Investment Opportunities

Agri-food sector in Brazil









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Brazil's Scorecard		
	Total Amount (USD)	LAC Ranking
Green	15.2bn	1st
Social	699m	4th
Sustainability	3.2bn	4th
SLB	11.9bn	1st
Transition	670.4m	1st & only

This report demonstrates how investors can use Climate Bonds Initiative (Climate Bonds) transition frameworks and guidance to scrutinise corporate strategy and identify credible investment opportunities. The focus of the paper is entities operating in the agriculture sector.

Confronting the impact of agriculture on greenhouse gas (GHG) emissions is key to dealing with climate change and biodiversity loss. Climate Bonds is working across multiple hard-to-abate sectors, including agriculture, to develop science-based tools and guidance for stakeholders to align their business activities with projects and opportunities consistent with a net-zero future. Developing a transition plan is the first step in this process.

Climate Bonds has developed a comprehensive framework focused on enabling transitions at the entity level. This framework provides clear guidance and standards for entities across different sectors. Crucially, the entity-level transition framework represents a critical shift from project-specific criteria to a holistic, entity-wide approach.

Major Brazilian companies operating in the agri-food sector are developing transition plans, which are embedded in their sustainability reporting. Two case studies (Syngenta and Amaggi) provide the standard by which companies should be assessed using the tools provided by Climate Bonds. They offer recommendations on the core activities to be continued, those that should be reviewed, and where further disclosure may be required. A credible transition plan should include details of a financing strategy. This report reviews sustainable debt instruments which can be accessed by those operating in the Brazilian agrifood sector to finance the transition to net zero.

The ability to recognise credible transition plans will empower investors with an environmental or climate mandate to discern entities eligible for capital investment and inspire a broader range of entities to get started on their transition journey.

Acronyms

A&R: Adaptation and resilience

ASTP Agri-food Systems Transition Programme

CDP Carbon Disclosure Project

CSDDD Corporate Sustainability Due Diligence Directive

ESG: Environmental, social, and governance

EU European Union

EUDR EU Deforestation Regulation

GHG: Greenhouse gases

GtCO₂e Billion tonnes of carbon

dioxide equivalent

LCA Agribusiness Letter of Credit

SLB: Sustainability-linked bond

UN SDGs United Nations Sustainable

Development Goals

Introduction

Brazil ranks as the 7th largest greenhouse gas (GHG) emitter worldwide, contributing nearly 3% of the global total of 50 GtCO₂e in 2020. The country's



gross emissions stand at 2.16 GtCO₂e, with net emissions at 1.53 GtCO₃e after accounting for forestry and land use removals (FOLU). Land use changes (46%) and agriculture (27%) represent the most significant sources, accounting for almost 75% of Brazil's gross emissions. More than 80% of agricultural emissions are attributed to livestock emissions, of which cattle constitute over 90% (almost 80% for beef and over 10% for dairy). Whilst livestock emissions have stabilised since 2005, crop emissions have been steadily increasing, largely due to the increased cultivation of crops such as soy (which is also linked to animal feed), leading to deforestation and land use change across the country.1 Therefore, tackling the impact of agriculture on the environment is key to limiting climate change and biodiversity loss.

Sustainable activities are those that meet the needs of the present without compromising the ability of future generations to meet their own needs.² Due to the agricultural sector's complexity, however, a standard narrative on sustainable agriculture is yet to emerge, leading to greenwashing and incremental change.

In 2019, Climate Bonds developed science-based guidelines and screening criteria for assets, projects and activities based on mitigation, resilience, and adaptation considerations to support investors in identifying climate-credible agri-food investments. These Agriculture Criteria are a set of rules and standards designed

specifically for agricultural projects and assets to encourage the transition of the agricultural sector towards more sustainable and climate-friendly practices.³ These are now being updated to include transition pathways and address biodiversity loss, water and waste management, circularity, and just transition under the *Agri-food Transition Programme*.⁴

As part of this update, the Principles for Credible Transition and guidance for corporate transition plans have been published to enable investors to identify credible and net zero-aligned investments using the Hallmarks and Principles, which are further detailed below. An essential element of the transition is clear timelines for improvement for different practices alongside phase-out dates for activities that cannot align with net zero.

The Climate Bonds Transition Principles specify the fundamental requirements for transition plans and activities to be credible and ambitious (Figure 1). As such, any entity, activity or project meeting these principles contributes substantially to attaining the Paris Agreement goals and is eligible for capital investment with a climate or environmental mandate. 6 Whilst they were initially designed to address GHG emissions reductions, they could also be adapted to other agri-food system goals such as biodiversity and water protection, pollution prevention or just transition. This approach is currently being developed in the updated Climate Bonds Sector Criteria due 2024, focusing on key areas for agri-food transition finance, such as crop and livestock production.

This report presents and exemplifies the use of Climate Bonds' screening toolkit, applied to the agri-food sector in Brazil. It presents two case studies, and then examines the main financial instruments, barriers, challenges, and solutions.

The Carbon Disclosure Project (CDP)

defines a climate transition plan as a timebound action plan that clearly outlines how an organisation will pivot its existing assets, operations, and entire business model towards a trajectory that aligns with the latest and most ambitious climate science recommendations i.e., halving greenhouse gas (GHG) emissions by 2030 and reaching net-zero by 2050 at the latest, thereby limiting global warming to 1.5°C.5

Figure 1: Five Transition Principles.⁷

Principle 1. Credible transition goals and pathways align with 1.5°C global warming limits.



Principle 2: Credible transition goals and pathways are established by the climate science community and are not entity specific.



Principle 3: Credible transition goals and pathways don't count offsets, but should count upstream scope 3 emissions as much as possible.



Principle 4: Credible transition goals and pathways take into account technological viability, but not economic competitiveness.



Principle 5: Credible transition means actually following the transition pathway – pledges and policies are not sufficient.



Climate Bonds Agri-Food Transition Programme

In 2021, Climate Bonds
launched the Agri-food
Systems Transition
Programme (ASTP), under its
wider transition programme.
The overarching goal was
to mobilise global capital for financing the
transition of key sectors of the economy to align
with a net-zero, resilient, and sustainable future
as well as ensure deforestation and conversion
free agri-food production. The programme had
two key outcomes that contribute to this goal:

Outcome 1: to build a common shared understanding, that is rooted in climate science, of 1.5-degree and climate resilient transition pathways (and associated standards) that are consistent with other food system transition outcomes.

Outcome 2: to facilitate financial instruments; including SLBs and loans, transition bonds, and green bonds to be issued for demonstration purposes by public and private sectors, using common definitions and standards, for the finance of credible transition assets, activities, and strategies in agri-food systems.

Relevant Sector Criteria development started in early 2023. Crop Production, Livestock Production and Deforestation/Conversion-free sourcing will be the first under development and available for Certification under the Climate Bonds Standard. The new Criteria will build upon Climate Bonds existing Agriculture Criteria, which can already be used to Certify assets and activities.

This transition guidance acknowledges that to meet global climate goals, businesses and organisations must implement systematic changes across their operations, not just within specific projects or assets. The transition framework, developed in line with the Paris Agreement's goals, outlines criteria that entities must meet to demonstrate the ability and intent to transition. These criteria cover operations, including business models, strategic planning, governance structure, as well as clear, sciencebased benchmarks for reducing GHGs, limiting global warming to below 1.5°C above preindustrial levels. The framework also emphasises the need for a credible, robust, transparent transition plan, which demonstrates how the entity intends to transform its operations and align with a low-carbon, climate-resilient trajectory over time. The transition plan is subject to independent assessment and approval, ensuring transparency and credibility. This framework is called the Hallmarks of credible transition and these five Hallmarks are captured in the Triple A framework of Ambition, Action and Accountability (Figure 2). Together these demonstrate the company is willing, able, and transparent about moving toward a sustainable future.

The five Hallmarks enable an encompassing view of a company's transition plan, taking into consideration the following:

- **a. The level of ambition** of the targets set (Hallmark 1 which itself encompasses the five Transition Principles);
- **b. The willingness and ability to deliver** on those targets (Hallmarks 2 to 4); and,
- **c.** General reporting robustness and transparency (Hallmark 5).

To address concerns from issuers and investors over the burden of information and reporting requirements while maintaining robustness and credibility, the Hallmarks focus on the essentials needed to demonstrate a credible transition. While complementing existing ESG frameworks and methodologies, this framework also goes beyond them. It emphasises key governance elements that indicate a company's willingness and ability to deliver on its decarbonisation targets. It also adds the granularity to ensure those targets are ambitious and aligned with agreed climate goals. This framework was built upon material from the Transition Pathways Initiative and the Climate Action 100+ benchmark, CDP's initiatives (Assessing Low-Carbon Transition Initiative and Science Based Targets initiative), UN's Race to Zero, ICMA's SLB Principles and the TCFD recommendations. All of these frameworks have been designed to improve information for investors or offer guidance to corporates, with the objective of driving ambitious corporate action.

Figure 2: Triple A transition plan framework and five hallmarks⁸ Action **Accountability Ambition Performance** Robust Action Governance Disclosure targets plans Climate Vision Interim Board and Information to mitigation milestones senior disclose Strategic executive Adaptation and narrative Annual Comparability responsibility resilience verification of and Action plan (Re) setting and accessibility progress Nature scope 1, 2 & 3 monitoring GHGs Just transition targets and plans Action plans - other Corrections performance targets Internal policy alignment Sensitivity analysis Hallmarks 2 & 3 Hallmarks 4 & 5 Hallmark 1

The Hallmarks can be used by investors to scrutinise the strategies of companies and determine their environmental credentials. In order to do that, the Hallmarks should be applied respecting the following hierarchy:

- There must be a public commitment to ambitious targets (Hallmark 1);
- **ii.** These targets are only valid when the foundation has been established to deliver on them (Hallmark 2):
- **iii.** There must be evidence of change derived from tangible milestones in the corporate strategy and capex/opex investments (Hallmark 3);
- iv. Internal feedback must be present to track progress and recalibrate plans if necessary (Hallmark 4);
- **v.** External reporting is essential to build trust in the market (Hallmark 5).

Transition Plans need to include

 Key Performance Indicators (KPIs): measurable values such as a company's total greenhouse gas (GHG) emissions; and



• **related Performance Targets** (PTs) to define what needs to be achieved, e.g., a 50% reduction in GHGs by 2030.

A company's specific KPIs need to be:

 relevant, which is defined as being material to the firm's core sustainability and business strategy, and addressing relevant sector environmental, social and/ or governance challenges. They also need to be under management control, of high strategic significance to the firm's current and/or future operations,;and

- **measurable** or quantifiable on a consistent methodological basis,
- externally verifiable, and
- able to be benchmarked using external references or definitions.

Transition Plans must also define a robust and transparent implementation plan to define how they will achieve their goals.

Insights for investment opportunities

The first step to identifying potential investments in the agri-food sector is to target those companies with transition strategies, and assess the pathways using the Hallmarks and Principles for credible transition to establish whether a company has environmental credentials. Large corporates in the sector such as Bunge, Syngenta, Marfrig, Minerva Foods, Carrefour, Danone, Nestle and Amaggi have formally disclosed their strategies within their sustainability reports. 9,10,11,12,13,14,15,16 Among these names, two case studies were selected to serve as benchmarks illustrating how companies should be assessed against the tools provided by Climate Bonds. **Brief recommendations** are made on the main actions the company should continue doing, as well as aspects that it should review and/or where it should provide more information

Syngenta case study

Syngenta is a leading science-based AgTech company, serving millions of farmers worldwide, and provides various inputs for food and fibre production, such as pesticides, herbicides,



fungicides, and fertilisers. The company is the source of relatively large scope 1, 2 and 3 emissions, and potentially poses threats to other environmental assets, such as biodiversity and water through its activities. The company publicly commits to fast-track innovation and invest in promoting more sustainable agricultural practices, beneficial for nature, farmers, and society as a whole. The following analysis was conducted based on the company's 2021 ESG report and its Carbon Disclosure Project (CDP) annual reporting. 17,18

The Syngenta Foundation for Sustainable Agriculture (SFSA), an integral part of the company, is dedicated and reported to be spearheading innovation that bolsters small-scale farmers in developing countries with the declared aim of enhancing their productivity, income, and resilience. The Foundation concentrates on improving seed access, offering insurance, and providing agricultural services. In support of these initiatives, SFSA is involved in research and development with the goal of increasing yields for smallholdings, and advocates for policies fostering better opportunities for farmers and rural youth.

Syngenta underscores its commitment to transparency by disclosing its transition KPIs as part of the Good Growth Plan (GGP). The term GGP is used to define the company's ESG strategy, which seeks to deliver on these KPIs

through strategic actions and consistently reporting on its progress. Syngenta targets scope 1, 2 and 3 emissions. Scope 3 emissions include 12 of the 15 scope 3 categories under the CDP Reporting framework, excluding only the categories: use of sold products, franchises, and investments. Regarding the use of sold products, the company states that the end-use of its products results in carbon savings through the more efficient use of resources and land in the agricultural value chain.

Continue:

Governance structure

Review: Transition pathway 1.5°C aligned

Provide: A broader financial strategy to meet performance targets

Hallmark 1: Performance targets

Under the GGP, Syngenta has established targets categorised into four groups, each aligned with a primary objective:

1. Accelerating innovation for farmers and nature which includes continuous investment in sustainable agricultural breakthroughs, delivering two new sustainable technological innovations each year, and striving to minimise residues in crops and the environment.

2. Striving for carbon-neutral agriculture,

which involves measuring and facilitating carbon capture and mitigation in agriculture, improving biodiversity and soil health on three million hectares of rural farmland annually, and a reduction of 50% in the carbon intensity of Syngenta Crop Protection and Seeds operations by 2030.

3. Helping people stay safe and healthy which includes achieving zero incidents in operations, training eight million farm workers annually on safe usage, and advocating for fair

labour throughout the supply chain.

4. Partnering for impact involves building cohesive partnerships and publishing their sustainability objectives, initiating innovation dialogues for inclusive consultation on sustainability, and implementing board-level sustainability governance.

Simultaneously, the company's carbon reduction targets are set and validated by the Science Based Targets initiative (SBTi) guidelines, marking them as science based. SBTi asserts Syngenta's pathway aligns with sector-specific guidelines to limit warming below 2°C although the company is encouraged to augment its ambition further to become fully aligned with a 1.5°C scenario.

Additionally, all targets within the GGP are declared to be aligned the UN Sustainable Development Goals (SDGs), clarifying the primary objectives. In general, targets are comprehensive and embed major environmental and several social issues. However, Climate Bonds encourages Syngenta to broaden its targets, confronting additional risks its activities may trigger, such as those related to the unabated use of pesticides, herbicides, and fungicides. While Climate Bonds recognises that these inputs are essential for thriving global agriculture and food safety, the development of a global target prioritising the shift, where possible, to less harmful solutions, such as biocontrol and biofertilizers, is recommended. Even though Syngenta has been investing and developing in these areas through acquisitions and research, the company needs to restructure its business model and prioritise these solutions over chemical inputs.

Hallmark 2: Foundation and Hallmark 3: Implementation plans



Syngenta's stated long-term objective is to foster and establish a stronger foundation for sustainable agriculture. While



Climate Bonds commends Syngenta's meticulous disclosure of GHG emissions from scopes 1, 2, and 3 upstream processes, these boundaries exclude the deleterious effects its products may pose to the environment and society. Climate Bonds encourages Syngenta to assess these risks more rigorously and establish clearer plans to tackle this broader issue.

Despite these disclosures, the strategy lacks specific information regarding the corporate vision for its future business model. Climate Bonds encourages Syngenta to formulate a more in-depth, strategic narrative detailing the interim or stranded activities, which articulates how they will be phased out and provides insights into the company's future business model.

Syngenta has implemented a delivery plan for all primary objectives outlined in its ESG strategy. To reach the 2030 carbon intensity reduction target for GHG emissions in scopes 1 and 2, the company is concentrating on enhancing manufacturing process efficiency, designing and rolling out site-specific energy-saving programmes, expanding the proportion of renewable energy sources, and collaborating with crop protection and seed suppliers to diminish their carbon footprint. Syngenta's internal policy framework, the Health, Safety, and Environment Policy Framework (HSE), aligns with its ESG plan execution.

However, the strategy would benefit from further details on the finance plan, including the financial implications of the strategic narrative and the action plans. The company should elaborate on how future investments and financing will facilitate the achievement of its performance targets.

Hallmark 4:



by the Board of the parent company, Syngenta Group Co. Ltd., which offers strategic guidance on all sustainability issues. The Board also delegates some of its responsibilities and powers to the Syngenta Group Sustainability Committee, the senior management body responsible for the company's ESG strategy. This committee oversees sustainability concerns within innovation and operations, and assesses the company's sustainable practices. It supervises the company's sustainability framework and standards, including public ESG reporting, its plan, strategic sustainability partnerships, and innovation dialogues. Moreover, it reviews and provides advice on the effectiveness of internal policy implementation, as each member is tasked with incorporating sustainability into their responsibility.

Hallmark 5: Disclosure

Syngenta maintains an up-to-date and easily accessible repository of all information pertinent to its ESG plan on its website. The company clarifies how these disclosures align with its materiality matrix, selected frameworks like GRI, SASB, UNGC, SDGs, and the GGP. Syngenta also identifies which performance indicators have been subjected to external assurance. Finally, as noted above, Syngenta reports against the CDP questionnaire.

Amaggi case study

Amaggi, a major Brazilian corporation, plays a significant role in the agri-food value chain. Its operations encompass the production of grains and fibres, the sourcing of



agricultural commodities, and the processing and trading of these products. The company's logistical activities include managing terminals, ports, grain warehouses, soy-crushing plants, a fertiliser blending plant, and providing transportation services via water and land. Furthermore, Amaggi has been ramping up its investments in renewable energy generation through five Small Hydropower Plants (SHPs) and six solarpowered plants located in Mato Grosso. It has a global presence with offices and operations across Brazil, China, Argentina, Paraguay, the Netherlands, Norway, and Switzerland.

Amaggi has set ambitious goals, including achieving a 100% monitored and traced grain supply chain (soy and maize), free from deforestation and conversion (Deforestation and Conversion Free - DCF) from the field to the port by 2025. The company also aims to reach netzero emissions by 2050. It commits to the Science Based Targets initiative (SBTi) with strategies to decarbonise by 2035 and neutralise potential residual emissions. These targets are backed by a detailed implementation plan, subject to external auditing, and fully disclosed in the Amaggi ESG Report 2022.19

Continue: Pursuing science-based targets.

Provide: Broader guidance on reducing global emissions; a more detailed long-term financial plan.

Hallmark 1: Performance targets

Amaggi's states that performance targets are based on sciencebased guidelines such as those provided by the Science Based Targets initiative (SBTi), aligning the company's ambition with 1.5°C pathways, with specific milestones in 2035 and 2050 (see below). These targets are divided into environment, social, and governance. Furthermore, each target is linked to a specific UN SDG, clarifying the core objectives.

Environmental targets encompass:

• Providing innovative products and solutions for an ethical, zero-deforestation and conversion of native vegetation, regenerative, and lowcarbon value chain;

- · Investing in renewable energy to maintain selfsufficiency in production versus consumption;
- Ensuring a grain supply chain that is 100% monitored and traced, free from deforestation and conversion (DCF) for agricultural production until 2025 for direct suppliers, and applicable to all biomes, countries, and regions where the company operates;
- Achieving net-zero emissions by 2050, aligning with the SBTi through decarbonisation strategies by 2035 and neutralisation of potential residual emissions, primarily through promoting regenerative, low-carbon agriculture capable of protecting biodiversity;
- Remaining DCF (since 2008) for agricultural production on owned farms, ensuring expansion only in existing areas.

Social targets include:

- Encouraging initiatives to bolster agricultural productivity and income for small farmers, with a focus on rural women and family farmers;
- Ensuring and promoting a healthy environment that prioritises safety, quality of life, and the well-being of employees and contractors;
- Significantly increasing the number of courses offered to employees and contractors through AMAGGI University;
- Investing in actions to develop critical suppliers in the chain and facilitating the professional development of vulnerable individuals for decent work opportunities;
- Highlighting the positive impact generated in the communities where the company operates, prioritising projects in strategically significant territories for the business and the most socially, economically, and environmentally vulnerable populations;
- · Upholding activities that respect and promote human rights in all operations and throughout the value chain, especially among indigenous peoples and traditional communities.

Governance targets comprise:

- · Enhancing the communication process of relevant ESG issues to stakeholders concerning metrics, indicators, form, and content;
- Implementing a diversity program by 2025, aiming at social inclusion for all;
- · Ensuring the continuous improvement of the company's corporate governance and relations with all stakeholders that preserves a culture of integrity, ethics, responsibility, risk management, and best business practices;
- Maintaining the Confidential Channel for all stakeholders and the Woman Channel to address non-compliance with the Amaggi Code of Ethics and Conduct.

Hallmark 2: Foundation and Hallmark 3: Implementation plans

Amaggi has structured a strategy for its transition plan, highlighting strategic objectives and priorities aligning with the company's targets.



Amaggi's vision and strategic narrative both align with social and environmental aspects. For instance, Amaggi's productive activities occur outside full protection conservation units and indigenous lands boundaries. The company implements policies and monitoring activities to ensure respect for traditional communities, family farmers, and land use rights. Additionally, the company has initiated a pilot programme to monitor the flora and fauna of the agricultural landscape, forming a task force to understand its comprehensive impact on biodiversity.

Amaggi has established a clear roadmap featuring action plans, milestones, and initiatives that it is currently implementing (or planning) to achieve its performance targets. The company effectively uses internal policies to support this strategy, frequently revising and adapting them to meet future target requirements.

This implementation plan highlights the Originar traceability platform, designed to ensure compliance with social and environmental criteria. This tool comprehensively monitors the entire grain supply chain using satellite imagery for socio-environmental and agricultural production analysis. This is cross-referenced with the company's commercial data, enhancing

safety and traceability. Originar 2.0 continuously refines its process for monitoring suppliers and tracing the grains sourced, adopting geospatial identification of all suppliers at the point of product trading.

Climate Bonds commends the company's annual release of the GHG emissions report via the Public Emissions Registry of the Brazilian GHG Protocol Programme. This report includes scope 1, 2, and 3 (upstream) emissions, clearly associating data fluctuations over time with their causes and highlighting actions to address each indicator. Despite the clarity in reporting structure and a 31% reduction in scope 2 emissions, the company disclosed an increase of 83% in scope 1 and 23% in scope 3 emissions its 2022 ESG report. The company attributes the increase of scope 1 to:

i. Completion of the system integration
 process initiated after the acquisition of O Telhar
 Agro Group's operations in Brazil;

ii. The governance improvements resulting from this process which have enabled more accurate reporting;

iii. The expansion of cultivated area through the optimisation of less agriculturally suitable areas within farms, which required increased investment in inputs and the use of agricultural practices tailored to the soil characteristics;

iv. An accidental fire outbreak accounting for 67% of the total increase in emissions within this scope.²²

For the increment in scope 3 emissions, the company states that increased agricultural production and, consequently, higher shipping and export volumes were the main cause.

Climate Bonds strongly opposes the increase in Amaggi's GHG emissions. This goes against the objective of transition strategies to align industries to 1.5°C pathways, which are essential to meeting the Paris Agreement goals. Rather than increase GHG emissions, Amaggi needs to develop a better strategy to reduce global emissions in line with its decarbonisation targets.

Furthermore, Climate Bonds recommends more clarity in Amaggi's ESG reporting on the financial actions to fund their transition plan. The disclosure of the finance plan should encompass more than just its current sustainable debt issues. It should also outline future deals and funding plans to support the company's performance targets.

Hallmark 4: Governance

The Board provides general guidance for business, policies, targets, and long-term goals. As such, they oversee the company's transition strategy, approving and monitoring targets. The Director of ESG is the Board member responsible for

executing the plan and ensuring all necessary resources are available. This structure is ideal for delivering a credible transition plan.

Hallmark 5: Disclosure

Amaggi ensures that all information pertinent to its sustainability plan is accessible and regularly updated on its website. The company prepares all its reports and disclosures in compliance with the guidelines set by the Global Reporting Initiative (GRI).²³

Overview of financial instruments

Recent innovations in
Brazilian agri-food financing
have broadened financial and
capital market opportunities.
This trend is set to continue,
as agriculture remains a
critical sector for the country's economy,
contributing to social justice and overall welfare,
both of which are key policies of the current
government elected in 2022.

In the Brazilian capital market, popular agricultural finance instruments include the Agribusiness Letter of Credit (LCA), Rural Product Notes (CPR), Agribusiness Receivables Certificate (CRA), and Investment Fund in Agro-industrial Production Chains (FIAGRO). Although trade finance instruments are less widely used in the sector compared to the instruments mentioned above, they have potential to serve as a sustainability lever and should be considered by both issuers and investors.

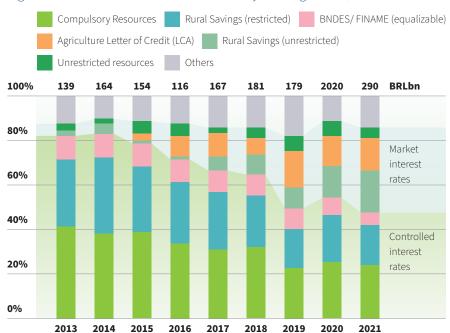
LCAs have become an important funding source for rural credit in Brazil, increasing from less than 1% of rural credit flows in 2014 to 15% in 2020, which represents approximately BRL43bn.²⁵ LCAs are particularly appealing to domestic investors due to their 35% income tax exemption, which goes towards funding rural credit.

CPR is a credit instrument rural producers and cooperatives use to secure resources, primarily for production costs. Despite its widespread use, the extent of its usage has been obscured as most transactions still need to be officially registered. Recent regulatory changes, however, mandate that all CPRs must be registered as of 2024, resulting in a surge in registered transactions by over 400% in 18 months. Registration is an important factor for investors, as it assures the instrument is being priced properly and administered according to local legislation. By the end of 2021, registered CPR transactions reached BRL86bn with volumes expected to align with the total amount of rural credit by 2024.²⁶

The Green Rural Product Certificate (Green CPR), designed to fund reforestation activities and natural resource protection on rural properties, represents a promising innovation to traditional CPR. The barrier to uptake of Green CPRs is the requirement for specific methodologies to verify and validate environmental services.

CRAs, backed by receivables, are another form of fixed-income security. Companies can transfer their receivables to a securitisation company, which will issue CRAs for capital market trading, usually supported by a financial institution. This allows the company to anticipate its receivables. Although CRAs have historically been backed by a single corporate credit, the market is starting to explore diversification to broaden potential

Figure 3: Evolution of share of rural credit by funding source; total in BRLbn.²⁴



 $Source: SDA\ Socioeconomic\ Development\ Advisors\ based\ on\ Brazilian\ Central\ Bank\ Data\ (2022).\ Available\ at:\ https://dadosabertos.bcb.gov.br/$

issuers, which could lead to a strong expansion of the registered CPR market.

FIAGROS, a new addition to financial instruments, are investment funds encompassing various agrifood assets, including credit rights, real estate, securities, and company shares. Since their legal creation and approval in 2021, FIAGROS have seen good market uptake and have the potential to spur market growth, opening up agri-food assets to new investors.

Brazil is one of the largest potential markets for sustainable finance growth in sectors related to land use and agri-food. A 2020 Climate Bonds report Unlocking Brazil's Green Investment Potential for Agriculture highlighted an estimated USD163bn investment potential up to 2030.27 Sustainable finance mechanisms are becoming widely recognised as important alternatives. The Land Use category of the Climate Bonds Taxonomy, which covers agriculture, livestock production and forestry, is a prolific source of green, sustainability, sustainability-linked and transition bonds representing around 60% of the total volume originating from Brazil. Other agriculture related sectors, such as renewable energy (including bioenergy), industry, buildings, water, waste and transport are also relevant across these labels and together represent around 30% of Brazil's total issue volume across these four labels.

Brazil has committed to pricing its first sovereign sustainability bond in Q4 2023. The Sovereign Sustainability Bond framework was published in September 2023, and the Climate Bonds Brazil team have collaborated with the Treasury on best practice. ²⁸ This deal is expected to attract crowding in from the private sector and encourage the momentum for green market creation. The sub-sovereign market is limited in Brazil, due to guarantees required from government for municipalities and states willing to issue any kind of debt; a procedure always blocked by Brazil's financial regulators.

Finally, trade finance instruments currently have a limited share of overall rural credit volumes (fluctuating between 10–12% over the last 4 years) but are also an important channel of investment for the sector.²⁹ They can embed sustainability guidelines and benefits into the agri-food value chain. The Advance on Foreign Exports Contracts (ACC) and Exports Advance Payment (ACE) are the two primary trade finance instruments in Brazil, covering about 40–50% of overall Brazilian exports. The ACC provides working capital for the pre-shipment stage, while the ACE reduces payment delays for shipped goods.

The International Chamber of Commerce (ICC) was the first to propose definitions and guidelines for sustainable trade finance, stating that sustainable trade involves the import, export, or trade of goods and services that actively support the UN SDGs. ICC's approach encompasses all sustainability dimensions (beyond environmental) and is recognised across jurisdictions.³⁰

Barriers, challenges and solutions

The Brazilian agri-food sector promotes optimism in terms of economic growth, GHG emissions mitigation, and the advancement of social justice through the assurance of both



domestic and global food security. As a competitive producer of livestock and livestock feed, Brazil sees growing demand for these products. Yet, these commodities have a high environmental impact and a substantial GHG footprint. Despite noteworthy strides in reducing the carbon footprint of its major agricultural products, Brazil still has a considerable journey towards achieving net-zero emissions, a target of utmost importance, given that climate change could adversely impact the country's agricultural production.

Companies focusing on building adaptation and resilience to climate impacts will be better equipped to thrive amidst the emerging physical and regulatory transition risks. The transition also presents numerous opportunities regarding new technologies and business models. Over the past decade, more than 1500 start-ups have been established, each committed to solving challenges farmers and other stakeholders face in the value chain. These companies operate across various segments in the agri-food sector, contributing to a vibrant innovation landscape. The Brazilian Agriculture Research Corporation (EMBRAPA) plays a crucial role in this landscape, conducting fundamental and applied research to provide the scientific inputs necessary to scale up innovation.

While Brazil's agri-food sector is a significant recipient of Foreign Direct Investment (FDI), and possesses enormous potential within an innovative environment, some key structural issues could deter investment. A significant challenge lies in the bottlenecks in farmgate-to-farmgate investment risk assessment, where lenders and debt holders who are usually farmers and growers, often need to provide more detailed financial information and traceable operations. Additionally, improved infrastructure and increased funding relative to farm support is required to develop the sector, with demand for larger investments in transport networks and rural infrastructure.³¹

Despite Brazil's comparatively low public support for the agri-food sector, the government maintains a wide range of price and credit policies, such as interventions in the credit sector through interest rate subsidies and mandating that banks allocate at least 29% of their demand deposits to agricultural lending. While larger farmers who can borrow on international markets see limited benefits from this controlled credit system, it burdens medium-sized farmers and other industries forced to borrow domestically at market rates. Implementing reforms could reduce the misallocation of resources and reduce the cost of borrowing.

Finally, there is increasing pressure globally for the establishment of traceable, sustainable and deforestation-free supply chains, which will have to be addressed by the public and private sectors in Brazil in order to maintain access to international markets. The European Union has adopted a new regulatory framework to curb the bloc's impact on global deforestation and forest degradation around the world. The EU Deforestation Regulation (EUDR) requires any company importing or exporting certain products derived from cattle, cocoa, coffee, oil palm, rubber, soya, and wood from or to the EU to prove the products are deforestation-free through extensive due diligence on the value chain. The regulation defines a product as deforestation-free when the product itself, its ingredients, or its derivatives were not produced on land subject to deforestation or forest degradation after the deadline of 31 December 2020. These requirements will come into effect in 2025, 18 months after adoption by the European Parliament and Council. In addition, the Corporate Sustainability Due Diligence Directive (CSDDD) 'will set out a horizontal framework to foster the contribution of businesses operating in the single market to the respect of human rights and the environment in their own operations and through their value chains, by identifying, preventing, mitigating and accounting for their adverse human rights, and environmental impacts, and having adequate governance, management systems and measures in place to this end.'32

Outlook

A well-functioning agri-food sector is crucial for ensuring food safety, promoting human health, and overall well-being. However, the Brazilian agri-food sector is also a major contributor to the country's deforestation, a substantial emitter of GHGs, and is associated with risks such as diminished water quality and biodiversity loss. To align with the Paris Agreement targets, entities operating in this sector must establish ambitious yet achievable transition goals and redesign aspects of their operations. This transformation across the entire value

chain requires financial capital throughout the transition journey. Consequently, investors need to be prepared to recognise credible opportunities that will definitively support this process.

Climate Bonds is responsible for developing tools and outlining processes that ensure capital flows are meeting the transition needs of companies following appropriate pathways. The Five Transition Principles and Hallmarks for credibly transitioning companies are practical examples of such tools. These guidelines can be used to screen companies in the agri-food sector, thereby identifying credible investment opportunities.

The case studies presented indicate that major companies in the sector are preparing transition plans and embedding them in their sustainability reporting which is a crucial step forward. The transition conversation is in the early stages, and the companies assessed still have gaps to fill but transition plans can be fleshed out as new opportunities to decarbonise become available. Investors can support entities that have credible transition plans and encourage more issuers to commit to a decarbonisation journey.

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