BRAZIL GREEN FINANCE INITIATIVE

AGRICULTURE SUBCOMMITTEE

Unlocking Brazil's Green Investment Potential for Agriculture

Executive Summary

Unlocking Brazil's Green Investment Potential for Agriculture

Brazil has the largest potential for green bond market growth in the agriculture sector. The country is the largest exporter of beef, poultry, soy, coffee, orange juice, sugar, and the second-largest exporter of corn. To date, the use of green bonds has been limited to major export players on forestry. Thus, this Roadmap aims to provide a greater understanding and visibility on the landscape of green investment opportunities across Brazils agriculture and support the creation of a pipeline for green bond issuance and other labelled debt instruments.

Brazil's Sustainable Agriculture Potential

Over the past four decades Brazil transformed its agriculture sector. Technological advances, combined with dedicated policies, public investments and technical assistance, allowed for an increase in productivity without a relevant expansion of the occupied area, currently at 7.8%. The country developed a solid framework of public policies for the reconciliation of environmental conservation and sustainable agriculture production.

Brazil has set a robust Forest Code and an ambitious Low Carbon Agriculture (ABC) Plan. Through the Forest Code the country has conciliated safeguarding the remaining natural areas by requiring private properties to set-aside land for conservation and biodiversity protection. While, the ABC Programme, credit line to finance rural producers under the ABC Plan, has encouraged the adoption of low carbon technologies. Agriculture, land use and forestry are also central towards meeting the Brazilian Nationally Determined Contributions (NDCs).

Investment Pipeline

Taking Brazil's environmental legislation, Low Carbon Agriculture Plan and climate commitments as a starting point, and further consultation with local stakeholders, USD 163.3 (BRL 692.4) billion in green investments were identified for this Roadmap. There is a significant pipeline across agriculture, livestock, renewable energy, forestry and transport which can be leveraged and Brazil has the potential to serve as a global example of how the rising demand for green investments can successfully drive sustainable agriculture production.

> *The launch of this investment roadmap will promote green bonds as one of the important financial tools for driving investments in agriculture in Brazil. Defining sustainable standards for agriculture is essential and central to our work.*
>
> **Tereza Cristina,** Minister of Agriculture, Livestock and Food Supply

Theme[1]		Amount (USD/BRL)	Horizon	Metric
Environmental Legislation	Environmental Regularization Programme - PRA	32.5/138 billion	2030	19 million ha
Agriculture	Biopesticides	190/806 million	2025	-
	Biofertilizers	1.4/6 billion		-
Livestock	Recovery of Degraded Pastures	68.6/291 billion	2020+	75 million ha
	Animal Waste Treatment (ABC Plan)	471.6 million/ 2 billion	2020	2.7 million m^3
	ILPF (ABC Plan)	4.2/17 billion	2020	4 million
	IPF (Forestry and Livestock)	5.1/ 21.9 billion	2030	5 million
Renewable Energy	Solar Energy	1.1/4.5 billion	2029	1.3GW
	Biofuel Production	16.3/69,5 billion		50.7 billion litres
	Co-Generation	2.9/12.5 billion		5GW
	Biogas	4.5/19 billion	2030	7.2 billion nm^3
Forestry	Plantation Forestry	4.2/18 billion	2030	4 million ha
	Pulp &Paper/ Wood Panels	7.7/32.6 billion	2023	63 million tons/1 thousand m^3
Transport	Railroad and Ethanol Pipelines	14/ 59.6 billion	2030+	16.539 km
Total Opportunities				USD 163 (BRL 692.4)

1 The table above illustrates potential green investments in Brazil and is an estimate based on the methodology explained above. This figure is likely an underestimate as there are data gaps in important sectors.

Sustainable Agriculture Investment Pipeline

Environmental Legislation

Brazil's legislation may be used a proxy for green credentials. There are opportunities to support implementation through the restoration of environmental liabilities in Legal Reserve Areas and Permanent Areas, as well as environmental conservation in Private Properties. Transition bonds, a new category within the sustainable finance universe is an alternative to fund these assets, together with other green, sustainable and/or social debt instruments.

Agriculture

Brazil is a major agriculture player and the fourth largest exporter in the world. Productivity will continue to be central to this growth. The adoption of low carbon technologies and practices, such as no-tillage, integrated crop-livestock-forest (ICLF) and biological nitrogen fixation, biofertilizers, biopesticides and the use of low-productivity pastures for crop production will continue to increase productivity, and consequently new investment opportunities.

Livestock

Brazil is an important beef producer and exporter. Advances in productivity and efficiency will be central to grow Brazils production without the need for new pastures. The country has more than doubled its productivity in the last thirty years through technological improvements (intensification, genetics, sustainability practices). The adoption of low carbon practices (e.g. intensification of livestock production, ICLF, animal waste treatment), combined with the recovery of degraded areas not only allows for scaling more sustainable production, but for other land uses, such as crop production and planted forests.

Renewable Energy

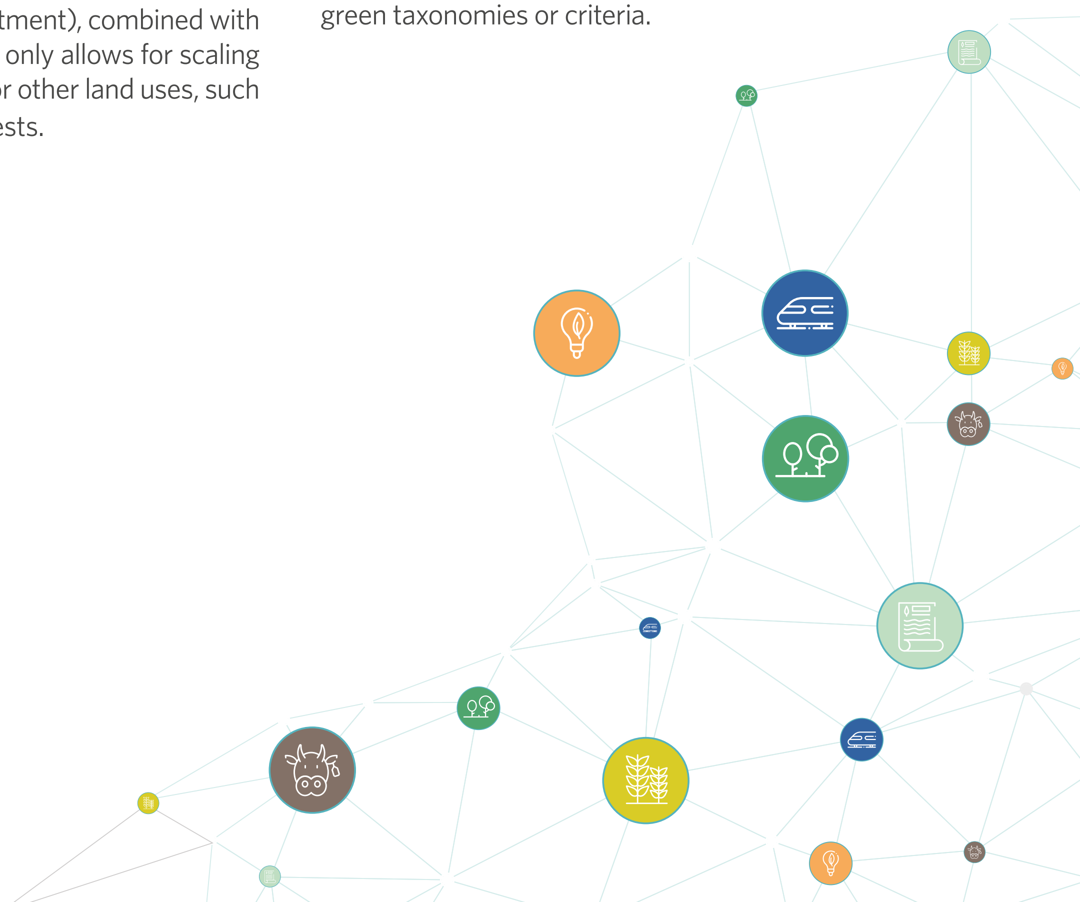
Renewable energy generation from agriculture and livestock residue and waste, bioenergy production and co-generation have a significant potential. Land for agriculture and livestock are suitable for photovoltaic systems and distributed generation may be implemented more widely for self-consumption, machinery, irrigation, and pumping. Biomass from crops and animal waste can also be used for energy generation. There is also significant potential for expanding bioenergy production, including 2G ethanol, was well as co-generation.

Forestry

Opportunities for forestry focus mainly on plantation forest and pulp and paper. The pulp and paper sector has led issuances in the land use sector in Brazil and there are opportunities to direct investment towards sustainable forestry use, conservation and restoration, non-timber forest products, and industrial activity.

Transport

Infrastructure and logistics remain a challenge for Brazil. There is an opportunity to expand low carbon transport and increase the use of biodiesel in trucks and lorries as a key to reduce carbon intensity on road transportation. There are numerous opportunities for assets and projects, under the Investment Partnerships Program (PPI) portfolio, such as bioenergy, renewables and rail if eligible under green taxonomies or criteria.



Financing Brazil's Agriculture

Public credit lines have been an essential part of financing agriculture. The annual Agricultural Plan (Plano Agrícola e Pecuário – PAP) is the main instrument and outlines programmes designed for the sector, using credit lines with differentiated interest rates between smallholders, medium, and large farmers. Producers have financed agricultural production mainly though equity and banks. However, green investment opportunities and alternative financing mechanisms may be leveraged through cooperatives, industry, suppliers and traders.

Brazil has dedicated capital market instruments for agriculture that can be labelled green and source investment into sustainable practices. Brazil's financial and capital market instruments are ready to leverage existing opportunities and attract long term (private sector) capital for agriculture at a time when public sources are becoming increasingly scarce. The most used security instruments on public issuances to finance agribusiness are the CRA and LCA, together with other general purpose instruments, such as Credit Rights Investment Funds (FIDCs) and Bonds (Debentures).

Summary of Agribusiness Finance Instruments

Instrument	Collateral	Issuers
CPR/CPR-F	Future agricultural production/ mortgages or fiduciary title of real estate/ assignment of receivables from barter operations	Rural producers, natural and legal individuals, their associations and Cooperatives
LCA	Loans backed by agribusiness credit rights between financial institutions and rural producers /cooperatives*.	Financial Institutions and Credit Cooperatives
CDCA	Agribusiness receivables, such as the CPR, Promissory Notes, duplicates, and receivables from the negotiation of agricultural products.	Rural producers and other individuals engaged in commercialization, processing and industrialization activities: agricultural products; agricultural inputs; or machinery and implements used in agricultural activities.
CRA	CPRs, CDCAs, CDA/WA, Duplicates and Promissory Notes from the commercialization of agricultural products.	Securitization Companies
CDA/WA	Products Stored in Warehouses	Storage/Warehouses

The CRA can assist producers in financing productive investments (technological innovations, production intensification, recovery of degraded areas, restoration of native forests and low-carbon farming practices). The LCA, on the other hand, can encourage banks to issue bonds or green LCAs, backed by rural credit financing operations (such as ABC loan backing, for example). The FDICs have untapped potential for securitisation of agribusiness receivables and infrastructure debentures can be used to attract new investments for sugar and ethanol production, was well as energy efficiency and on-site solar energy generation.

Important changes were introduced and attract international investments to the country's agriculture sector through Law 13.986/2020. One of the major innovations that facilitates access to capital markets is the possibility of directly issuing CRAs in the offshore market. Under this financing structure, the CRAs can be issued in foreign currency, they do not need to be deposited in local exchanges and may be registered or deposited in offshore exchanges allowing foreign investors to access CRAs without the need to open local investment accounts. **This recent development could foster and facilitate Green Bonds to medium size producers, cooperatives and other companies pertaining to the agribusiness sector**.

Step by Step Guide on How to Issue a Green Bond

Who can issue green bonds?

Producers, cooperatives, companies, suppliers, traders, distributers have a wide range of options to choose from when seeking to finance green agriculture projects or assets. Suitable green assets include conservation, sustainable agriculture and livestock, renewable energy, forestry, low carbon infrastructure, as well as climate change adaptation measures. The financing structure will depend on the issuer and project-specific elements, including regulation and market conditions. While, each financing structure involves specific procedures, the following steps intend to provide a high-level guidance when raising capital for green agriculture projects.

Step 1 – Develop a Green Bond Framework

The first step to finance a green project is to develop a green framework laying out the selection process and eligibility criteria for identifying the projects/assets to be financed. The framework should also include the tracking and reporting of allocated and unallocated funds.

- **A.** Setting eligibility criteria,
- **B.** Asset / project screening,
- **C.** Management of proceeds
- **D.** Post-issuance reporting.

Available Guidelines & Standards:

International:
Green Bonds Principles (GBP), Green Loan Principles (GLP), Climate Bonds Taxonomy and Climate Bonds Standard

Country-Specific: Brazil

Step 2 – Defining Financing Sources

Once projects/assets have been identified, the next step is to determine the most suitable way to obtain funding. Depending on the issuer, financing can be obtained through:

- **Direct investment:**
  equity, corporate debt or project finance
- **Semi-direct investments:**
  pooled vehicles, securitisations, covered bonds
- **Indirect investments:** c
  orporate bonds, participation in debt financing

Step 3 – Deal Structuring

Depending on the issuing entity, project/asset characteristics and macroeconomic factors different sources of financing may be combined. During this phase, the issuer may seek the support of financial service providers, such as banks, securitization companies, guarantee providers and specialized facilities to identify the best avenue to pursue. Once the funding instruments has been chosen, the issuer will have to prepare any documentation required by relevant regulations or by entities providing any credit enhancement mechanisms, such as due diligence reports, cash flow projections and/or valuation, financial accounts or environmental report.

Step 4 – Debt Origination and Issuance

This involves all parties that support the issuer in structuring and executing the transaction.

External Reviewer: it is best practice to arrange an external review to assess the deal's green credentials.

Arranger: structures the deal with issuer.

Legal advisor: prepares the bond prospectus and all transaction documentation, provides legal structuring advice and delivers a legal opinion.

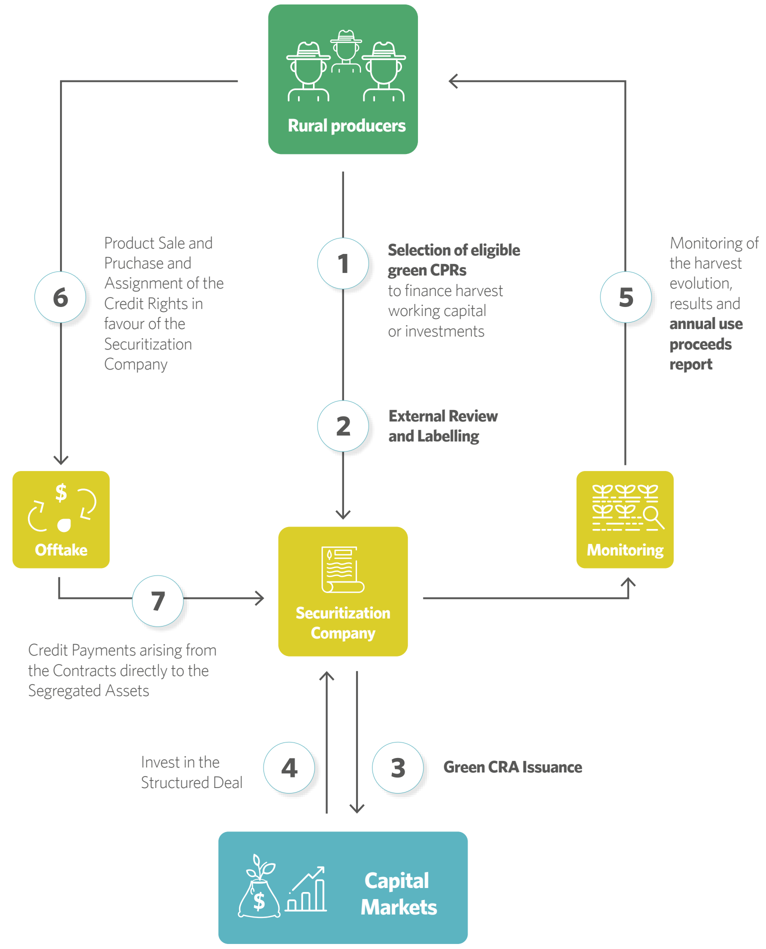
Auditor: prepares the audit report and signs off on financial disclosure in the bond prospectus/loan syndication pack.

Underwriter/lead manager/bookrunner: underwrites the deal and manages the process of selling the bond to investors.

STEP 5 – POST-ISSUANCE REPORTING

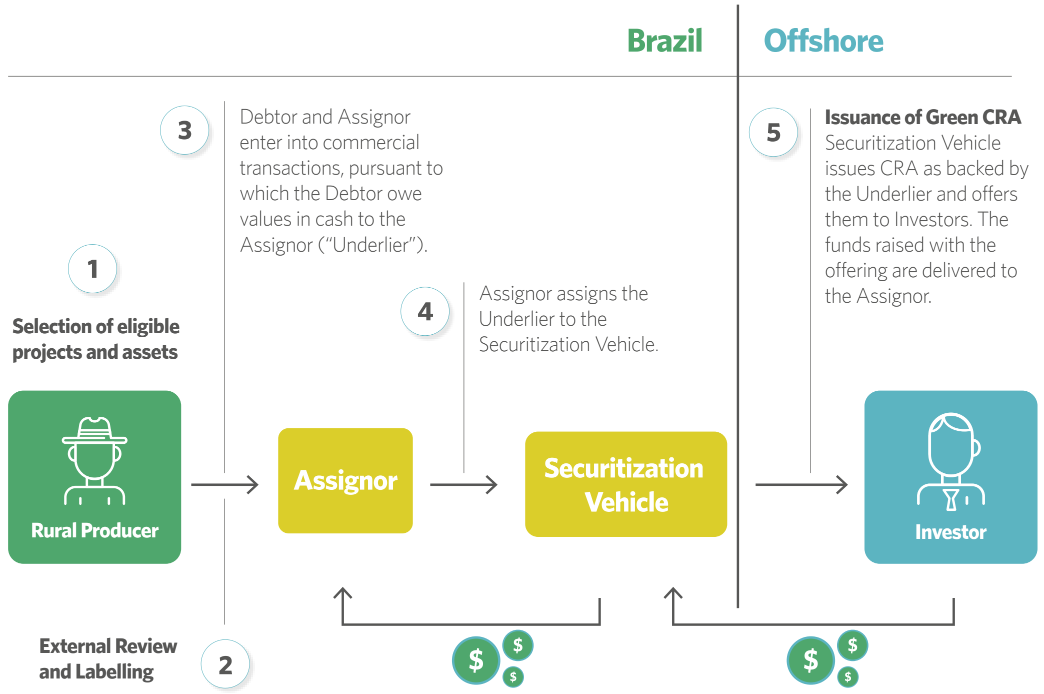
After a green bond/loan is issued, issuers must annually publish a public report on proceed allocations, detailing the financed projects and management of unallocated proceeds. As best market practice, issuers should also disclose the environmental impacts of the financed projects using appropriate metrics and benchmarks.

What this means in Practice?
Green CRA



Source: Ecoagro/Pinheiro Neto Advogados

What this means in Practice?
Green Offshore CRA



Note: This transaction can also be implemented by a direct debt transaction between the Securitization Vehicle and the Debtor. In this case, the flow of funds goes from the Investor, to the Securitization Vehicle and to the Debtor.

Source: Ecoagro/Pinheiro Neto Advogados

Recommendations for scaling sustainable agriculture in Brazil

Brazil can scale sustainable agriculture assets and projects and green finance instruments, including green bonds, through key policy and institutional changes. These measures can raise Brazil's profile as a sustainable agriculture leader, set a pipeline of investment opportunities across agribusiness and facilitate access to new sources of funding.

Key measures are:

01. Promote sustainable agriculture achievements. While the Ministry of Agriculture published "Guidelines for the Sustainable Development of Brazilian Agriculture" in early 2020 and sustainability is a pillar of its Agribusiness Market Access and Image Programme (PAM-Agro), this value still is not fully captured domestically or internationally. *Priority actions and achievements, including progress towards the country's climate commitments in agriculture, should be communicated widely to inform investors and send a strong signal to the market.*

02. Improve access to data and transparency. Use existing platforms such as the Agriculture Observatory to disclose information on public credit lines that encourage good agricultural practices, environmental legislation, preservation figures (e.g. satellite monitoring system) and progress achieved through productivity and efficiency gains. These figures are either spread out in different organisations, unavailable or outdated. *This would improve access to data and provide a better visibility of Brazil's green credentials.*

03. Expand the Low Carbon Agriculture Plan and Programme. The ABC Plan and Programme are valid up to 2020 and proved to be important instruments for the adoption of low carbon agriculture practices. *A new and improved phase could include new asset categories to increase on-farm mitigation and resilience* (e.g. new technologies to increase productivity, machinery, storage, inputs), as well as enable further implementation of existing practices.

04. Adjust regulatory requirements. To improve business environment and to facilitate producer access to capital markets.

05. Build a green investment pipeline to help investors to understand that there is a sufficiently large pool of financially attractive investments that are also green and that could scale-up sustainable practices. This would provide a clearer vision of investment opportunities across Brazilian agribusiness.

06. Incorporate climate risk within the PAP (credit and insurance). *Crop insurance should be expanded and have a wider coverage from insurance companies.* New products that consider climate and agriculture resilience patterns should also be encouraged.

07. Prioritize green financial instruments. There are a wide range of financial structures to fund Brazil's agribusiness which could be labelled as green. *Incentives such as fast tracks for green bonds (Law No. 12.431/2011), tax credit or tax exemption could encourage issuances* in the agriculture sector.

08. Provide credit enhancement mechanisms through state-owned Banks. Structures such as subordinated traches/quotas, insurances and first losses mechanisms could be applied on CRAs, FIDCs and Bonds (Debentures), leveraging state capital to attract private investors.

09. Reduce reserve requirements on green loans. This would allow banks to be more active on green/sustainable projects.

10. Issue sovereign bond to finance sustainable agriculture. This allows government to directly access capital markets to finance priority assets and projects.

11. Enable dialogues with investors and asset managers to develop a green finance market for the agriculture sector. These stakeholders are an integral part of driving demand for investments with greater returns and sustainability.

12. Champion the green finance and sustainability agenda. This could attract much needed private investment to expand agriculture production and supply chain.

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