategic Future Use options that enable the transformation and redefinition of these territories.

RESULTS

Future Use Studies seek to establish a New Legacy for entrepreneurs in the territory where they operate. The viability of new uses can occur through public and private partnerships, promoting Economic Circularity. This process, anchored in social responsibility, improves the quality of life of the community previously impacted. Furthermore, it favors urban renewal and redefinition, the strengthening of Historic Capital, and gains in biodiversity, ensuring a lasting and positive impact on the urban and natural environment.

GS Inima INDUSTRIAL

ÁGUAS DE REÚSO DE VITÓRIA
(VITÓRIA REUSE WATERS)

CASE PRESENTATION

The Vitória Reuse Waters project, run by GS Inima, aims to supply Vale and ArcelorMittal with reused water produced from treated sewage. With a flow rate of 390 liters per second, it avoids abstraction from the Santa Maria River and combines advanced sanitation, water security, and innovation, marking the water transition in Brazil.



▶ River mouth with treated effluent, highlighting the positive impacts of reuse on water security.

METHODOLOGY

Águas de Reúso de Vitória developed the solution in partnership with CESAN, ArcelorMittal, and Vale. The steps included decommissioning the Camburi WWTP, building a new WWTP, and installing outfalls and water mains. Advanced technologies such as ultrafiltration, reverse osmosis, and automation were adopted, with a focus on ESG. The subconcession model brought innovation in governance, efficiency, and low social and environmental impact.

RESULTS

The project will save up to 390 L/s of raw water, preserving up to 4,900 Olympic-sized swimming pools per year. It generates environmental, social, and climate benefits, with GHG reductions and potential carbon credits. Financially viable, with an investment of R$250 million, it inspires replication of the model. It is consolidated as a robust and replicable climate adaptation solution for urban and industrial contexts.

Ipiranga

PROGRAMA SAÚDE NA ESTRADA

(HEALTH ON THE ROAD PROGRAM)



CASE PRESENTATION

Faced with the lack of access to healthcare for truck drivers and communities along highways, Ipiranga created the Health on the Road Program. The initiative began with local actions and evolved into a national program that, since 2008, has traveled throughout Brazil providing basic care, vaccines, and wellness services at Rodo Rede stations, promoting citizenship, health, and prevention.

METHODOLOGY

The project is carried out by a 110 m² double-decker truck that travels around the country providing health and prevention services to truck drivers, travelers, and communities near Ipiranga Rodo Rede gas stations. Following predefined schedules and routes, the vehicle is transformed into a modern and accessible mobile service station. In addition to medical services, there is a focus on education and awareness, with lectures and informational materials on good traffic practices and disease prevention.

Partnerships with health departments, the Federal Highway Police, concessionaires, and volunteers ensure the operation. KMV technology is used for registration and integration with the loyalty program.

RESULTS

Over 17 years, the program has benefited more than 750,000 people, serving nearly 230 municipalities in 22 states. A total of 1,720 events were held, covering 650,000 kilometers and mobilizing more than 56,000 volunteer health professionals. In 2024, 50,000 people received exams, vaccines, and guidance. The program inspires other companies and is recognized as Ipiranga's largest social responsibility project, reinforcing the company's commitment to sustainability and well-being on the roads.

SUPPORTING MATERIAL

www.ipiranga.com.br

Neoenergia

RESILIÊNCIA E ADAPTAÇÃO CLIMÁTICA DA NEOENERGY PE

(NEOENERGIA PERNAMBUCO'S CLIMATE RESILIENCE AND ADAPTATION PLAN)

CASE PRESENTATION

The frequency and intensity of extreme weather events are expected to increase, increasing the risks to our assets. We developed a climate resilience and adaptation project for Neoenergia Pernambuco (NEO PE) based on climate scenarios and our own methodology for analyzing threats and mapping resilience measures.



METHODOLOGY

Since 2019, Neoenergia has been conducting climate studies with internal and external partners to assess risks to its assets. In 2023, we launched the NEO PE Adaptation Project, using SSP2-4.5 (intermediate) and SSP5-8.5 (pessimistic) climate scenarios for the decades 2021-30 and 2031-40, and historical lightning and fire data from the last 10 years. We involved more than 50 employees in analyzing the threats—strong winds, maximum temperature, precipitation, lightning, and fires—and identifying actions to strengthen physical and operational resilience.

RESULTS

After analyzing the threats to climate scenarios, climate resilience and adaptation measures adopted by NEO PE's planning, performance, and operations and maintenance departments were identified, also including climate-related innovation projects. The measures identified were both physical, such as replacing equipment and infrastructure, and institutional/process measures, such as contingency plans and resilience studies and projects. The climate scenario information base is also an important tool in supporting decision-making for future investments.

odontoprev

EXPEDIÇÃO ONDAS LIMPAS NA ESTRADA
(CLEAN WAVES ON THE ROAD EXPEDITION)

CASE PRESENTATION

The problem of marine pollution and its impact on public health motivated Odontoprev, Sea Shepherd Brazil, and the Oceanographic Institute of USP to carry out this unprecedented expedition along the Brazilian coast, engaging universities, society, and volunteers to map waste, promote environmental education, and drive innovative public policies.

METHODOLOGY

The expedition included approximately 60 volunteers and visited 306 beaches, covering more than 11,000 km of the Brazilian coast by bus. The project had three stages: planning (determining routes, partners, and methodology), execution (waste collection, microplastic analysis, and community engagement), and dissemination (technical report, documentary, and event presentations). It involved Odontoprev, Sea Shepherd Brazil, and the Oceanographic Institute of the University of São Paulo, as well as volunteers and local communities, using academic and scientific methodologies and audiovisual recording.

RESULTS

The expedition analyzed 306 beaches in 21 municipalities and revealed that 100% of Brazilian beaches contain waste. A total of 72,000 macro-waste items were analyzed, 91% of which were plastics, and 61% of these were single-use. In total, 172 cleanup campaigns were carried out with local communities, collecting 2.5 tons of waste. Fifty-seven volunteers participated, and 39 recycling cooperatives were impacted. The biggest challenges were logistical and remote access. The scientific report will be distributed to universities and environmental agencies, driving public policies, research, and educational initiatives.

SUPPORTING MATERIAL

https://seashepherd.org.br/ondas-limpas-na-estrada/

PHILIP MORRIS BRASIL

PROTETOR DAS ÁGUAS
(WATER STEWARDSHIP PROGRAM)

CASE PRESENTATION

The Water Stewardship promotes the recovery and preservation of water resources for the 26,000 residents living in the urban and rural areas of Vera Cruz, RS, in the Arroio Andréas Sub-Basin. The focus is to provide better water quality in more reliable volumes, even during drought periods. The PMB joined in 2019 and remains the sole sponsor.



► Technical monitoring of headwater areas

PHILIP MORRIS BRASIL

PROTETOR DAS ÁGUAS (WATER STEWARDSHIP PROGRAM)

METHODOLOGY

One of the project's main objectives is to restore water resources often found on agricultural lands. By fencing these areas, protecting them from the impacts of livestock and other agricultural factors, small-scale farmers can, in effect, become 'water producers,' providing them direct access to cleaner water while supplementing their income through Payment for Environmental Services (PES). Thanks to seasonal monitoring by the University of Santa Cruz do Sul since 2011, data has demonstrated significant improvements in the stream's water quality.



▶ Team in action in the project's service areas.

RESULTS

Since 2019, the project has optimized 139,485 m3 of water, and the team's aspiration is that in the next five years it will contribute even more to PMI's water KPI. In 15 years, water production has increased from 48 L/s to 95 L/s, even during dry periods; during the May 2024 floods in Rio Grande do Sul, the project helped mitigate the impacts of rainfall, helping to prevent erosion and siltation in the canals. The methodology is scalable to other regions of Brazil, efficient in mitigating climate risk, and in connecting biodiversity preservation with financial incentives.



▶ Headwater protected by fencing in a rural area.



▶ Producer with fenced headwater and native vegetation.

SUPPORTING MATERIAL

www.pmi.com

rumo

RUMO INVESTE EM TRENS MAIS SUSTENTÁVEIS
(SUSTAINABLE TRAINS)

CASE PRESENTATION

The Sustainable Trains case study aims to demonstrate that rail transport can be much more efficient, safe, and low-carbon. With investments in new technologies, we have improved the performance of our trains, making them more economical and less polluting. Today, Rumo is the leading benchmark in energy efficiency in the rail sector.



rumo

RUMO INVESTE EM TRENS MAIS SUSTENTÁVEIS
(SUSTAINABLE TRAINS)

METHODOLOGY

After identifying operational challenges, Rumo invested in new technologies:

1. Trip Optimizer, a system that allows trains to enter automatic driving mode, reducing fuel consumption and GHG emissions.
2. Circulation Optimizer (OC), an operational controller that enables agile and accurate decision-making;
3. Replacing locomotive communication from satellite to high-speed fiber optics and implementing 4G LTE technology in the Serra de Santos;
4. Enhancing DTQ (Broken Rail Detector) technology using AI.

RESULTS

We are a global benchmark in the use of Trip Optimizer. On 81% of trips on our main corridor (MT-Santos), the train operates semi-autonomously, guaranteeing a 4% reduction in diesel fuel consumption and 25,000 tons of CO_2 emissions per year. Circulation Optimizer – reduced planning time for 12 hours of operation from 30 minutes to 10 seconds for planning 48 hours. A gain of 1 hour in transit time. LTE – approximately 97% reduction in the time it takes to send information between trains and the Operational Control Center (CCO). DTQ – we increased the accuracy of identifying problems on the track by 98%.

► Sustainable train operation on the MT-Santos corridor.





ZURICH

SERVIÇOS DE RESILIÊNCIA CLIMÁTICA
(ZURICH RESILIENCE SOLUTIONS)

CASE PRESENTATION

Extreme weather events are increasing in frequency and intensity, causing significant human and economic losses. In Brazil and globally, initiatives that anticipate the impacts of climate change are still lacking. In this context, the Zurich Group offers climate resilience services that evaluate risks in short, medium, and long-term scenarios until the year 2100 and support companies and governments in adopting mitigation and adaptation strategies. The solution expands the role of insurance, moving from simple post-disaster compensation to preventative risk management, aligned with the company's global commitment to responsibility and positive impact.

METHODOLOGY

To develop this project globally, resources were invested in two areas within the company: the creation of a technical center for climate resilience, with the hiring of experts in climatology, meteorology, disasters, and natural risks; and the development of a system for analyzing future climate risks, based on Zurich's proprietary data (derived from over 150 years of risk management expertise) and parameters currently accepted by international entities (such as the IPCC), to present climate risks and impacts in a visual and easily understandable manner. To implement and offer the services in Brazil, three engineers underwent technical training to apply the methodology, system, and tools used in the field, totaling more than 550 hours of dedication in 2024 and 2025 alone. As a result of this work, Zurich now offers companies and governments two distinct service options: Climate Spotlight Core, an interactive self-service platform where, by purchasing licenses, customers can analyze the risks to which their operations will be exposed in the future, based on customizable parameters; and Climate Spotlight Expert, which, in addition to the platform, includes specialized consulting from Zurich's risk engineering teams to analyze risks in depth and propose mitigation and adaptation measures. Both services allow analysis of more than 10 types of natural hazards, such as floods, precipitation, hail, strong winds, wildfires, drought, storm surges, heat and cold waves, among others, considering analysis periods of every 5 years until 2100.

RESULTS

Zurich's climate resilience services are currently an essential solution for organizations that need to protect their assets and ensure business continuity in the face of current and future climate risks. The need for robust climate risk management is increasingly recognized as a critical component of business strategy. In this context, the initiative consequently contributes to economic and social stability by helping companies and communities prepare and adapt to climate change, avoiding significant losses. Around the world, climate resilience services are already being offered to large corporations and government agencies, with several success stories. In Brazil, there are already examples of companies adopting measures to prepare for future risks in their operations, such as adequate drainage controls against flooding in factories and action plans and mitigation of risks against wildfires/forest fires, two risks that have become increasingly frequent in the country.

cebds accenture

INDUSTRY

This theme features 10 case studies highlighting innovative sustainability initiatives in the industrial sector. **Grupo Boticário** stands out with the "Estação Preço de Fábrica" (Factory Price Station) project, which improves the collection of recyclable materials and promotes a circular economy. **Braskem** is introducing I'm green™ bio-based polyethylene, which reduces CO_2 emissions by using sugarcane ethanol as a raw material source. **Lwart Soluções Ambientais** showcases the circular economy through its reverse logistics program for used lubricating oil. **Lojas Renner** has launched a climate adaptation guide for its suppliers, while **Votorantim Cimentos** has invested in co-processing, aiming to develop carbon-neutral concrete by 2050. RD Saúde has implemented a responsible disposal program, while **ALLOS** focuses on reducing Scope 3 greenhouse gas emissions by improving waste management. **CBA** presents a climate adaptation case through its Climate Vulnerability Index, while **Unilever** showcases its plastic circularity initiative in packaging. **CMPC** also stands out for its sustainability initiatives, promoting responsible practices in the pulp industry.



ALLOS

REDUÇÃO DE EMISSÕES DE GASES DE EFEITO ESTUFA, ESCOPO 3

(REDUCTION OF GREENHOUSE GAS EMISSIONS — SCOPE 3)

CASE PRESENTATION

ALLOS identified that 69% of its Scope 3 greenhouse gas emissions come from solid waste. To mitigate this impact, it structured a management plan with a target of 90% waste recovery by 2030 and offsetting residual emissions through carbon credits.



► Infrastructure for waste management in the ventures.

ALLOS

REDUÇÃO DE EMISSÕES DE GASES DE EFEITO ESTUFA, ESCOPO 3
(REDUCTION OF GREENHOUSE GAS EMISSIONS — SCOPE 3)

METHODOLOGY

ALLOS's action plan sets annual targets through 2030, focusing on 50% recycling, 40% composting, and only 10% of waste sent to landfills or co-processing. In 2024, the company trained 17,000 retailers on proper waste segregation at source, implemented a digital monitoring system, and modernized waste centers at its businesses. The initiative promoted multisectoral engagement and the use of technology for efficient environmental management.

- Engaging the public and tenants for recycling.



RESULTS

Between 2023 and 2024, the waste recovery rate increased from 47.6% to 68%, resulting in a 21.5% reduction in GHG emissions from the "waste generated in operations" category (from 68,578.64 to 53,838.43 tCO_2e). Shopping Plaza Sul in São Paulo stood out, with its waste recovery rate jumping from 31% to 95%. In 2025, ALLOS began acquiring carbon credits to offset waste emissions in its four shopping malls in the Amazon Basin, with expansion planned for the entire network by 2040.

- Sustainable action plan in the largest shopping center network.



SUPPORTING MATERIAL

www.allos.co

Braskem

I'M GREEN BIO-BASED I BRASKEM (I'M GREEN™ BIO-BASED)

CASE PRESENTATION

With the goal of developing sustainable solutions that improve people's lives, Braskem created I'm green™ bio-based polyethylene (PE), made with sugarcane ethanol. This initiative contributes to reducing greenhouse gas (GHG) emissions, promoting a low-carbon economy.



Braskem

I'M GREEN BIO-BASED I BRASKEM (I'M GREEN BIO-BASED)

METHODOLOGY

I'm green™ bio-based PE has been produced in Rio Grande do Sul for 15 years, using a renewable source (sugarcane) that captures CO_2 during cultivation. Production occurs on an industrial scale, involving strategic suppliers and value chains committed to the transition to a low-carbon economy. The production chain is mostly certified (Bonsucro, ISCC+), with segregated production and proof of captured biogenic carbon, generating a positive impact without requiring changes to industrial or recycling processes.



RESULTS

Since 2010, I'm green™ bio-based PE has prevented the emission of at least 7.13 million tons of CO_2. Used in more than 200 global brands, the product replaces fossil-based resins without compromising performance or recyclability. A highlight is the Carbon Footprint study, which demonstrated a net capture of 2.12 tons of CO_2 for each ton of polyethylene produced up to Braskem's gate. The initiative positions the country as a benchmark for sustainable solutions on an industrial scale, and it continues to grow. The goal is to reach 1 million tons/year of products from renewable sources by 2030.





SUPPORTING MATERIAL

https://www.braskem.com.br/imgreen

ESTRATÉGIAS INTEGRADAS PARA ADAPTAÇÃO CLIMÁTICA

(INTEGRATED STRATEGIES FOR CLIMATE ADAPTATION)

CASE PRESENTATION

CBA is recognized for its low-carbon aluminum production. In addition to decarbonization goals, the Company also has, in its 2030 ESG Strategy, commitments to climate adaptation, both for its operations and to support public administration in actions to strengthen climate resilience in municipalities within its area of influence.

▶ Leticia Oliveira Felix, Socio-Environmental Analyst at Legado Verdes do Cerrado (GO), and Michael Nunes de Souza, Logistics Operator at Fábrica Alumínio (SP).



METHODOLOGY

For its operations, CBA used climate projection models to map risks and created a Climate Vulnerability Index to classify its units, enabling it to identify areas of vulnerability and support prioritization of investments and activities focused on adaptation. To support the government, in partnership with the Votorantim and Itaúsa Institutes, it developed the "Climate Action Initiative," a platform of solutions, tools, and training to strengthen municipal public administration in confronting the effects of climate change.

RESULTS

Updating climate projections and creating a Climate Vulnerability Index strengthened risk management and expanded CBA's response capacity to extreme events (e.g., creating alternative routes for transporting inputs). In terms of Public Management Support, initiated in Juquitiba and Muriaé, it generated customized solutions and multisectoral engagement, strengthening the resilience of the territories. 170 people were mobilized, including 52 working group leaders, 34 public institutions, and 19 private and civil society organizations, in over 110 hours of mentoring.

SUPPORTING MATERIAL

www.cba.com.br

BIO CMPC (BIOCMPC PROJECT)

CASE PRESENTATION

The BioCMPC Project involves the expansion and modernization of CMPC's Guaíba Industrial Unit in Rio Grande do Sul. The project began in 2021 and concluded in late 2023 with the start of BioCMPC operations. It has promoted improvements in production capacity, reductions in greenhouse gas emissions, waste, water consumption, and effluent generation.



▶ Recovery Boiler in the low-carbon Bioindustry operating at CMPC.

METHODOLOGY

At BioCMPC, 17 initiatives were implemented to implement new environmental management and control equipment and improve existing systems.

The coal-fired boiler was decommissioned and heated by a recovery boiler that uses biomass (black liquor) from the pulp production process as its primary fuel. Furthermore, environmental monitoring instruments were installed, such as an electronic nose and noise and inhalable particle measurement stations. These initiatives were developed in accordance with sustainability standards, such as those of the International Finance Corporation and the GHG Protocol.

RESULTS

With the start of BioCMPC operations and the decommissioning of the coal boiler, there was a 53.4% reduction in Scope 1 and Scope 2 tCO_2e emissions between 2021 and 2024

GrupoBoticário

ESTAÇÃO PREÇO DE FÁBRICA
(FACTORY PRICE STATION)

CASE PRESENTATION

Faced with the challenges of the recycling chain, a new model for collecting recyclable materials is proposed that overcomes operational challenges and improves the remuneration of waste pickers in Brazil. With units spread across three Brazilian states, the results contribute to increased circularity and generate social and environmental benefits.



► Partnership with Ibema and Grupo Boticário fosters income through recycling.

GrupoBoticário

ESTAÇÃO PREÇO DE FÁBRICA (FACTORY PRICE STATION)

METHODOLOGY

Through collection stations throughout Brazil, waste is received, sorted, and sent directly for recycling, resulting in an optimized value chain. The initiative, operated in partnership with the startup Green Mining, pays waste pickers up to six times the market value, generates social impact, and closes the loop by reintegrating the material into Grupo Boticário packaging. The project uses technology to monitor and track the recycled volume, properly allocating the materials for treatment and recycling, reducing landfill disposal.

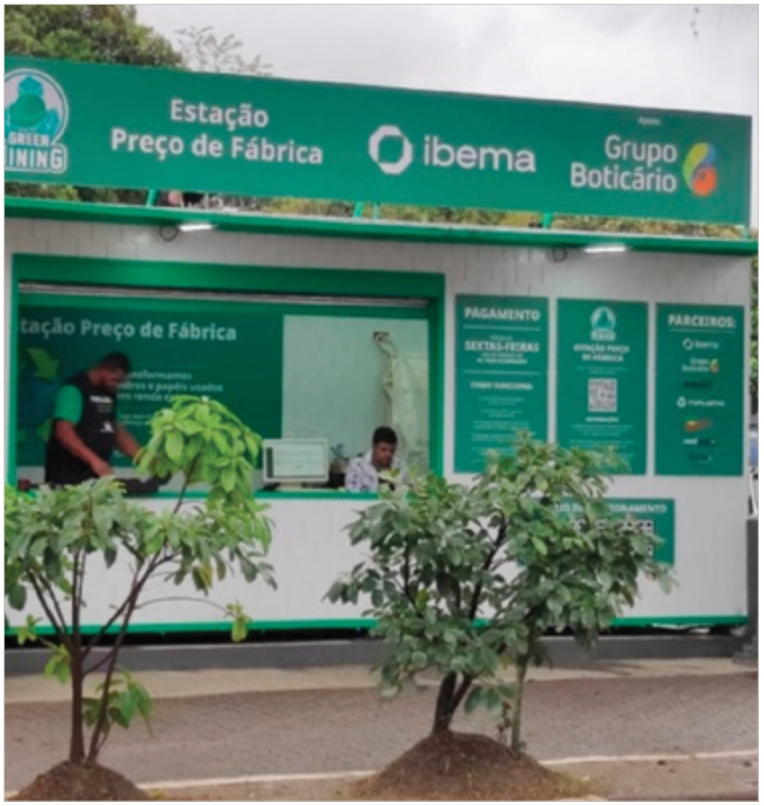
- Support for cooperatives and optimization of collection logistics.



RESULTS

The Factory Price Station Project brings together different cross-sector partners to leverage the stations distributed throughout Brazil and has already collected approximately 5,000 tons of waste, generating over R$4.6 million in income, improving the quality of life and work for those impacted. The current challenge is to intensify expansion to other states, connecting with new stakeholders, such as recyclers, processors, and consumer goods industries, expanding the impact and strengthening the circularity of materials.

- Project expansion to new states with standardized infrastructure.



SUPPORTING MATERIAL

www.grupoboticario.com.br

LOJAS RENNER S.A.

GUIA DE ADAPTAÇÃO CLIMÁTICA
(CLIMATE ADAPTATION GUIDE)

CASE PRESENTATION

As part of its journey to address climate change, Lojas Renner S.A. launched, in 2024, its first CLIMATE ADAPTATION GUIDE for its SUPPLIER chain, with the aim of supporting companies in the fashion chain in understanding and preparing for climate risks. The initiative stemmed from the understanding that a business's climate resilience depends on the adaptability of the entire value chain. The material, unprecedented in the sector at the time, was developed collaboratively and translates technical concepts into practical guidelines. It offers tools for analyzing physical risks and opportunities, best adaptation practices, and examples applicable to the textile industry.



► Regional identification of climate threats.

LOJAS RENNER S.A.

GUIA DE ADAPTAÇÃO CLIMÁTICA (CLIMATE ADAPTATION GUIDE)

METHODOLOGY

1. 1. Risk identification: identification of the main climate threats to Lojas Renner's value chain (tier 1) through climate scenario modeling (IPCC), using data first from the chain.
2. Listening: active listening with suppliers to understand the main challenges related to the topic.
3. Content co-creation: development of the guide with the participation of experts, translating technical concepts and presenting the main threats by region of the country, in addition to presenting a method for developing an action plan for these potential risks. The guide is aligned with TCFD guidelines.
4. Dissemination: launch at the Supply Chain Sustainability Innovation Fair, widely disseminated on the company's official channels.

▶ Launch of the climate risk guide.

RESULTS

Adaptation Guide for the Supply Chain

Access and Engagement

- 290 views, including 180 unique users – measured only in 2025 (guide released in 2024)
- 133 downloads recorded in the archives (2025 only) Geographic Distribution
- São Paulo accounted for 39% of accesses, followed by Rio de Janeiro (9%), Porto Alegre, Belém, and Brasília



SUPPORTING MATERIAL

www.lojasrenersa.com.br

LWART SOLUÇÕES AMBIENTAIS
(INDUSTRIAL SYMBIOSIS)

CASE PRESENTATION

Reverse logistics for Used or Contaminated Lubricating Oil (OLUC) is a success story in the circular economy. Lwart Environmental Solutions removes waste that is hazardous to the environment and human health from circulation and reinserts it into the production chain through the re-refining process, recovering the base oil and sending it to the lubricants industry.

METHODOLOGY

Lwart's re-refining process is divided into two stages. The first involves the physical-chemical process of extracting contaminants present in the OLUC. The second consists of hydrotreatment. In this process, four reactors with highly active catalysts, along with high temperature, pressure, and hydrogen, promote the complete removal of impurities, stability, and molecular restructuring, which improves the quality of the base oil. After this stage, the oil is properly re-refined and meets the characteristics necessary for API Group II classification.

RESULTS

1. Lwart's re-refining process has a yield above 75%.
2. In 2024, the historic mark of 225 million liters of OLUC collected was reached.
3. Lwart accounted for 37% of all volume collected in Brazil.
4. The Life Cycle Assessment (LCA) showed a carbon footprint of 1,091 kg CO_2e/m3, 77% lower compared to first-refined base oil.
5. In 2024, the company recorded a 6% reduction in Scope 1 GHG emissions compared to 2023.
6. A 50% reduction in natural gas consumption compared to 2023, the main non-renewable fuel used in the process.

SUPPORTING MATERIAL

www.lwart.com.br/

RDsaúde

DO DESCARTE À PRATELEIRA: CIRCULARIDADE DE EMBALAGENS

(FROM DISPOSAL TO SHELF: PACKAGING CIRCULARITY)

CASE PRESENTATION

Faced with the challenge of reducing waste discharged into the environment, RD Saúde connected the Conscious Disposal Program to products from its exclusive brands—Natz and Needs Natos. The company began using paper waste collected from pharmacies (boxes and medicine leaflets) as raw material for packaging. The idea arose from the company's commitment to circularity.



► Consumer handling product with circular packaging

RDsaúde

DO DESCARTE À PRATELEIRA: CIRCULARIDADE DE EMBALAGENS
(FROM DISPOSAL TO SHELF: PACKAGING CIRCULARITY)

METHODOLOGY

The initiative was made possible in partnership with LogMed, responsible for reverse logistics for medications and their packaging, and Papirus, which manufactures recycled cardboard. RD Saúde structured the process to ensure that all paper waste collected from Raia and Drogasil pharmacies in the state of São Paulo was used as raw material for Natz and Needs Natos packaging. Since the production of exclusive brand products is carried out by partners, the initiative required coordination among multiple stakeholders in the supply chain to be implemented.



▶ Collection of packaging and leaflets at Raia Moema pharmacies_ credit Soraia Correa.

RESULTS

RD Saúde's product portfolio, featuring 100% recycled cardboard packaging, produced from medication boxes and leaflets discarded by residents at Raia and Drogasil pharmacies in the state of São Paulo, already includes 49 items. In 2024 alone, 14 tons of paper waste were collected and recycled. We want to expand this initiative to an ever-increasing number of states and products. This circularity model represents the beginning of a new way of thinking about packaging for our exclusive brands, with the potential to inspire other retail brands.

▶ Recycled packaging from the Natz line.



▶ Needs Natos soaps with 100% recycled paper



SUPPORTING MATERIAL

https://rdsaude.com.br/descarte-consciente/

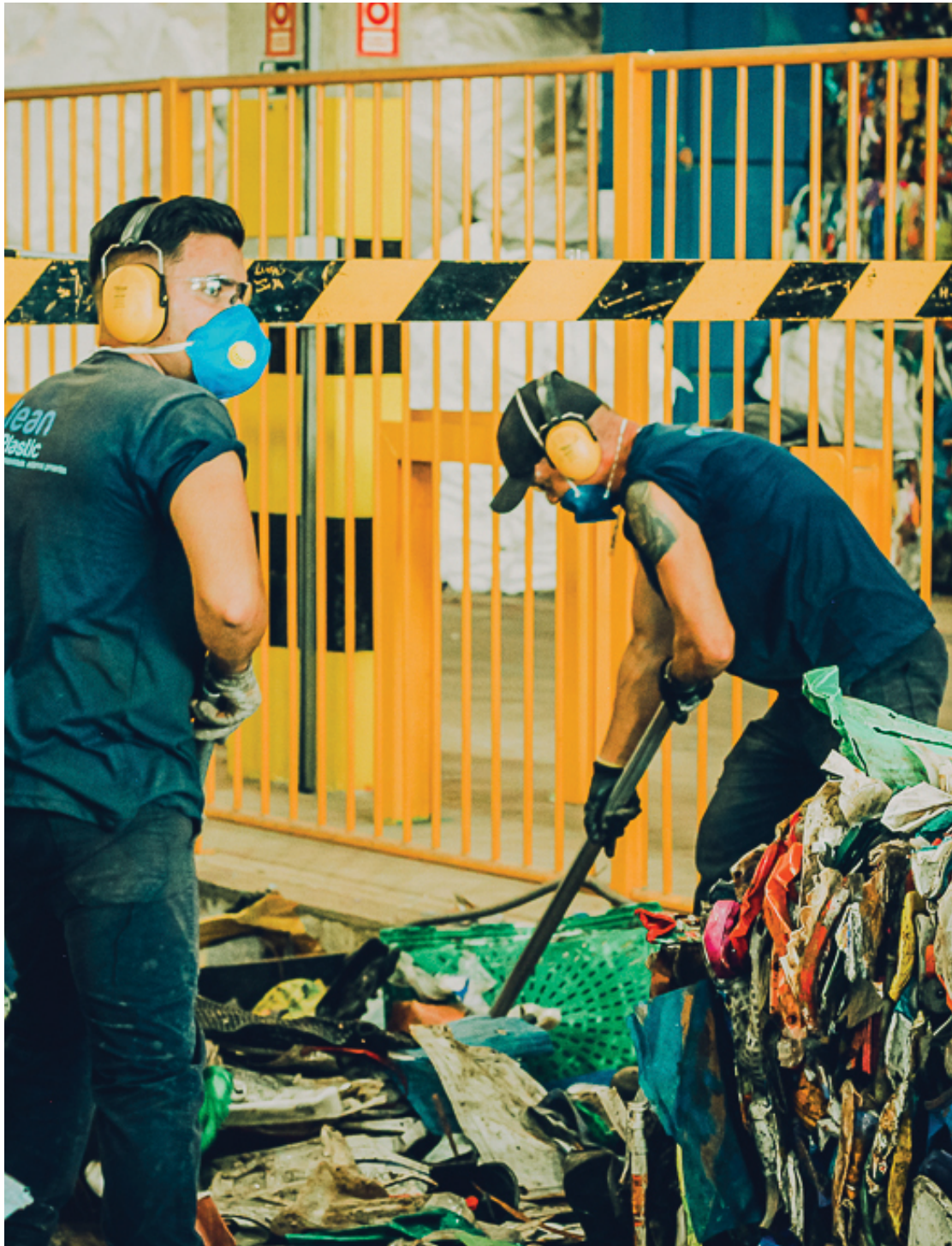
Unilever

CICLO DO PLÁSTICO NA ECONOMIACIRCULAR

(TURNING CHALLENGES INTO SOLUTIONS: THE PLASTIC LIFECYCLE IN THE CIRCULAR ECONOMY)

CASE PRESENTATION

Unilever Brazil surpassed its global target of 25% recycled plastic in its packaging, reaching 37% by 2024, and became the first operation in the Americas to collect and process 115% of the plastic on the market. This result reflects innovation in packaging and progress in plastic circularity.



► Collection and organization for recycling.

Unilever

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METHODOLOGY

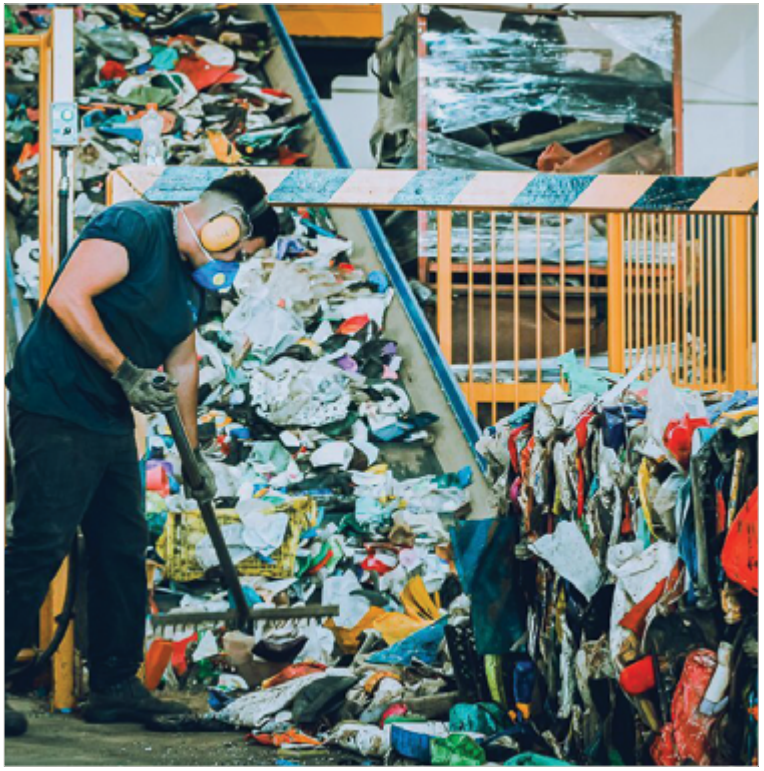
The project involved incorporating post-consumer recycled (PCR) plastic resin into packaging for major brands such as OMO, Rexona, and Hellmann's, redesigning packaging, innovating product formulas, and partnering with cooperatives, recyclers, collection points, and initiatives such as ABIHPEC's "Hands for the Future" program. The entire process is audited by the certifying agency Ace-Plans, ensuring environmental, social, and labor compliance.



▶ Manual sorting with safety and precision.

RESULTS

Since 2018, Tresemmé has been using PCR in its packaging, later expanding to 100% inclusion in its HC products. Rexona launched the first deodorant cap with flexible PCR plastic and, in 2024, an actuator with 80%. Hellmann's adopted 40% recycled PET in its mayonnaise bottles and 100% PCR in its ketchup. With this, the company's portfolio reached 37% PCR in its packaging, avoiding 100,000 tons of CO_2. Furthermore, in 2024, Brazil collected and processed the equivalent of 115% of the total volume of plastic placed on the market.



▶ Efficient sorting of plastic waste.

SUPPORTING MATERIAL

www.unilever.com.br

COPROCESSAMENTO: TRITURAÇÃO DE RESÍDUOS NO PARANÁ

(ITAPERUÇU WASTE PROCESSING UNIT)

CASE PRESENTATION

The cement industry aims to develop carbon-neutral concrete by 2050. Co-processing is one of the key technologies for achieving this goal, replacing petroleum coke with waste in production. Votorantim Cimentos has invested in a new waste grinding unit in Itaperuçu (PR), tripling its capacity to prepare non-recyclable waste for co-processing, strengthening its commitment to sustainability and the circular economy.



METHODOLOGY

The unit is operated by Verdera, Votorantim Cimentos' sustainable waste management and disposal business, and began operating in April 2024 in Itaperuçu (PR). The project involved an investment of R$145 million and included improvements to the local road infrastructure. The treated waste replaces petroleum coke in cement production at the Rio Branco do Sul (PR) plant — the largest in Latin America. The Itaperuçu unit is currently Verdera's only waste processing plant in Brazil.



RESULTS

The new unit has expanded Verdera's support to industries and municipalities in Paraná in the practice of the circular economy, giving new value to waste through environmentally correct and safe disposal, avoiding sending it to landfills. By using this waste as an alternative fuel, Votorantim Cimentos has reduced its CO_2 emissions at the Rio Branco do Sul plant. In 2024, 27.2% of the fuels used at the unit were waste, totaling 227,632 tons of co-processed waste and 150,000 tons of CO_2 avoided.

SUPPORTING MATERIAL

www.votorantincimentos.com.br

cebds accenture

LIVESTOCK

This theme features five case studies, including projects such as dsm-firmenich's **Bovaer®**, a nutritional additive that reduces methane emissions by up to 45%, contributing to climate change mitigation; **JBS** has launched its Traceability Accelerator, enabling individual cattle identification and the regularization of over 18,000 farms, promoting a sustainable supply chain. **Ajinomoto** is bringing in AjiPro®-L, an amino acid that boosts cattle productivity and reduces greenhouse gas emissions by up to 25%, generating carbon credits for producers. **Carrefour** stands out for monitoring 100% of its supplier slaughterhouses, covering 31,802 farms and ensuring transparency across its supply chain. Finally, **Azzas** 2154 aims to achieve 100% leather traceability by 2030 through blockchain technology, already tracking 38.6% of production.



Eat Well, Live Well.

AJINOMOTO

AJIPRO®-L: RAÇÃO ANIMAL PARA REDUÇÃO DE EMISSÕES

(REDUCTION OF GHG EMISSIONS IN THE CATTLE SECTOR THROUGH BALANCED FEED WITH AMINO ACIDS AND AJIPROL)

CASE PRESENTATION

Ajinomoto seeks to reduce GHG emissions in the livestock sector through a balanced amino acid diet with AjiPro®-L, a rumen-protected amino acid, in partnership with beef/dairy producers and farmers. The high efficacy of AjiPro®-L provides environmental and economic benefits that encourage producers to create a sustainable industry.

Eat Well, Live Well.

AJINOMOTO

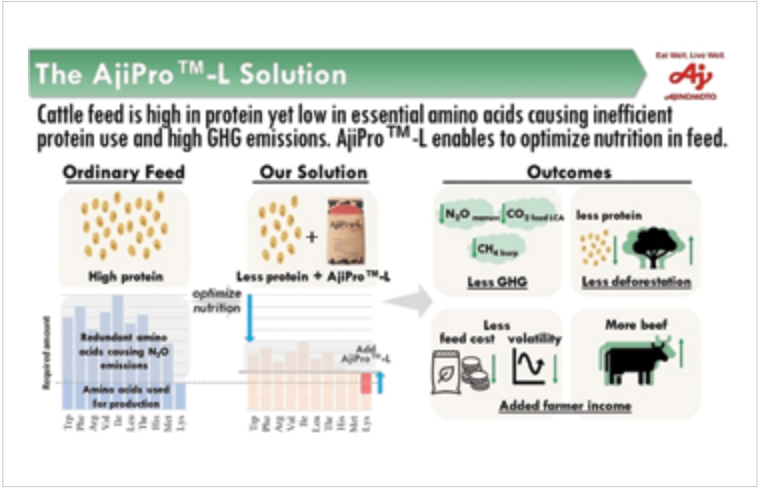
AJIPRO®-L: RAÇÃO ANIMAL PARA REDUÇÃO DE EMISSÕES

(REDUCTION OF GHG EMISSIONS IN THE CATTLE SECTOR THROUGH BALANCED FEED WITH AMINO ACIDS AND AJIPROL)

METHODOLOGY

AjiPro®-L is a product developed to effectively supply lysine, one of the most deficient amino acids in cattle feed, to the cow's body. By using AjiPro®-L to supplement deficient amino acids and balance the amino acids in the feed, it helps improve cattle productivity and also effectively reduces GHG emissions generated during the cattle raising process. Furthermore, it can reduce feed production costs. The AjiPro™-L protocol is certified by the Japanese carbon credit platform and by voluntary carbon credit platforms, such as Athian (USA).

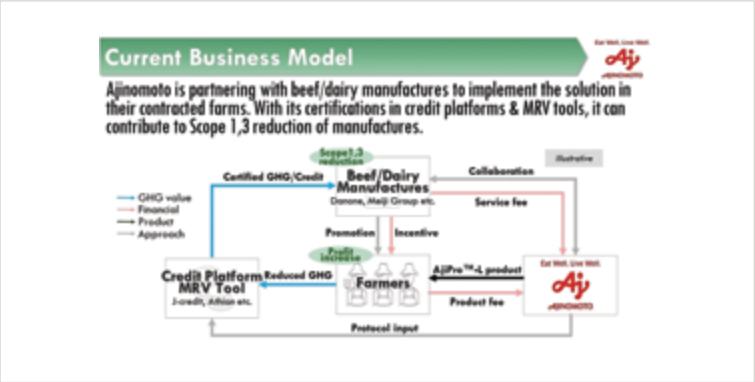
- Up to 1.3 tCO_2eq of reduction/year



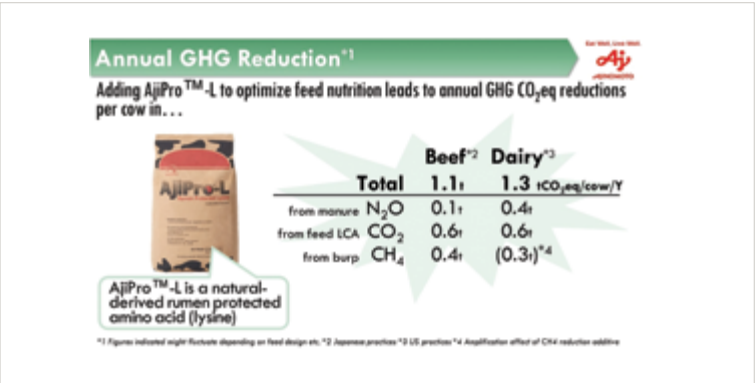
RESULTS

In addition to reducing multiple GHG sources in the livestock sector, such as N2O, CO_2, and CH4, by 25%, 20%, and 10%, respectively (equivalent to 1 t_{CO_2}eq/cattle/year), it also improves producer income, further reducing the deforestation trend in the sector. With these economic and environmental results, AjiPro®-L adds significant and holistic value to producers, manufacturers, and governments. The GHG reduction can be converted into carbon credits, potentially becoming a new source of income for producers.

- Value model with carbon credits.



- Efficient nutrition with less protein.



SUPPORTING MATERIAL

www.ajinomoto.com.br

AZZAS 2154

RASTREABILIDADE DO COURO AZZAS 2154
(LEATHER TRACEABILITY)

CASE PRESENTATION

Launched in 2022, its goal is to ensure that Azzas 2154's leather for shoes, bags, and accessories is deforestation-free. The 2030 goal is to have 100% traceability for all products back to the breeding farms. We use blockchain technology, which encryptedly records data such as invoices, production orders, origin, destination, measurements, and weight.



► Batch control in leather processing.

AZZAS 2154

RASTREABILIDADE DO COURO AZZAS 2154 (LEATHER TRACEABILITY)

METHODOLOGY

The project consists of the following steps: contract formalization with suppliers; invoice auditing; QR Code implementation for customer transparency; development of a digital platform integrated with AI for automated reporting (in conjunction with a partner); adaptation to internal systems; automatic calculation of ESG targets; governance meetings and indicator monitoring; communication and chain engagement; expansion planning to other raw materials; and data modeling for carbon emissions accounting.

► Diversity of leather finishes.



RESULTS

By 2024, 38.6% of leather production for all Footwear and Accessories BU brands was traced from the factory to the meatpacking plant, signaling the commitment of the Arezzo brand and other brands in the Azzas2154 group to combating illegal deforestation. The goal for 2026 is to have 100% of national and international meatpacking plants traced. By 2028, the project will reach 100% of fattening farms and, by 2030, 100% of rearing and/or breeding farms. This goal is reinforced through the Deforastation Free commitment, to which we are the only Brazilian signatory in the fashion sector.

► Identification of leather origin.



► 2028 Goal: Traceability up to the fattening phase.



SUPPORTING MATERIAL

www.azzas2154.com.br/

GRUPO CARREFOUR BRASIL

RASTREABILIDADE DA CARNE BOVINA
(BEEF TRACEABILITY)

CASE PRESENTATION

Livestock farming is the main driver of deforestation in the Amazon and Cerrado, contributing to GHG emissions and biodiversity loss. Carrefour Brasil manages climate risks and adopts traceability as one of its strategies to reduce impacts, implementing satellite monitoring of 100% of its supplier meatpacking plants, being the only retailer that monitors all biomes and uses additional analysis tools, such as Alerta Mapbiomas.



► Commitment to forest conservation. ©Instituto Amazonas 4.0

GRUPO CARREFOUR BRASIL

RASTREABILIDADE DA CARNE BOVINA (BEEF TRACEABILITY)

METHODOLOGY

The actions were:

- Robust governance with the establishment of a Forest Committee, composed of external experts and company C-level officials, to support the agenda to combat deforestation and conserve forests, updating the Fresh Beef Purchasing Policy, signed by the meatpacking plants, and setting targets.
- Development of a systemic interface with meatpacking plants, with automated transmission of direct farm origin information for each batch of meat purchased.
- Structuring a process for approval and socio-environmental monitoring of suppliers, using satellite imagery and implementing consequential measures. The company became the first retailer to monitor farms in the Cerrado biome and, in partnership with meatpacking plants, expanded its operations to other biomes, also incorporating the Mapbiomas Alert in all of them.

RESULTS

By 2024:

- 100% of active meatpacking plants (18) monitored with socio-environmental analysis, 11 blocked; - 31,802 farms (100% direct farms) and 24,631,946 hectares monitored in all biomes, using satellite imagery and double-checking;
- Transparency with stakeholders and civil society, publishing monitoring data;
- Improved risk mitigation with the inclusion of additional criteria in the protocol, in an innovative way, reducing the time gap for analyzing deforestation in all Brazilian biomes.



▶ Environmental monitoring in Brazilian biomes. ©Instituto Amazonas 4.0

SUPPORTING MATERIAL

www.grupocarrefourbrasil.com.br/

dsm-firmenich

BOVAER®: REDUZINDO EMISSÕES DE METANO NA PECUÁRIA

(BOVAER®: PROVEN SOLUTION FOR SUSTAINABLE LIVESTOCK FARMING)

CASE PRESENTATION

Livestock farming is vital to the global food chain – but like all productive activities, it emits greenhouse gases. About 50% of emissions from meat and milk come from enteric methane (FAO), produced naturally by ruminants during their digestion. dsm-firmenich developed the nutritional additive Bovaer® to reduce the formation of this gas by animals.



METHODOLOGY

In the rumen of animals, microorganisms produce methane during the digestive process. dsm-firmenich studied this process and developed Bovaer®, which temporarily inactivates an enzyme that catalyzes the formation of methane. With 1/4 teaspoon added to the animals' diet daily and effective within 30 minutes, Bovaer® can reduce enteric methane emissions by approximately 30 to 45%. The compound is metabolized into substances already present in the rumen, such as water and nitric oxide, generating no waste and maintaining animal welfare. The solution is the result of 15 years of research and is now available globally.

RESULTS

Bovaer® reduces methane emissions from dairy animals by approximately 30% and beef animals by 45%. Thus, one dairy cow saves approximately 1 ton of CO_2e per year; and one beef animal reduces 0.5 ton of CO_2e. Globally, Bovaer® has already reduced 300,000 tons of CO_2e in more than 20 countries – equivalent to 38,000 homes in one year. With over 100 scientific publications, emissions reductions are predictable through meta-analysis, recognized by international tools and carbon certification agencies. The ease of implementation on farms makes the model scalable for rapid and reliable methane reductions.

SUPPORTING MATERIAL

www.dsm-firmenich.com/

ACELERADOR DE RASTREABILIDADE E ESCRITÓRIOS VERDES 2.0

(GREEN OFFICES)

CASE PRESENTATION

To promote a sustainable supply chain, JBS has developed a solutions hub for rural producers. With the Traceability Accelerator and Green Offices 2.0 programs, JBS generates services through environmental regularization initiatives, technical assistance to increase productivity, and animal traceability.

ACELERADOR DE RASTREABILIDADE E ESCRITÓRIOS VERDES 2.0 (GREEN OFFICES)

METHODOLOGY

In Pará, the state with the second largest herd of cattle and buffalo in the country, JBS combines individual animal tracking with technical and environmental assistance, connecting producers to the sustainable chain. The Accelerator program provides 2 million electronic tags and 175 tag readers to Adepará and producers, in partnership with TNC and the state government. The Green Offices 2.0 offer environmental regularization and technical and management support to promote increased productivity and profitability for small producers.



▶ Training and partnerships in Pará. Green Offices.

RESULTS

The Accelerator has helped to enable the unprecedented traceability plan in Pará, which foresees that the individual identification of Pará cattle will have its implementation stages completed by December 2027. In addition to the donation of 2 million JBS ear tags to the state of Pará, the Green Offices have supported the regularization of more than 18,000 properties in Brazil, and 7,005 hectares are already undergoing forest restoration. Technical assistance, in turn, currently supports more than 900 family farmers in intensifying their production, seeking to increase profitability.



▶ Individual traceability with electronic ear tag.

SUPPORTING MATERIAL

https://www.jbs360.com.br/escritorios-verdes/

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- Accenture Brasil
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- Ambipar Group
- Arcadis
- AZZAS2154
- B3 - Brasil, Bolsa Balcão
- Banco Bradesco SA
- Banco Cooperativo Sicoob S.A
- Banco do Brasil
- Banco Santander Brasil
- Bayer
- BNDES
- Bracell
- Braskem
- Caixa Econômica Federal
- Caramuru Alimento S/A
- Carrefour
- CBA - Companhia Brasileira de Alumínio
- CEMIG
- CITROSUCO S/A AGROINDUSTRIA
- CMPC Celulose Riograndense
- Copa Energy
- DEEP ESG
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- Helexia
- I CARE BRASIL
- Itaú Unibanco
- JBS
- Klabin
- Lojas Renner
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