



**NAVIGATING DEFORESTATION
RISKS AND EMBRACING
SUSTAINABILITY IN
BRAZILIAN INVESTMENTS:
A GUIDE FOR INVESTORS**

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CREDITS

Authors

Natalie Rosen (Instituto Latino-Americano para Justiça Coletiva – ILAJUC)

Content

Natalie Rosen – ILAJUC (writing), Jaciele Davi Neto – WWF-Brasil (revising), Elisa Mousinho – ILAJUC (revising), Luísa Luz de Souza – ILAJUC (revising), Leonardo Machado – ILAJUC (revising)

Technical Supervisors

Jaciele Davi Neto (WWF-Brasil)
Fabiola Matos (WWF-Brasil)
Daniel Silva (WWF-Brasil)
Jacqueline Lisboa (WWF-Brasil)
Adriana Ferranni (WWF-Brasil)
Natalie Rosen (ILAJUC)
Luísa Luz de Souza (ILAJUC)
Pedro Henrique Martins (ILAJUC)
Paulo Henrique Dantas (ILAJUC)

Design and Visual Law Application

CMPRESS Comunicação Jurídica Planejada

Content adaptation

Tatiana Akashi

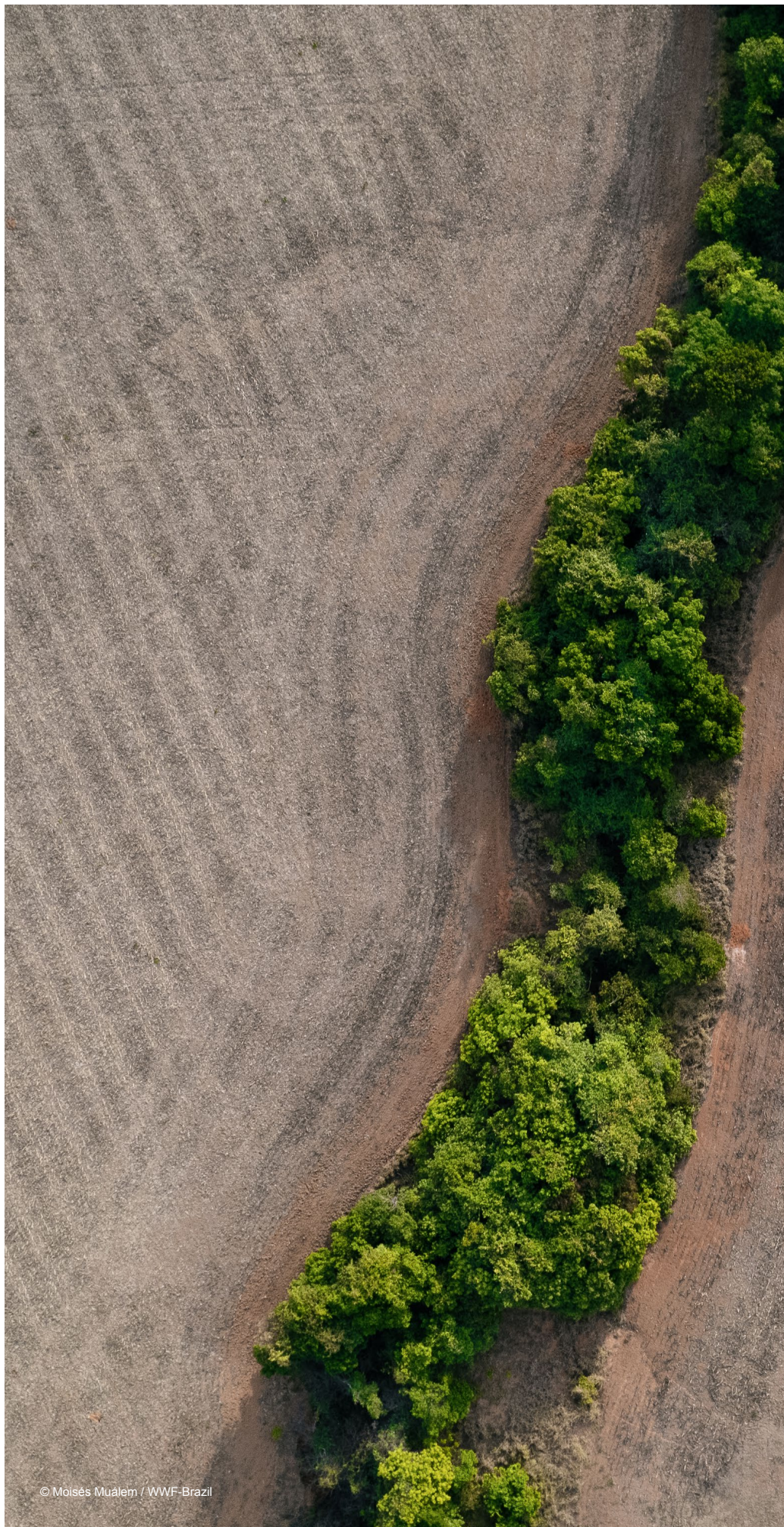
Editorial Design

Tayelen Castro, Matheus Serpa

Cover Photo

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Design by WWF-Brazil



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In the midst of climate change and mounting environmental concerns, deforestation and ecosystem conversion have become a central topic in environmental discussions worldwide.

Deforestation and conversion in Brazil, particularly in the Amazon rainforest and the Cerrado savanna, poses a pressing concern due to the critical functions these biomes serve in climate regulation, biodiversity preservation, and provision of essential ecosystem services. Nevertheless, driven by factors like agriculture, cattle ranching, infrastructure expansion, and illegal logging, deforestation and land conversion are rapidly degrading these vital ecosystems, leading to significant environmental and social consequences both within Brazil and globally.

The pursuit of global sustainability has evolved over the last few decades, shifting towards a growing emphasis on the shared responsibility of the market.

Initially, it manifested as general commitments at the government level. Subsequently, the emphasis shifted to shared market responsibility, with non-binding initiatives promoting responsible business practices and due diligence. In recent years, further developments have taken place when mandatory due diligence laws have been introduced for companies across their supply chains, and extended liability of supply chain actors has emerged. This is evidenced by a significant increase in group litigations targeting parent companies and subsidiaries abroad.

The impact of deforestation and conversion extends beyond environmental concerns, posing legal, financial, and reputational threats to all actors – including financiers – across the supply chains of companies engaged in these activities.

This guide aims to assist investors in conducting due diligence regarding deforestation and conversion. It outlines the steps investors need to take to identify, prevent, and mitigate risks associated with their investees' activities related to the production and sourcing of commodities that could contribute to deforestation and ecosystem conversion, whether legal or illegal, and related human rights violations.



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1

THE ROLE OF DEFORESTATION AND ECOSYSTEM CONVERSION IN THE CLIMATE CRISIS

The world is already experiencing the undeniable consequences of climate change, a phenomenon characterised by the rapid alteration of Earth's temperature and weather patterns.

While our planet's climate has cycled through dramatic shifts, from scorching heat to icy glaciations, these historical changes were driven by factors like volcanic eruptions or asteroid impacts and occurred over vast timescales. However, the current warming trend stands out as an unprecedented event, occurring at an alarming rate and directly linked to human activities, primarily the burning of fossil fuels. These activities release greenhouse gases that trap solar heat, causing the planet's temperature to rise at an alarming pace, with profound consequences for all life on Earth.

PLANET ON FIRE: THE ENVIRONMENTAL IMPACTS OF CLIMATE CHANGE

Climate change extends way beyond rising temperatures: its wide-ranging consequences encompass a surge of interconnected effects that are profoundly impacting our planet's oceans, ice caps, glaciers, weather patterns, human communities, and ecosystems.

MARINE LIFE RISKS



The ocean absorbs **90%** of excess heat trapped by greenhouse gases



Gradual warming



Disrupts and reshuffles marine life - shifts in temperature and acidity.
83% decline of freshwater populations¹

SEA LEVEL RISE



Heat melt glaciers ice caps, and the polar ice sheet



Sea level rise



Endangers coastal communities, heightening the risks of flooding, erosion, and population displacement - estimated to compel + **216 million** people to migrate²

EXTREME EVENTS



Intense storms



Floods



Wildfires

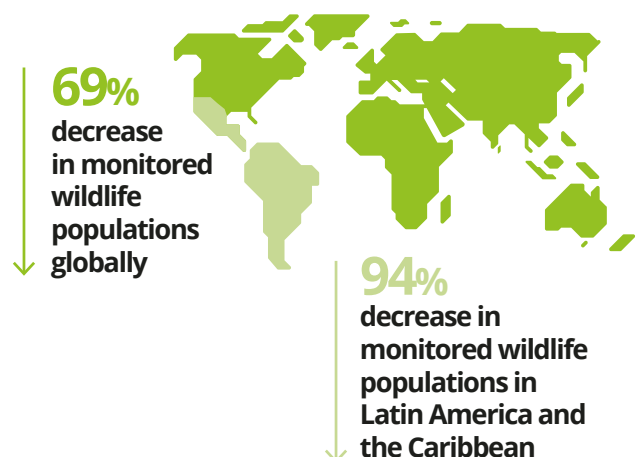


Heat waves

JEOPARDISE BIODIVERSITY AND ECOSYSTEM STABILITY



Earth's intricate biosphere faces profound disruption due to global warming, as temperature shifts, altered precipitation, and ocean conditions trigger flows of ecological responses. Species relocate, destabilising food webs and habitats, jeopardising biodiversity and ecosystem stability.³



COUNTING THE COST OF DISRUPTION: THE PRICE TAG OF CLIMATE CHANGE



Climate change presents a looming threat to the global economic landscape, exerting its influence through two closely linked avenues: tangible physical risks and the inevitable transition to a low-carbon future.

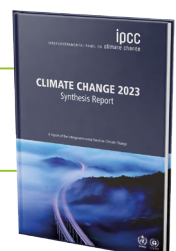
The physical risks posed by climate change are undeniable and increasingly severe. Transition to a low-carbon economy presents a distinct set of economic challenges.

THE PHYSICAL RISKS	TRANSITION TO A LOW-CARBON ECONOMY
<p>EXTREME WEATHER EVENTS (E.G. HURRICANES, FLOODS, WILDFIRES AND HEAT WAVES) Cause widespread damage to infrastructure, agriculture, and communities, generating substantial repair costs, and often cause fatalities.⁴</p>	<p>Shifting climate policies, such as carbon pricing or stricter emissions regulations, can necessitate increased business costs and potentially disrupt industries heavily reliant on fossil fuels</p>
<p>INTENSIFIED HEALTH PROBLEMS Heat-related illnesses, respiratory diseases, and vector-borne infections strain healthcare systems and reduce workforce productivity</p>	<p>New technologies, like renewable energy and energy-efficient appliances, demand significant investment from both businesses and governments</p>
<p>REDUCED AGRICULTURAL PRODUCTIVITY Jeopardises food security and increases food prices</p>	<p>Shifting consumer preferences towards sustainable products and services can threaten the profitability of those clinging to outdated practices</p>
<p>FORCED MIGRATION Disrupts established economic patterns and burdens both displaced communities and their hosts</p>	

COUNTDOWN TO CLIMATE CATASTROPHE: RACING AGAINST THE POINT OF NO RETURN

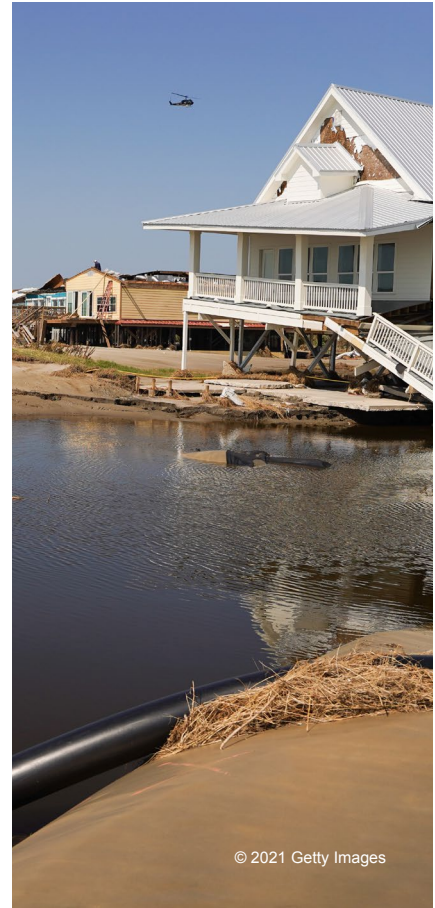
The overwhelming scientific consensus predicts that ongoing greenhouse gas emissions will continue intensifying global warming. This intensification will not be static but rather, will lead to a cascade of escalating and interconnected hazards – already affecting the world – expected to worsen in frequency, severity, and extensiveness with each temperature rise. Without intervention, this warming trajectory risks pushing the Earth’s climate system beyond critical tipping points, leading to unforeseeable and irreversible devastation for ecosystems and human societies.

Check the complete report via:
https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf p. 16.

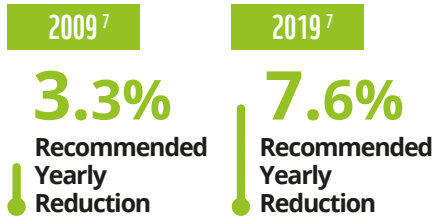


The severity of these impacts will ultimately depend on our response. Across nearly all considered scenarios and mitigation pathways, the best estimation suggests that limiting warming to 1.5°C above pre-industrial levels would reduce the chances of initiating the most dangerous and irreversible effects of climate change. However, achieving this goal requires reaching net-zero emissions (i.e. maintaining balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere), by 2050.⁵

In the **Paris Agreement**,⁶ countries agreed to limit global temperature rise to well below 2°C above pre-industrial levels and pledged to cut or curb their greenhouse gas emissions by 2030. Yet, countries are not currently on track to fulfil these commitments. With each passing year, the necessary emissions reductions become more challenging, and will soon leap to a near-impossible.



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Addressing climate challenge demands immediate and global action involving governments, businesses, financial institutions, individuals, and civil society.

The path forward necessitates taking a two-pronged approach: MITIGATING greenhouse gas emissions and ADAPTING to the changes already occurring.

MITIGATE GREENHOUSE GAS EMISSIONS

to limit future warming

- Transition to renewable energy
- Improve energy efficiency
- Protect forests
- Invest in sustainable agriculture
- Develop new technologies for carbon capture and storage

ADAPT TO CHANGES ALREADY UNDERWAY

to minimize the immediate effects of climate change

- Build resilience through early warning systems
- Improve infrastructure
- Practice sustainable land management



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CHOPPING DOWN OUR FUTURE: DEFORESTATION AND ECOSYSTEM CONVERSION, AND THE CLIMATE CRISIS

Deforestation is the extensive clearing or removal of trees and vegetation from land, typically to repurpose it for various activities such as agriculture, livestock farming, logging, mining, urbanisation, and infrastructure development. This action involves not only the conversion of forests but also the transformation of other natural ecosystems, including woodlands and grasslands, into different land uses, resulting in the loss of forests and other vegetative cover, thereby affecting biodiversity.

The current document addresses the issue of deforestation comprehensively, including ecosystem conversion within it. This broader approach aligns with initiatives such as the Accountability Framework Initiative⁸ and is particularly relevant in the context of Brazil, where widespread land use conversions, beyond forests, are common.

Deforestation and ecosystem conversion not only aggravate climate change but hold significant implications for investors.

While investors often associate climate change solely with the energy sector, they may overlook hidden risks in seemingly unrelated companies within their portfolios. Investors in such companies, whether directly or indirectly involved in deforestation and conversion through their supply chain activities, expose themselves to financial risks, reputational damage, and legal liabilities.

Thus, they must actively assess their exposure to deforestation and conversion within their portfolios, beyond the traditional energy-sector lens, and embrace a holistic understanding of environmental risks across diverse industries.

Deforestation and conversion exacerbate climate change in several ways:

In 2019, **22%** of global GHG emissions came from agriculture, forestry and other land use.⁹

Between 2010-2019, **50%** of total net of these emissions, came from CO₂ land-use, land-use change and forestry, predominantly from deforestation.¹⁰



GREENHOUSE GAS (GHG) EMISSIONS

Forests play a vital role in regulating Earth's climate by absorbing and storing carbon dioxide (CO₂), a greenhouse gas that traps heat in the atmosphere. Cutting down trees releases stored carbon back into the atmosphere, increasing CO₂ concentrations and contributing to global warming.

In addition, deforestation and conversion often involve the burning of trees and vegetation, during which, additional greenhouse gases are released into the atmosphere.



ALTERED LAND-ATMOSPHERE INTERACTIONS

Forests regulate local and regional climates by controlling temperature, humidity, and precipitation. Deforestation and conversion disrupt these patterns, altering weather, increasing evaporation, and reducing water availability.

These changes can have significant impacts on ecosystems and human societies.



LOSS OF BIODIVERSITY

Forests are home to a vast range of plant and animal species, many of which are found nowhere else on Earth. Deforestation and conversion destroy these habitats, causing species loss and biodiversity decline.



SOIL DEGRADATION

Deforestation and conversion often degrade soil, making it prone to erosion and nutrient loss. This degradation impairs the ability of forests to capture and store carbon and hinders soil productivity.



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Addressing deforestation and ecosystem conversion is crucial for mitigating climate change. Strategies that can be employed to reduce deforestation and conversion, include:

- **Sustainable forest management** that can reduce the need for deforestation by promoting efficient timber harvesting, reforestation, and sustainable land-use practices.
- **Forest and ecosystem conservation** through legal measures and conservation initiatives and practices.
- **Consumer choices** to purchase products from companies that are committed to sustainable forestry practices and avoiding products that contribute to deforestation and ecosystem conversion.
- **Policy interventions** by governments that incentivise sustainable agriculture, protect forests and natural ecosystems and hold companies accountable for their impact on deforestation and ecosystem conversion.
- **Deforestation and conversion free financing policy and deforestation and conversion due diligence management** by financiers can also play a crucial role in mitigating deforestation and conversion.

DEFORESTATION AND CONVERSION IN BRAZIL: CONTINUED PERIL TO THE AMAZON AND THE CRISIS RAGING IN THE CERRADO

The Amazon rainforest stands as the largest tropical rainforest globally, stretching over 5.5 million square kilometres across several South American countries, with Brazil housing the majority. In fact, the Amazon rainforest covers approximately 60% of Brazil's territory, encompassing states like Amazonas, Pará, Acre, Rondônia, Roraima, Amapá, parts of Mato Grosso, Tocantins, and Maranhão.

This biome is an epitome of biodiversity, boasting an extraordinary array of life forms including mammals, birds, fish, reptiles, plants, and insects. Home to approximately 427 mammal species, 1,300 bird species, 2,400 freshwater fish species, over 370 types of reptiles, close to 50,000 plant species, and a staggering 2.5 million insect species, it is also the home for more than 40 million people, including over 400 Indigenous and ethnic groups.

The Amazon biome holds immense climate significance, containing an estimated 150-200 billion tons of carbon, which are fundamental in stabilising the local and global climate.¹¹

Despite its tremendous importance, the Amazon biome faces the continued threat from deforestation. By 2020, approximately 729,781.76 square kilometres of the Amazon's rich green cover had been lost, accounting for a staggering 17% of its total area.¹² The primary drivers behind this rampant deforestation include cattle ranching, soybean production, and infrastructure development. Of particular concern is the prevalence of cattle ranching,

which alone is responsible for 80% of the forest clearing in the Amazon. Tragically, this forest clearing is often done using fires, especially in beef-producing zones, which exacerbate the environmental degradation.

On the other hand, the Cerrado, Brazil's second-largest biome, covering almost 25% of the country's land area, holds its own unique ecological treasures. This expansive tropical savanna spreads across states like Goiás, Mato Grosso, and Tocantins, is characterised by its mosaic of grasslands, savannas, and the fascinating "upside-down forest" due to its extensive underground root system. Boasting remarkable biodiversity, the Cerrado shelters an estimated 30% of Brazil's species and contributes 5% to the global total, making it the most biodiversity savanna in the world. With approximately 800 bird species, 180 reptile species, 150 amphibian species, 1,200 fish species, 90,000 insect species, 200 mammal species, and 11,000 plant species, this biome is a testament to nature's abundance. The Cerrado is also the origin for eight out of the 12 primary river basins in the country, contributing to 14% of Brazil's surface water resources and making it a crucial supplier of hydroelectric energy.¹³

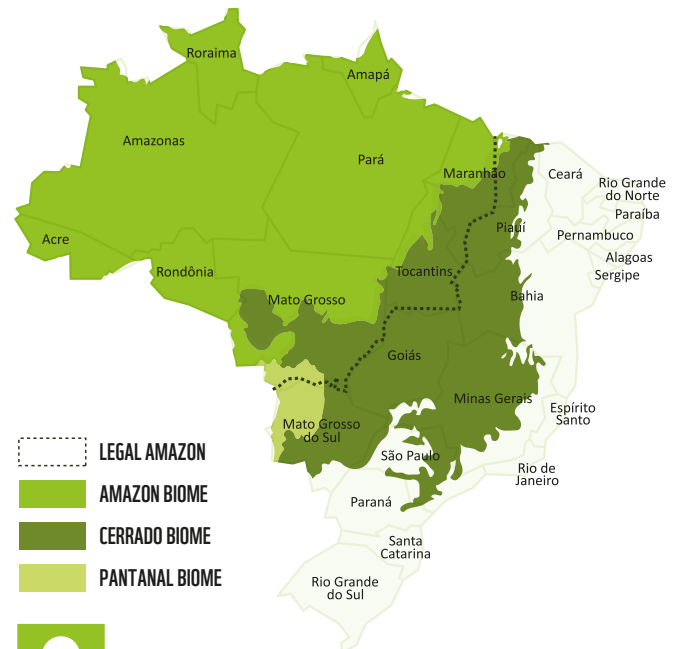
Finally, its significance extends beyond ecology, as it provides sustenance and cultural heritage for over 30 million Brazilians, including indigenous and quilombolas communities, who rely on its resources for their livelihoods and cultural practices.¹⁴

Nevertheless, the Cerrado is not immune to the scourge of deforestation and conversion. Since the 1970s, deforestation and land conversion has been steadily escalating, with each year surpassing the previous ones, resulting in the loss of 50% of the Cerrado's native vegetation by 2020, and the ongoing destruction persists.¹⁵ The flow of its rivers has already been reduced by 15%.¹⁶ The unsustainable expansion of agriculture, particularly soybean cultivation, and pasture expansion for cattle ranching, are the primary drivers behind this alarming trend. Furthermore, infrastructure development aimed at accessing previously inaccessible areas exacerbates the deforestation crisis.

As evident, the Amazon and Cerrado biomes, renowned for their extraordinary biodiversity and ecological importance, are facing dire threats due to deforestation and conversion. The consequences extend beyond the borders of these biomes. Both biomes act as massive carbon stores, which, if released into the atmosphere through deforestation and land use change, jeopardise our chances of achieving the Paris Agreement goal.

The food system plays a particularly significant role in driving deforestation and land conversion in Brazil, contributing to over 73% of the country's total gross emissions, with the beef industry alone responsible for 78% of these emissions.¹⁷

By comparison, the global food system contributes approximately 30% of the world's greenhouse gas emissions, while the rest of emissions are generated by the energy, waste and industrial sectors.¹⁸ Deforestation and land conversion, primarily for agribusiness purposes, account for a substantial portion of these emissions, underscoring the urgent need for action within this sector to achieve zero net deforestation and safeguard these invaluable natural treasures. This is crucial for preserving biodiversity, ensuring the well-being of millions of people who depend on them for their livelihoods and cultural identity, and mitigating global climate impacts.



The Legal Amazon is an administrative region defined by the Brazilian government through Law No. 1,806/1953. Its purpose is to promote the socioeconomic development of the territory, which spans nine states: Amazonas, Pará, Acre, Rondônia, Roraima, Amapá, Tocantins, parts of Mato Grosso, and Maranhão. This region includes substantial portions of both the Cerrado and Amazon biomes, resulting in an ecological overlap. This overlapping area plays a crucial ecological role as a transitional ecosystem between the two biomes. However, it is also vulnerable to threats such as deforestation and habitat degradation.



2

THE LEGAL FRAMEWORK ADDRESSING ENVIRONMENTAL LIABILITIES & DEFORESTATION: A TWO-PRONGED APPROACH

The legal landscape governing environmental liabilities and deforestation has been undergoing a significant shift. While states were previously solely responsible, new binding legislation now holds corporations accountable for environmental damage, including deforestation, throughout their supply chains. This shift recognises the role corporations play in driving deforestation and conversion and moves away from the limitations of state-centric enforcement.

THE LEGAL FRAMEWORK CONCERNING DEFORESTATION CAN BE CATEGORISED INTO TWO KEY AREAS

DEFORESTATION-SPECIFIC LEGISLATION

Initially, states bore sole responsibility. However, the landscape has been evolving towards a model of shared responsibility, with corporations now encountering increasing obligations

DUE DILIGENCE STANDARDS

Previously, these guidelines served as voluntary suggestions for responsible business practices. However, they are steadily gaining mandatory status, setting clear expectations for corporations to conduct due diligence and mitigate their environmental impact

These categories are further elaborated in the following discussion.

What does this mean for investors? Tougher regulations may now hold investors accountable for their investees' environmental violations – legally, financially, and reputationally, beyond the accountability of the companies directly engaged in deforestation. This puts investors in a unique position: having the leverage to demand stricter environmental compliance from their portfolio companies.

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INTERNATIONAL, EUROPEAN UNION, AND FOREIGN LEGISLATION COMBATING DEFORESTATION

Two international treaties have recognised deforestation as a major contributor to desertification and biodiversity loss. The **UN Convention to Combat Desertification (UNCCD)** of 1994,¹⁹ and the **Convention on Biological Diversity (CBD)** of 1992.²⁰

UNCCD

Promotes sustainable land management practices, including sustainable forestry and agroforestry, to reduce deforestation and improve land health.

CBD

Recognises the importance of forests for biodiversity and promotes sustainable forest management practices.



According to the UNCCD Global Land Outlook Report released in 2022, approximately **40%** of the world's land is degraded, primarily due to direct human activities such as deforestation for agribusiness, land conversion for agriculture or urban expansion, mining, and infrastructure development.²¹

While their primary focus differs, both treaties indirectly address deforestation through various strategies. Among these strategies are the UNCCD National Action Plans (NAPs) and the CBD National Biodiversity Strategies and Action Plans (NBSAPs) which translate treaty obligations into national actions, which often include specific targets and measures to reduce deforestation. These plans guide national policies, legislation, and investments toward sustainable land management and biodiversity conservation. Additionally, these plans can facilitate access to international funding and partnerships for deforestation control projects.

Moreover, the Paris Agreement, an international treaty under the United Nations Framework Convention on Climate Change (UNFCCC) of 2015, also acknowledges the significance of deforestation. While its primary aim is to combat climate change, the Paris Agreement recognises the crucial role of forests in carbon capture and climate regulation. Initiatives such as REDD+ (Reducing Emissions from Deforestation and Forest Degradation) are integral parts of the Paris Agreement, aiming to incentivize forest conservation and sustainable management practices to mitigate climate change impacts.

However, the effectiveness of these treaties in combating deforestation depends on individual nations' resource availability, administrative capacity and political commitment. The nuanced economic and social factors driving deforestation in each country often require interventions beyond the treaties' scope.



In recent years, the responsibility for tackling deforestation has expanded. It is no longer solely a burden of the State, but rather a shared responsibility of the market, including financial institutions.²²

This paradigm shift was exemplified by the **EU Timber Regulation (EUTR)** of 2010, which outlined the due diligence obligations of operators who place imported or domestic timber and timber products on the market to counter the trade of illegally harvested timber and timber products.²³ In 2023, the EUTR was repealed and replaced by a more sweeping regulation – the **EU Deforestation-Free Regulation (EUDR)**.²⁴ The motivation behind the new regulation stems from the recognition that the production of numerous everyday EU commodities, such as soy, beef, palm oil, wood, cocoa, coffee, rubber, and their derived products (for example, leather, chocolate, tires, furniture, etc.), is closely tied to deforestation and forest degradation. This practice results in the destruction of vital ecosystems, contributes to increased carbon emissions and exacerbating climate change.²⁵

Starting from December 30, 2024, in accordance with the EUDR, any operator or trader placing these commodities on

the EU market or exporting them from it, must conduct due diligence to ensure they are deforestation-free throughout their supply chains and adhere to the laws of the country of production. They are required to furnish a due diligence statement containing the geolocation of production plots, along with a risk assessment to ascertain compliance.

Penalties for non-compliance include fines amounting to at least 4% of the operator's EU-wide turnover from the previous financial year, confiscation of relevant products and/or revenues gained, and temporary prohibition from placing the commodities on the EU market or exporting them.²⁶

The EUDR clarifies that “a focus only on legality could potentially entail a risk of lowered environmental standards with a view to obtaining market access. Therefore, the new EUDR should address both legality and whether the production of relevant commodities and relevant products is deforestation-free.”²⁷

GOOD TO KNOW

The EUDR, while a European legislation, has global implications, especially for Brazilian commodities. Even if production complies with Brazilian laws, it may not meet the EUDR's requirement for deforestation-free supply chains.

Having said that, despite its expected impact in reducing deforestation, it is important to note that the EUDR's narrow definitions of forest and deforestation-free mean that it currently does not cover large areas of the Cerrado savanna. In these areas, EU demand for commodities such

as soy and beef creates a high risk of deforestation and land conversion. It has been claimed that, including “other wooded land” in the regulation would have significantly increased the amount of the remaining Cerrado biome covered by the EUDR, from 26% to 82%.²⁸

EU DEFORESTATION-FREE REGULATION (EUDR)

GOAL

Ensuring that certain commodities and products associated with deforestation and forest degradation are prevented from entering the EU market or being exported from the EU.

DEFORESTATION FREE

Commodities and products were not produced on land deforested after December 31, 2020. For wood-containing products, the wood was harvested without inducing forest degradation after December 31, 2020.

RELEVANT COMMODITIES



TIME-LINE

- **29 June 2023**
Entered into force.
- **30 Dec 2024**
The new rules will become applicable. Exemptions and specific provisions will be applicable for micro and small enterprises (SMEs).

OPERATORS (companies that place commodities on, or export them from, the EU market)

OBLIGATIONS

Implement due diligence system to manage and mitigate risks.

Obtain geolocation information of all plots of land where the relevant commodities were produced.

Include the date or time range of production.

PROHIBITIONS

Placing onto the EU market, or exporting from the EU, commodities that are linked with deforestation and forest degradation.

Placing onto the EU market, or exporting from the EU, commodities that have not been produced in accordance with the laws of the producing country, including respect for human rights, indigenous rights, land use rights, and environmental protection.

TRADERS (those trading goods which are already placed on the EU market)

OBLIGATIONS

Be able to trace buyers and suppliers on their supply chains.

Store information on their supply chain for at least 5 years.

Share information on their supply chain with competent authorities (upon request).

Large Traders (those who are not SMEs) are required to meet due diligence obligations of Operators.

Other than international and EU legislation, there are also domestic legislations aimed at tackling illegal deforestation.



UNITED KINGDOM ENVIRONMENT ACT 2021²⁹

- Prohibits the use of commodities sourced from illegal deforestation throughout the supply chains
- Demands due diligence and public transparency from major companies operating in the UK
- Imposes fines and sanctions on those who fail to comply

UNITED STATES BILL OF THE FOREST ACT 2021³⁰

Once enacted, will:

- Mandate that products entering the US market meet certain requirements, including ensuring traceability throughout the supply chain, to minimise the likelihood of involvement in illegal deforestation

Alongside binding legal frameworks, various non-binding international initiatives have played a crucial role in tackling deforestation. These initiatives have been instrumental in raising awareness, mobilising stakeholders, and securing significant pledges to reduce deforestation and enhance transparency in specific sectors.

Key Non-Binding Initiatives includes:

NEW YORK DECLARATION ON FORESTS (2014): ³¹	BONN CHALLENGE (2011): ³²	ROUNDTABLE FOR RESPONSIBLE SOY (RTRS): ³³
<ul style="list-style-type: none"> • Calls for global action to protect and restore forests and provides a framework for forest action. One of its goals is to halve deforestation by 2020 and end it by 2030. • Endorsed by over 150 governments, companies, indigenous peoples, and civil society organisations at the 2014 Climate Summit. Since then, the number of endorsers has grown to over 200. 	<ul style="list-style-type: none"> • Global initiative aiming to restore 350 million hectares of degraded and deforested land by 2030. • Endorsed by over 65 countries and 100 businesses. 	<ul style="list-style-type: none"> • Non-profit organisation founded in 2006 that aims to promote sustainable soy industry and prevent soy production chain from contributing to environmental degradation or social injustice. • Serves as a global platform for multi-stakeholder discussions and initiatives aimed at soy producers, featuring a global certification programme promoting responsible soy production practices. As of 2016, the RTRS Soy Production Standard includes zero deforestation.

DUE DILIGENCE: THE SHIFT FROM OPTIONAL TO MANDATORY

The idea of corporate sustainability due diligence is based on the principle that businesses have a responsibility to act with due care and respect for human rights and the environment. This goes beyond legal compliance to proactive measures to identify, prevent, mitigate, and account for the actual and potential negative impacts of a company's activities. Due diligence does not stop at a company's own operations but goes into its supply chain.

The concept of due diligence has evolved significantly in recent years. Initially, it was largely driven by voluntary initiatives led by the UN³⁴ or the OECD.³⁵ These initiatives provided frameworks for responsible business conduct and had a great

influence in shaping responsible business behaviour across various sectors.

However, voluntary efforts proved insufficient to confront escalating environmental and social challenges. Pressure for mandatory due diligence grew, aiming to guarantee corporate adherence to international norms, hold businesses accountable for their impacts, and level the playing field to ensure that all companies face the same standards. This led to the enactment of several groundbreaking due diligence laws. While they differ in focus and liability, all are grounded on the principles of due diligence.



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2017

FRANCE DUTY OF VIGILANCE LAW³⁶

Players: Large businesses and international corporations with significant presence in France.

Requirements: Define clear measures to prevent negative impact on human rights and the environment throughout their operations and supply chains.

Penalties: Non-compliance subjects the businesses to penalties.

2021

GERMANY SUPPLY CHAIN LAW³⁸

Players: Large companies operating and located in Germany.

Requirements: Implement a risk management system to identify, prevent, and address human rights and environmental risks in their supply chains.

Penalties: Fines of up to €8 million or up to 2 percent of the average annual turnover of the last three financial years, and possible exclusion from being awarded public contracts.

2021

NORWAY TRANSPARENCY ACT³⁷

Players: Businesses domiciled in Norway, and foreign businesses that offer goods and services in the country.

Requirements: Conduct due diligence on human rights and decent working conditions in line with OECD due diligence guidance.

Penalties: Fines or injunctions that limit business activity (yet to be defined).

2021

EU DRAFT DIRECTIVE ON CORPORATE SUSTAINABILITY DUE DILIGENCE³⁹

UNDER NEGOTIATION

Players: Large companies operating in the EU market.

Requirements: Implement due diligence measures to prevent and address environmental and human rights harms throughout their operations and supply chains, by reports and public oversight.

Penalties: Potential sanctions for non-compliance.



Similar proposals for corporate human rights and environmental due diligence laws are under process in the Netherlands, Spain, Belgium and the UK.

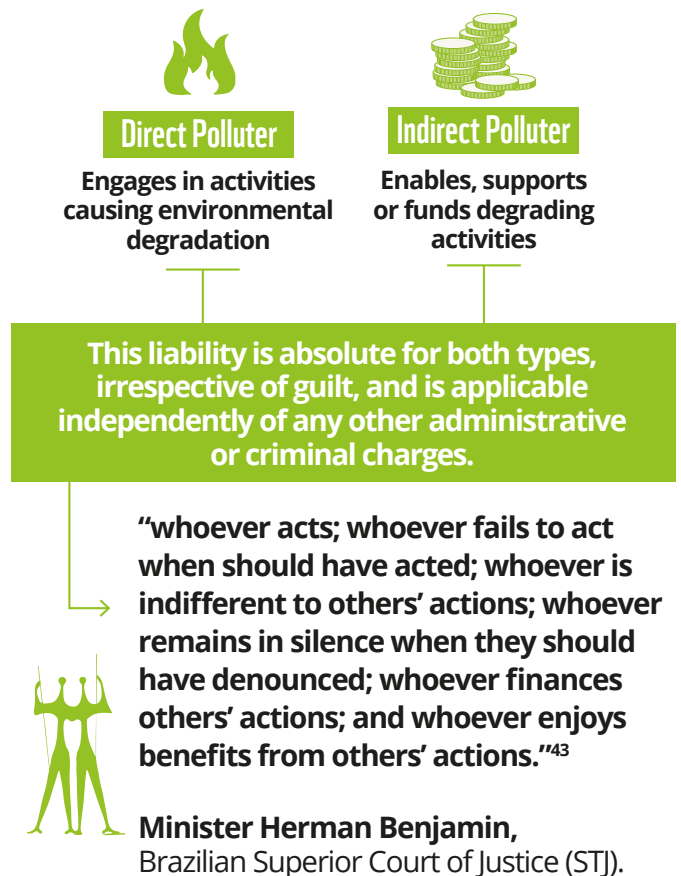
BRAZIL'S ENVIRONMENTAL SUSTAINABILITY FRAMEWORK: KEY LEGISLATION AND TOOLS

Article 225 of the Brazilian Federal Constitution serves as the foundation of environmental law and policy in Brazil. It guarantees every individual the right to a balanced environment essential for maintaining a healthy quality of life. This provision underscores the shared obligation of both the government and society to preserve it for present and future generations.

The core principle underlying such responsibility is the principle of intergenerational equity, which underscores the importance of considering the long-term implications of environmental and development policies to meet the needs of both present and future generations. The principle highlights fairness in resource utilisation and conservation across generations and is at the heart of the foundation of sustainable development.⁴⁰

Moreover, the Constitution indirectly references the polluter pays principle within environmental law, which is explicitly established in an earlier legislation, the **National Environmental Policy Act**.⁴¹ This principle holds accountable those responsible for environmental damage, mandating them to cover the costs, including the restoration of degraded areas and compensation for environmental harm.⁴² Its purpose is to deter polluters from shifting environmental burdens onto others, encourage the adoption of measures to minimise environmental harm, and ensure accountability for their actions.

The National Environmental Policy Act, which delineates fundamental principles and guidelines for environmental protection in Brazil, categorises polluters into two types: direct polluters, who directly engage in activities causing environmental degradation, and indirect polluters, who knowingly allow, support, or finance such activities. This legislation extends the polluter-pays principle to both direct and indirect polluters. This liability is absolute, meaning that culpability is not a factor, and it applies irrespective of any other administrative or criminal liabilities that may arise.



GOOD TO KNOW

The National Environmental Act not only facilitates the process of holding financial institutions accountable for environmental damage caused by the projects they finance, categorising them as indirect polluters, but also mandates official public credit entities to perform environmental due diligence before granting financing or incentives, ensuring adherence to legal standards.⁴⁴ The potential liability of financial institutions and investors regarding environmental damage is not merely theoretical; recent cases have confirmed this concept in practice.

In 2016, IBAMA fined the Spanish bank Santander of more than **\$15 million** for allegedly financing soybean and corn cultivation linked with deforestation on federally protected land in the Amazon rainforest.⁴⁵

In 2019, the Public Ministry of Labour (MPT) filed several Civil Public Actions against Banco do Brasil, Bradesco, BTG Pactual, Caixa Econômica Federal, Itaú, Safra and Santander, for neglecting the socio-environmental risk when granting credit to businesses related to the exploitation of slave labour and other human rights violations.⁴⁶



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Brazil's regulatory framework for protecting forests and other forms of native vegetation is governed by the **Forest Code of 2012**.⁴⁷ This updated code, replacing its 1965 predecessor, covers a significant portion – approximately 58% – of the national territory, which amounts to about 490 million hectares. It imposes crucial land use regulations for private landowners across rural and urban areas, establishing minimum requirements for preserving forests and other forms of native vegetation on all rural properties. Central to this conservation endeavor are the Permanent Preservation Areas (APP) and Legal Reserves (RL).

PERMANENT PRESERVATION AREAS
(Áreas de Preservação Permanente, APP)



LEGAL RESERVE
(Reserva Legal, RL)

Designated zones encompassing riverbanks, springs, hilltops, and other ecologically sensitive areas.

Clearing of forests and native vegetation is strictly prohibited (with limited exceptions) to ensure sustainable clean water flow, prevent soil erosion, and maintain biodiversity-rich habitats.

Designated portion of private land, depending on biome and location, dedicated for conservation to protect native flora and fauna, foster ecological balance and contribute to biodiversity preservation.

Clearing of forests and native vegetation is prohibited in the portion of land allocated as legal reserve.

80% of private land in the Amazon and **20-35%** of private land in the Cerrado must be designated as legal reserves.

In the Cerrado, if the private land is situated within the Legal Amazon region, **35%** of the land must be allocated as legal reserve; otherwise, only **20%** needs to be allocated.

One of the innovative aspects of the Forest Code is the Rural Environmental Registry (Cadastro Ambiental Rural, CAR)⁴⁸. This nationwide public digital database compiles crucial data on each rural property, including location, conservation areas (APP, RL and others), and land use patterns and possessions. By mandating this registry for properties over one hectare, the Forest Code promotes transparency and empowers environmental monitoring and protection.

GOOD TO KNOW

Under the Forest Code, financial institutions can only provide agricultural credit, in any form, to rural property owners registered in the Rural Environmental Registry (CAR).⁴⁹



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The Forest Code also introduces the Environmental Compliance Programme (Programa de Regularização Ambiental, PRA),⁵⁰ offering rural landowners and occupants a pathway to environmental compliance and sustainable land use. By registering their property in the CAR and adhering to the PRA, individuals can regularise their land use and open a range of benefits. The programme promotes responsible land management through personalised plans, addressing degraded areas, conserving preservation zones, and ensuring legal compliance. Participation in the PRA enables landowners to avoid fines and sanctions associated with environmental infractions, access financial incentives and credit, and

obtain essential environmental licences for their activities.

Significantly, clearing of forests and other native vegetation, even when carried out in regions not governed by conservation regulations, is only allowed with a permit known as the Vegetation Suppression Authorisation (Autorização de Supressão de Vegetação, ASV),⁵¹ which is issued by environmental agencies operating at both federal and state levels. These agencies include the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) at the federal level and the State Environmental Secretariat (Secretaria de Meio Ambiente, SEMA) at the state level.



Vegetation Suppression Authorisation

(Autorização de Supressão de Vegetação, ASV)

According to the Forest Code, clearing of forests and native vegetation, even in areas without conservation restrictions, requires this license.

Key conditions for obtaining the ASV:

- ✓ Clearing of forests and native vegetation must be for legally authorised activities such as agriculture, cattle ranching, or mining.
- ✓ Clearing of forests and native vegetation must be carried out in non-protected area or indigenous land.
- ✓ Clearing of forests and native vegetation must not exceed the limits set by the Forest Code.
- ✓ Clearing of forests and native vegetation must be accompanied by a plan to replant the deforested area.

IMPORTANT:

The ASV has a validity period; if the clearing of forests and native vegetation is not completed within this period, a new ASV must be obtained.



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Non-compliance with the Forest Code can result in severe consequences across administrative, civil, and criminal domains. Fines, embargos, property seizure, and even imprisonment, are potential outcomes, depending on the severity and intent of the infraction.⁵⁰ A significant consequence of violating these regulations is the loss or suspension of participation in financing lines at official credit establishments.⁵³

Deforestation is also addressed by the National Policy on Climate Change⁵⁴ through Action Plans for the Prevention and Control of Deforestation in different biomes. Specific plans for the Amazon and the Cerrado were created: The Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm) and The Action Plan for the Prevention and Control of Deforestation and Burning in the Cerrado Biome (PPCerrado). The objective of the current plans is to consolidate the efforts of various federal public bodies towards achieving zero illegal deforestation by 2030. The current PPCDAm and PPCerrado are scheduled for implementation between 2023 and 2027. These plans extensively explore the underlying causes of deforestation, identifying strategic objectives, expected results, and precise lines of action required for their attainment. They furnish clear roadmaps for advancement and serve as frameworks for continual assessment and monitoring, encompassing the setting of defined deadlines, identification of responsible entities, and collaboration with partner organisations. Both plans undergo yearly revisions to maintain their adaptability and responsiveness.

The Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm)



Key Thematic Axes | Strategic Objectives | Expected Results | Lines of Action

The Action Plan for the Prevention and Control of Deforestation and Burning in the Cerrado Biome (PPCerrado)



Key Thematic Axes | Strategic Objectives | Expected Results | Lines of Action

Key Thematic Axes

1. Sustainable productive activities
2. Environmental monitoring and control
3. Land and territorial planning
4. Normative and economic instruments to reduce deforestation and implement actions covered by other axes

In December 2023, the National Programme for the Conversion of Degraded Pastures into Sustainable Agricultural, Livestock, and Forestry Production Systems (Programa Nacional de Conversão de Pastagens Degradadas em Sistemas de Produção Agropecuários e Florestais Sustentáveis – PNCPD), was established, along with its Interministerial Steering Committee.⁵⁷

The programme's objective is to promote and coordinate public policies aimed at converting degraded pastures into sustainable agricultural and forestry systems, emphasising good agricultural practices for enhanced carbon capture. Specifically, the PNCPD aims to promote the conversion of degraded pastures into sustainable production systems, aligning with international commitments to recover degraded areas, reduce deforestation, and restore native vegetation. Additionally, it seeks to mobilise domestic and global funds to provide financial solutions to support the conversion of degraded pastures and facilitate the adoption of sustainable practices by landowners and stakeholders.

Similar to international efforts, several non-binding domestic initiatives supplement Brazilian laws to combat deforestation. These initiatives serve to raise awareness, mobilise stakeholders, and secure commitments to reduce deforestation while enhancing transparency in critical sectors.

Among these initiatives are highlighted:

- **The Amazon Soy Moratorium**

A voluntary sectoral agreement that aims to halt the purchase of soy from Amazon areas deforested after 2008. Originally implemented in 2006 and renewed until 2016, this agreement has now been extended indefinitely. The Soy Moratorium has significantly reduced soy-related deforestation in the Amazon to less than 1% of the total.

- **The Cerrado Manifesto**

A coalition comprising more than 60 Brazilian civil society organisations issued the Cerrado Manifesto in September 2017, raising grave concerns about accelerated deforestation and native vegetation loss driven by soy and cattle expansion. This urgent appeal urged government, buyers, and investors to take immediate steps to protect the Brazilian Cerrado. Shortly after, companies showcased their commitment to the cause by signing a Statement of Support (SoS), pledging to collaborate with local and international stakeholders to halt deforestation and native vegetation loss in the region. As of today, over 160 organisations have signed the SoS.



THE ENFORCEMENT OF ENVIRONMENTAL LAW IN BRAZIL: A MULTI-LAYERED APPROACH

Enforcing environmental law in Brazil is not a solo act, but a dynamic shared responsibility between various agencies at the federal, state, and municipal levels. This system, rooted in the Constitution and supported by various specialised agencies, plays a crucial role in safeguarding the environment.⁵⁸

At the federal level, the main agency entrusted with enforcing environmental laws is the **Brazilian Institute of Environment and Renewable Natural Resources (IBAMA)**, which is linked to the Ministry of Environment.⁵⁹ IBAMA issues licences and conducts monitoring activities to detect potential violations, imposing infractions and penalties upon discovery.⁶⁰ These penalties include seizing equipment used in environmental offences, imposing embargoes on property use until

violations are rectified and fines paid, suspending or revoking permits, and mandating restoration of deforested areas. Additionally, IBAMA collaborates with other government agencies, such as the police and the **Federal Public Prosecution (MPF)**, to investigate and prosecute severe offences.

Each Brazilian state maintains its own environmental agency, which mirrors IBAMA's functions within its jurisdiction. These agencies collaborate with IBAMA and play a vital role in regional enforcement efforts. Similarly, municipal environmental agencies focus on local concerns such as pollution control and waste management, ensuring compliance with pertinent environmental legislation within their respective areas of jurisdiction.

TOOLS FOR MONITORING DEFORESTATION AND LAND CONVERSION

Brazil employs a comprehensive system of remote sensing technologies and ground-based monitoring to track deforestation across its territory and identify any illegal extraction activities.

REMOTE

Management

Brazil's National Institute for Space Research (INPE)

Various monitoring systems, each serving a distinct purpose, all of which maintain online public databases. The key tools include:

PRODES Programme: Based on satellite surveillance, it provides deforestation figures in the Legal Amazon and Cerrado, along with annual updates on changes in land use and evaluations of the environmental impact of deforestation.⁶¹

DETER: Sub-program of PRODES, provides real-time alerts of changes in forest cover to support inspection and control bodies.⁶²

Programa Queimadas: Real-time informations on fire occurrences.⁶³

GROUND-BASED

Management

Brazilian Institute of Environment and Renewable Natural Resources (IBAMA)

Field inspections and investigations based on deforestation alerts generated by remote sensing systems.

Imposition of fines and embargoes for violations.

Open Data: comprehensive database⁶⁴, including a dedicated section for inspection and notices of infraction⁶⁵, with files available in .csv, .xml, and .html formats.

Additionally, the **MapBiomass** platform, developed by a collaboration of NGOs, universities, and tech firms, focuses on mapping land cover and land use, as well as monitoring water surfaces and fire scars on a monthly basis. MapBiomass also validates and produces reports for each deforestation event detected in Brazil since January 2019.⁶⁶



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3

IDENTIFYING THE FORCES BEHIND BRAZIL'S DEFORESTATION AND CONVERSION CRISIS

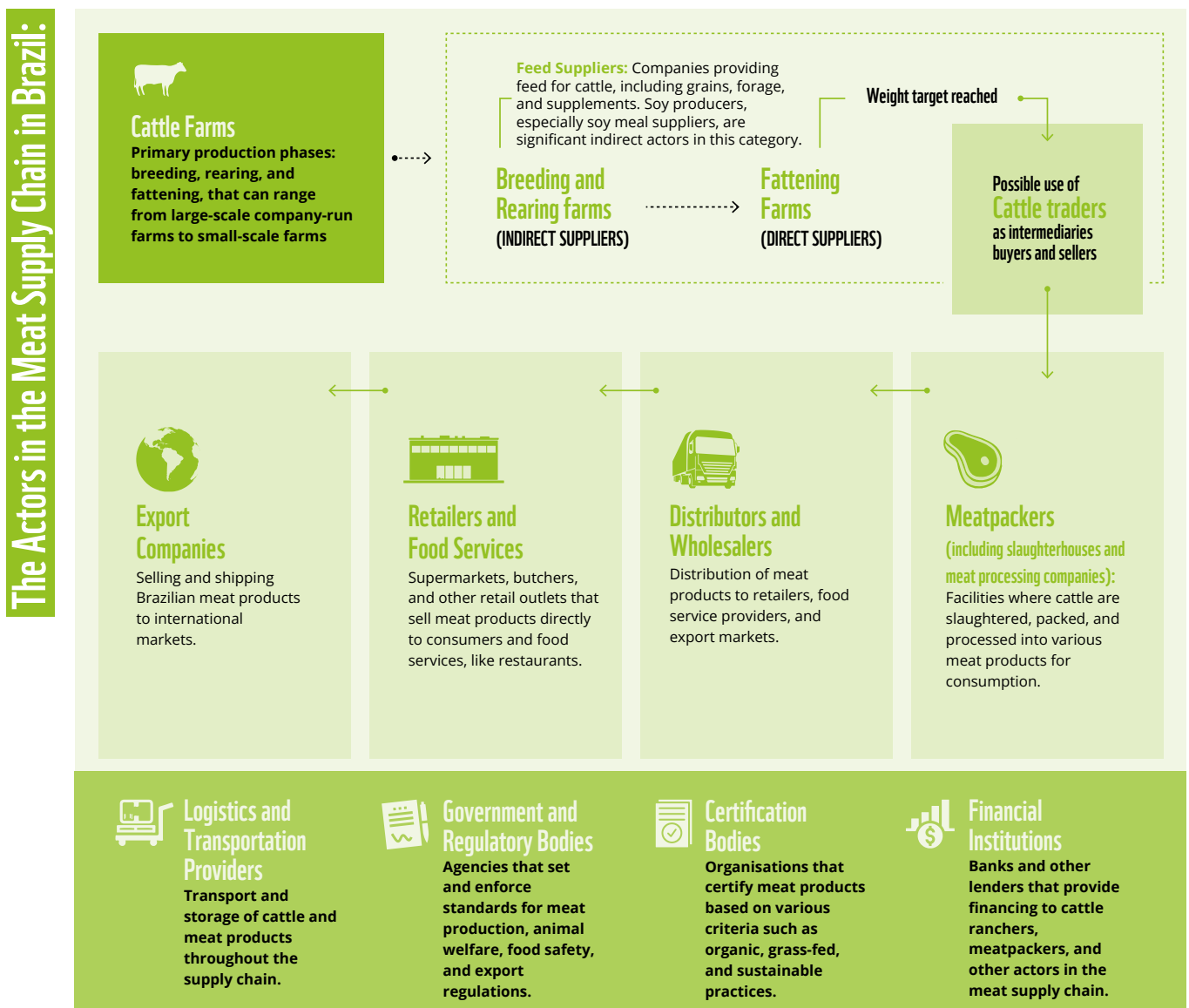
The accelerating pace of deforestation and conversion in Brazil has transformed a longstanding concern into an urgent crisis. Amazon rainforest, vital for its inhabitants and biodiversity, nears a critical threshold with around 17% deforestation, and the Cerrado biome already lost half of its native vegetation, the continuation of current trends poses disastrous environmental consequences. The discussion below examines the dynamics of deforestation and land conversion in these biomes, seeking to explain the underlying forces driving Brazil’s deforestation crisis.

CHALLENGES RELATED TO THE MEAT SUPPLY CHAIN

ACTORS IN THE MEAT SUPPLY CHAIN

The meat supply chain in Brazil is vast and intricate, involving various actors such as farmers, meatpacking companies, export companies, government and regulatory bodies, financial institutions, and consumers, both domestic and international.

Mapping out the relevant actors is crucial for understanding the challenges and identifying the risks involved.



GAPS IN THE MEAT CONDUCT ADJUSTMENT TERMS (TAC) LEAVE A SIGNIFICANT PORTION OF THE SUPPLY CHAIN UNREGULATED

Since 2009, Meat Conduct Adjustment Terms (TAC) have been signed between slaughterhouses in Pará and the Federal Public Ministry (MPF) to combat environmentally and socially harmful practices within Brazil's Amazonian cattle industry which covers around 40% of the cattle industry in Brazil.

The TAC mandate slaughterhouses to source cattle exclusively from farms adhering to legal and sustainable practices, targeting illegal deforestation, land grabbing (including raising cattle on indigenous lands or protected areas), and forced labour.

Additionally, slaughterhouses must ensure their suppliers are registered in the CAR and have no deforestation-related embargoes from IBAMA. To achieve this, slaughterhouses must implement monitoring systems to track cattle origin and verify compliance with the agreed-upon criteria.⁶⁷

The TAC were subsequently extended to other Amazonian states and now encompass Acre, Amapá, Amazonas, Mato Grosso, Rondônia, and Tocantins. While they have promoted transparency and commitment to responsible practices among direct suppliers (i.e., the fattening farms selling directly to slaughterhouses), concerns remain regarding the TACs' limitations and loopholes:

- They primarily target slaughterhouses and do not address indirect suppliers like rearing and breeding farms, where much of the deforestation occurs, or intermediaries, who are not monitored by IBAMA.⁶⁸ Furthermore, they do not hold supermarkets accountable at the end of the chain, leaving a significant segment of the supply chain unregulated.
- Initially, signing the TAC was not obligatory, even for slaughterhouses, resulting in many of them opting not to sign them and thereby not assuming the TAC commitments. This voluntary nature also resulted in unfair competition between slaughterhouses that signed the TAC and those who chose not to do so.⁶⁹
- Despite the fact that according to the TAC, failure to comply with the agreed terms may result in fines and other penalties, so far, the MPF chose not to apply any.⁷⁰

Nevertheless, recent developments have signaled a shift. In December 2022 audit, the MPF expressed its intention to broaden the TAC scope and tighten their enforcement, by:

- Requiring all slaughterhouses to sign the TAC as of January 2023, or face legal action for non-compliance.
- Subjecting companies within the agreement that fail to conduct audits to possible increased inspections by environmental agencies.
- Advising supermarkets to avoid working with non-compliant slaughterhouses and hold them accountable if they continue to sell meat from questionable sources.
- Urging banks to adapt their financing policies to avoid contributing to environmental crimes.⁷¹

UNTRACED INDIRECT SUPPLIERS FUEL ILLEGALITIES, IMPUNITY, AND CATTLE LAUNDERING

Brazil’s cattle journey between birth to slaughter, encompassing breeding, rearing, and fattening stages, suffers from a critical lack of transparency in its upstream segments. While direct suppliers are tracked, indirect suppliers – where most deforestation occurs – remain hidden in obscurity. This lack of transparency facilitates illegal activities like deforestation, forced labour, and cattle laundering, ultimately tainting the entire supply chain and deceiving consumers. Even meat marketed as “ethical” may conceal risks, exposing companies and investors to risks of reputational and legal damage.

In response to these concerns, recent years have seen the emergence of advanced traceability tools targeting indirect suppliers. These platforms, while varying in their approaches, utilise data from public sources including the Rural Environmental Registry, Animal Transit Guides,⁷² IBAMA embargoes list, Prodes monitoring system, the list of slave labour⁷³ and Indigenous and Quilombolas Lands and Conservation Units. Additionally, they incorporate voluntary declarations from suppliers.

Furthermore, a Working Group on Indirect Suppliers in Brazilian Livestock (Grupo de Trabalho dos Fornecedores Indiretos na Pecuária Brasileira, GTFI) was established, comprising stakeholders from the Brazilian beef production chain. The group’s objective is to identify, develop, and support the implementation of traceability solutions with a focus on addressing deforestation by indirect suppliers.

Current available traceability tools include:

	DESCRIPTION	PUBLIC	TERRITORIAL COVERAGE	ACCESS
SMGeo Indireto	Herd management platform to monitor the entry of animals from indirect suppliers into the production systems of direct suppliers. ⁷⁴	Suppliers	Pará, Minas Gerais, Acre, Mato Grosso, Rondônia, Tocantins, Goiás, São Paulo, Mato Grosso do Sul	Paid: private access for registered actors
Visipec	Traceability and monitoring platform to include indirect supplier properties in existing monitoring systems of meatpackers. ⁷⁵	Meatpackers (reported to be used by Marfrig ⁷⁶ and Minerva ⁷⁷)	Mato Grosso, Pará, Tocantins	Free: private access for registered actors
Pecuária Transparente (Transparent Livestock Framing Platform)	JBS transparency platform on socio-environmental compliance of their supply chain. ⁷⁸	Suppliers	Brazil (whole country)	Free: private access for registered actors
Conecta	Transparency platform on socio-environmental and health compliance of properties in the supply chain. ⁷⁹	Meet Supply Chain (Suppliers, Service Providers and Financial Institutions)	Pará and Mato Grosso (initial phase)	Paid: private access for registered actors
Selo Verde (Green Seal)	Government platform for transparency to support private sector due diligence activities and environmental policies, promoting sustainable agriculture and the fight against illegal deforestation. ⁸⁰	General Public	Pará and Minas Gerais	Free: Open access

Despite progress, the lack of comprehensive monitoring and control of indirect suppliers remains a critical gap and continues to be the primary challenge in addressing deforestation associated with the meat industry in Brazil. Despite the introduction of traceability tools, significant challenges persist regarding their effectiveness and transparency.

At the heart of this challenge lies the issue of data quality:

Rural Environmental Registry (CAR)

The CAR, which records property boundaries and environmental attribution (LR/PPA) registrations, is based on self-reported information and is therefore susceptible to manipulation and fraud. This vulnerability remains heightened because, despite its longstanding presence and significant difference between states, only 1% of the farms registered in the nine states of the Legal Amazon have been validated after analysis by the state authorities.⁸¹

One common fraudulent tactic involves illegally subdividing properties into smaller areas to sidestep consolidated registration requirements. This allows landowners to register cattle on some portions of their land while leaving other portions unregistered or separately registered, potentially facilitating illegal activities like deforestation to evade compliance hurdles.⁸²

Animal Transit Guides (Guias de Trânsito Animal, GTAs)

Animal Transit Guides (Guias de Trânsito Animal, GTAs), which is the primary mandatory document used in Brazil to record cattle movements for sanitary control purposes, provide batch traceability of cattle.

Indeed, GTAs record cattle in batches between farms and the slaughterhouse and do not identify animals individually. This means that animals from different breeding farms can compose a GTA between a rearing and a fattening farms, without providing sufficient information to know exactly how many animals come from each breeding farm. As a result, a single non-compliant breeding farm regarding socioenvironmental criteria could lead to classify a batch further in the supply chain as non-compliant, even if we have no evidence that animals in the batch come precisely from this farm.

When associated to monitoring tools for farm-level compliance, the GTAs allow to well detect non-compliant batches. However, GTAs can overestimate non-compliance in specific cases because of the lack of individual traceability information.

Finally, GTAs are only partially digitized, creating opportunities for errors and potential data manipulation.⁸³

Self-reported data

Relying on self-reported data from direct suppliers poses significant challenges to data completeness, accuracy, and reliability.

Farmers may be reluctant to disclose sensitive information about their networks, including potentially problematic farms, out of concern for their market position. Additionally, delegating validation to entities like the Brazilian Confederation of Agriculture and Livestock Farming (CNA), which may have conflicting interests, raises doubts about the objectivity and effectiveness of these control measures.⁸⁴

Despite these limitations, CAR and GTAs remain essential and widely available tools for traceability used across the nation. Implementing certain changes could help address these challenges and enhance tracking of indirect suppliers. For instance, validating the registrations in the CAR system could mitigate issues of manipulation and fraud. As for the GTAs, digitalisation would further improve accessibility and minimize potential errors. While GTAs currently only identify irregularities at the farm level and not at the individual calf level, they can encourage stricter compliance because any small irregularity detected can impact the entire farm.

There is an ongoing political debate regarding the suitability of GTAs for environmental monitoring purposes, with other solutions like RFID (Radio Frequency Identification) or ear tags for tracing individual calves being advocated to establish a more objective database.⁸⁵

In this context, it is noteworthy to mention SISBOV, the Individual Identification System for Cattle (Sistema de Identificação

Individual de Bovinos) introduced by the Brazilian government in 2002. SISBOV aims to establish traceability and individual identification of cattle from birth to slaughter for health and food safety purposes, utilizing ear tags or electronic RFID devices with unique identification numbers for each animal. Uruguay's government extensively employs RFID technology to manage and monitor all cattle in the country.⁸⁶ Integrating SISBOV with additional data and monitoring systems could potentially extend its utility to environmental traceability, aiding in tracking the origin and movement of cattle and identifying if they were raised on illegally deforested land.

While striving for a solution that monitors 100% of all cattle is ideal, implementing such a system nationwide is expected to take years (initial estimates suggested 8 years). Therefore, utilizing existing systems like CAR and GTAs should not be overlooked or discarded. Even though they may not achieve individual traceability, enhancing the quality and reliability of these tools through improvements is crucial.

CHALLENGES RELATED TO THE CERRADO AND THE DETRIMENTAL ROLE OF THE SOY INDUSTRY

While the Amazon rainforest has rightfully received significant attention for deforestation, the neighbouring Cerrado biome faces a similar threat, albeit with a distinct set of contributing factors.

REDUCED LEGAL PROTECTION OF THE CERRADO

In contrast to the stringent requirements imposed by the Forest Code on rural properties in the Amazon, where 80% of the land must be preserved as Legal Reserve (LR), properties in the Cerrado are only mandated to reserve 20-35% of their land. In other words, between 65-80% of the Cerrado can be legally deforested or cleared. This reduced legal protection allows deforestation and conversion for agriculture or cattle grazing to occur with minimal restrictions on land clearing.⁸⁷

UNSUSTAINABLE AGRICULTURE INDUSTRY

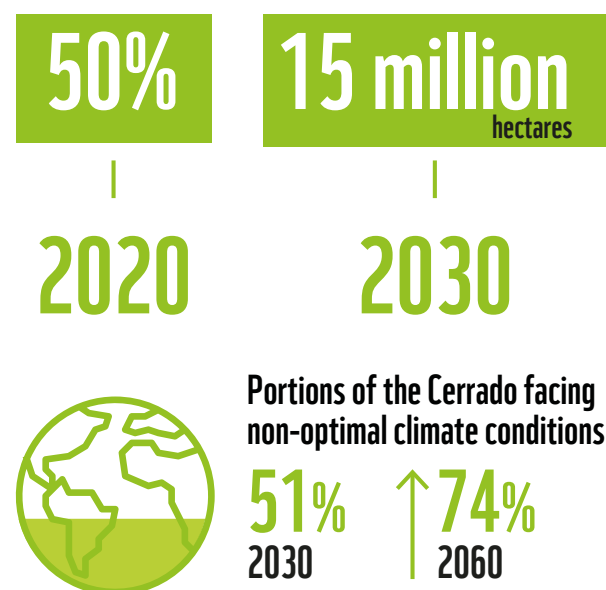
The diminished legal protection has fostered the proliferation of unsustainable agricultural practices in the industry. This trend has been exacerbated by the growing demand for agricultural goods, particularly soybeans, leading to extensive deforestation and conversion in the Cerrado and positioning Brazil as a global leader in soybean production primarily used in animal feed and various food products. With more than one-third of the world's⁸⁸ soy output coming from the Cerrado and other Brazilian regions, the demand for soybeans has spurred the extensive clearance of native Cerrado vegetation to make way for plantations. Much of this land clearance is achieved through deliberate widespread fires initiated by humans to expand agricultural and pasture areas, further intensifying environmental damage through the emissions produced. This relentless surge in unsustainable soy production has perpetuated deforestation and conversion, surpassing previous records annually and resulting in the alarming loss of 50% of the Cerrado's native vegetation by 2020, with destruction continuing unchecked.

Continuation of deforestation and land conversion persists, despite projections suggesting that the anticipated demand growth for soy and beef can be satisfied without additional land conversion by land restoration, maximising the utilisation of existing pastures, and increasing livestock density on already cleared lands.⁸⁹

Notwithstanding not being in violation of the forest code, these practices fail to adhere to global standards for responsible agriculture, contributing to the transformation of the Cerrado into vast monocultures. Monocultures, characterized by large areas dominated by a single crop or plant species, pose significant threats to the biodiversity and ecological integrity of the region. This trajectory forecasts a projected loss of tens of millions of acres of native vegetation by 2030.⁹⁰ Such loss hampers endeavours to mitigate climate change and increases the risk of experiencing its adverse effects. These effects include reduced agricultural productivity, as well as changes in river flows and rainfall patterns, which are crucial for the region's soybean agriculture, heavily dependent on non-irrigated production.⁹¹ According to recent forecasts, by 2030, approximately 51% of the agricultural regions in the area will not be within their optimal climate conditions. This percentage is expected to increase to 74% by 2060.⁹² These factors pose a threat to the climate goals of numerous food companies reliant on the region's commodities, as well as their economic productivity.

This path not only obstructs endeavors to address climate change but also endangers the climate goals of many food companies that depend on the region's resources.

Deforestation and conversion of the Cerrado present alarming predictions for the near future



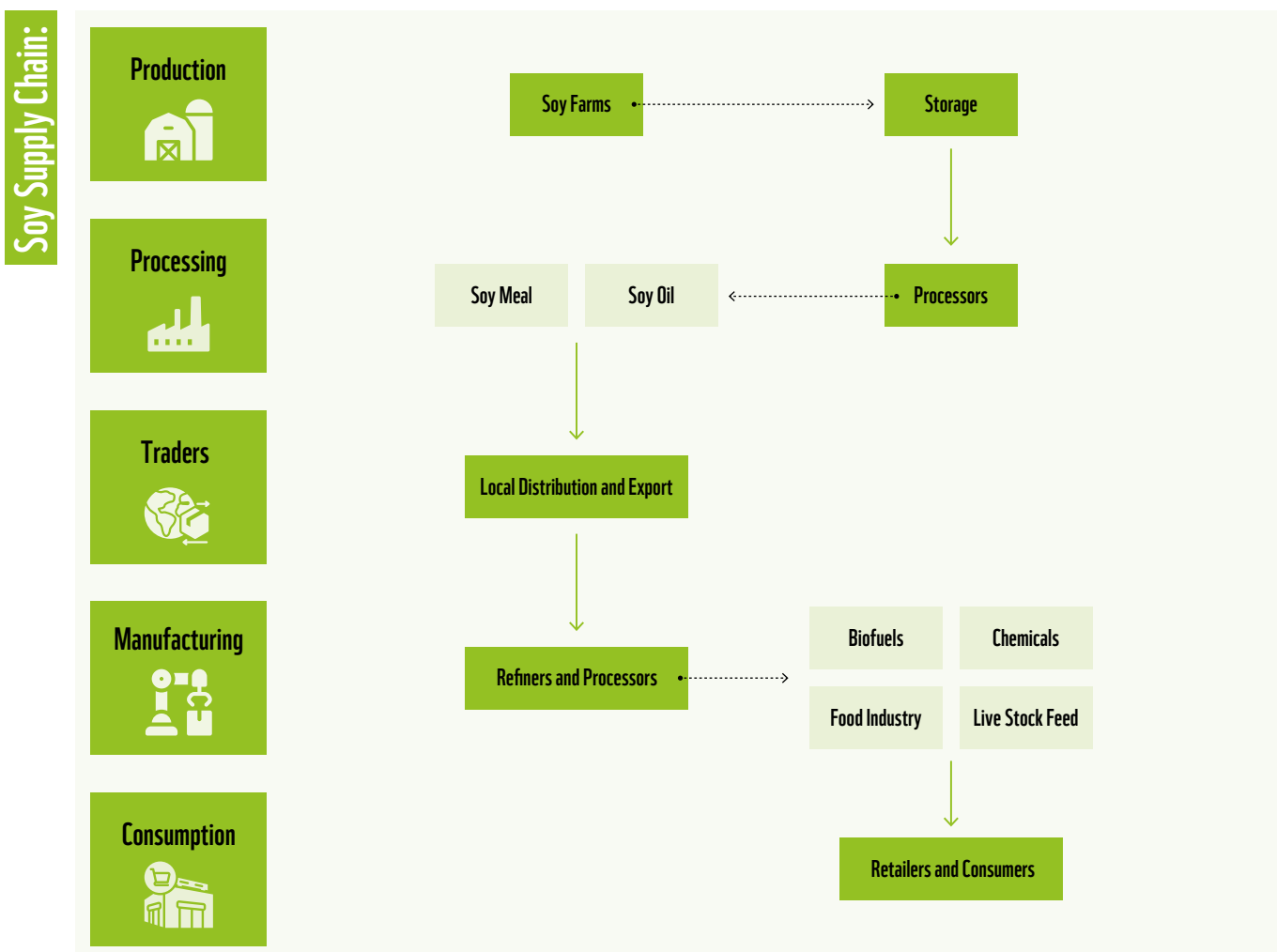
ABSENCE OF EFFECTIVE INDUSTRY LEADERSHIP

Unlike the structured approach within the meat industry in the Amazon, there is a notable absence of coordinated initiatives akin to the TAC (between MPF and slaughterhouses) that engage stakeholders in the meat or agriculture sectors in the Cerrado, under official state endorsement, to actively uphold legal and sustainable practices across the supply chain.

Despite efforts undertaken by industry players such as the Soy Moratorium and the Cerrado Manifesto, the alarming surge in deforestation and conversion witnessed in recent years continues. During COP26 in 2021, hopes were raised when ten global corporations, with a combined annual revenue of nearly 500 billion USD and significant market shares in key commodities like soy, palm oil, cocoa, and cattle, pledged to create a shared roadmap for enhanced supply chain action aligned with a 1.5 degrees Celsius pathway.⁹³ However, the roadmap unveiled at COP27, though making strides with commodities like palm oil and cattle in the Amazon, has substantially fallen short of commitments, particularly concerning soy and the Cerrado. A critical flaw lies in the narrow definition of protected areas, which encompasses deforestation but not habitat conversion, effectively excluding 74 percent of the Cerrado. This omission leaves the region vulnerable to irreversible destruction, undermining efforts to achieve a 1.5 degrees Celsius future.⁹⁴

Despite previous failures to curb massive deforestation and land conversion in the Cerrado, agriculture traders are positioned to lead the transition towards sustainable agricultural practices. As key players in the market and signatories of the COP26 statement, these corporate giants interconnect the global food system and wield significant influence in shaping responsible land-use policies among producers. By refusing to trade in commodities sourced through illegal deforestation and land conversion, land grabbing, or forced labour, and by abstaining from purchasing commodities cultivated on land deforested after a specified date, while actively engaging in and monitoring the traceability and transparency of their supply chain, these traders can catalyse transformative change.

While traders may not face legal obligations to take action, they possess moral and environmental responsibilities to protect the Cerrado biome. Conversely, investors may encounter legal obligations to influence their portfolios towards sustainable practices. Financing ventures engaged in unsustainable practices could potentially breach financial regulations mandating the consideration of sustainability criteria, as detailed in Chapter 4 of this guidance. Therefore, investors and financial institutions are in a strong position to exert pressure on traders to effectively implement sustainable policies.



WEAK ENFORCEMENT FACILITATING ILLEGAL DEFORESTATION AND CONVERSION

Finally, weak enforcement has been a significant factor contributing to the deforestation and conversion crisis in Brazil, particularly during the Bolsonaro administration. Reductions in enforcement efforts, such as cuts to IBAMA, have led to decreased manpower and, consequently, less rigorous enforcement and fewer fines imposed on violators.⁹⁵ This weakened enforcement regime has aggravated the rampant illegal deforestation and land conversion occurring in critical biomes such as the Amazon and the Cerrado. According to MapBiomas Annual Report on Deforestation in Brazil of 2020, considering the official data available, 98% of the deforested area in Brazil presented illegalities.⁹⁶

Under the Bolsonaro administration, deforestation rates soared, culminating in a record-breaking year in 2022.⁹⁷ However, following a change in government, enforcement efforts were

revitalised, accompanied by the announcement of renewed plans to combat deforestation in the Cerrado (PPCerrado) and the Amazon (PPCDAm). These renewed enforcement measures yielded swift results in the Amazon region, with deforestation rates plummeting dramatically in 2023.⁹⁸

Despite progress in the Amazon, the situation in the Cerrado remains dire.⁹⁹ Deforestation in the Cerrado persisted throughout 2023, surpassing previous years' figures. According to DETER, there was a significant increase of 43% from the previous year.¹⁰⁰ In comparison, deforestation in the Cerrado increased by 25%, 7.9%, and 25.3% in 2020, 2021, and 2022, respectively.¹⁰¹ The Ministry of the Environment and Climate Change has estimated that half of the deforestation in the Cerrado is illegal, further emphasising the impact of insufficient enforcement measures.¹⁰²





4

**INVESTING IN GREEN:
HOW BRAZIL'S FINANCIAL
SYSTEM ADDRESSES
SUSTAINABILITY AND
DEFORESTATION**

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In a world facing urgent environmental challenges, Brazil's financial system plays a critical role in promoting sustainability and combating deforestation and ecosystem conversion. Investors and stakeholders, also have the power to drive positive change by directing investments towards environmentally responsible practices and imposing restrictions on activities contributing to deforestation and conversion. Leverage financial resources to support sustainable initiatives and hold accountable those engaging in harmful practices will build a greener and more sustainable future for Brazil and the planet.

FINANCIAL REGULATORY ADDRESSING ENVIRONMENTAL AND CLIMATE MATTERS

NATIONAL MONETARY COUNCIL RESOLUTIONS

The National Monetary Council (CMN) serves as the regulatory authority for Brazil's financial system, responsible for shaping currency and credit policy in accordance with the federal government's macroeconomic strategy. Comprising the Minister of Finance (as the Council president), the Minister of Planning and Budget, and the President of the Central Bank of Brazil, the CMN's decisions are enforced through CMN Resolutions. The Central Bank of Brazil (BCB) ensures compliance with CMN regulations, monitors and supervises the financial system, and implements monetary, exchange rate, and credit policies.¹⁰³

The foundation for the Social and Environmental Responsibility Policy within the Brazilian financial system was laid in 2014 by **CMN Resolution No. 4,327 of 2014**.¹⁰⁴ While lacking specific guidelines for practical implementation, this resolution marked a pioneering step in urging Brazilian financial institutions to recognise the social and environmental impacts of their activities.

In 2021, a significant step forward was taken through **CMN Resolution No. 4,945**, which established clearer expectations and promoted greater integration of environmental, social, and governance (ESG) considerations. This resolution outlines guidelines for managing social, environmental and climate risks within the Brazilian financial system, also known as the Social, Environmental and Climate Responsibility Policy (PRSAC).¹⁰⁵

CMN Resolution No. 4,945 of 2021

OBJECTIVE:

Provide the Social, Environmental, and Climate Responsibility Policy (PRSAC, in Portuguese), and guidelines for managing social, environmental, and climate risks within the Brazilian financial system.

→ Destined to:

All financial institutions authorised by the Central Bank, categorised into different segments, based on size and complexity.

→ Requirements:

- ✓ Establish a PRSAC aligned with their organisational strategy and the specific risks.
- ✓ Define measurable goals and indicators for their PRSAC and monitor progress.
- ✓ Integrate ESG considerations into corporate governance practices, risk management processes, and product and service offerings.
- ✓ Public reporting on ESG performance.

FEDERATION OF BRAZILIAN BANKS NORMS

Another significant tool, though voluntary in nature, was introduced by the Federation of Brazilian Banks (Febraban), the principal representative body of the Brazilian banking sector. Febraban, a non-profit association, is committed to fortifying the financial system and its ties with society, while also contributing to Brazil's economic, social, and sustainable development.¹⁰⁶

Febraban, among its responsibilities, oversees the self-regulation of the banking system (SARB), setting mandatory standards for all participating companies.¹⁰⁷ Additionally, Febraban members have the option to voluntarily adhere to at least one of the Normative Self-Regulation axes¹⁰⁸, aligning with their interests and areas of activity. By doing so, they commit to upholding even higher standards of conduct for their institutions. Although these norms are not legally binding, failure to comply may result in internal sanctions by Febraban, ranging from warnings to fines and expulsion from the self-regulation programme. External consequences, such as reputational damage and loss of consumer trust, as well as potential investigations by the Central Bank of Brazil, could also follow.

Several months after the approval of CNM Resolution No. 4,327 in 2014, Febraban introduced **SARB 014/2014**.¹⁰⁹ This normative aimed to strengthen financial institutions' commitment to conducting comprehensive assessments of socio-environmental risks linked to their investments. It established a policy regarding social and environmental responsibility, outlining fundamental guidelines and procedures for the socio-environmental practices of participating financial institutions that voluntarily comply with the normative, both in their business operations and interactions with stakeholders.

SARB No. 014/2014

OBJECTIVE:

Creating and implementing a policy for socio-environmental responsibility that formalises fundamental guidelines and procedures for the incorporation of practices for the assessment and management of socio-environmental risks in business operations and interactions with stakeholders.

→ Destined to:

Signatory financial institutions that voluntarily adhere to the normative axis (currently 21)¹¹⁰

→ Requirements:

- ✓ Incorporating practices for the assessment and management of socio-environmental risks.
- ✓ Stricter deforestation clearance procedures for financed rural properties.¹¹¹

FINANCIAL REGULATORY RELEVANT TO AGRIBUSINESS

In addition to the aforementioned policies, which generally cover social, environmental, and climate aspects or are voluntary in nature, there are specific regulations concerning the financing of agribusiness. These regulations primarily focus on rural credit and the rural producer certificate.

RURAL CREDIT

Rural Credit (Crédito Rural) is institutionalised under **Law No. 4,829/65**.¹¹² The rural credit rules are approved by the CMN, and their implementation is managed by the National Rural Credit System (Sistema Nacional de Crédito Rural - SNCR).

CMN Resolution no. 5,081 of 2023¹¹³ has updated the Rural Credit Manual (MCR)¹¹⁴, emphasising sustainable rural development and integrating considerations of social, environmental, and climate-related risks in the approval of rural credit.

CMN Resolution no. 5,081 of 2023

OBJECTIVE:

Revise standards relating to social, environmental, and climate impediments to granting rural credit.

→ Destined to:

All financial institutions authorised by the Central Bank, categorised into different segments based on size and complexity.

→ Rural credit granting requirements:

- ✓ Enterprises located on rural properties must be registered in the CAR.
- ✓ Properties must not be located wholly or partially:
 - In Conservation Units, unless economic activity complies with the Conservation Unit Management Plan and the specific provisions applicable to the traditional beneficiary or resident population
 - On land occupied by indigenous people, except for specific exclusions
 - In non-designated Public Forests

→ Further requirements for investors:

- ✓ Financial institutions shall disclose information about their environmental and social risk management practices.

While the CMN explicitly acknowledges the deforestation challenges facing the Amazon biome, it overlooks those of the Cerrado, despite the biome's considerable environmental significance and the escalating deforestation and land conversion observed in it in recent years.¹¹⁵

RURAL PRODUCER CERTIFICATE

The Rural Producer Certificate (Cédula do Produtor Rural – CPR), established under **Law No. 8,929/1994**,¹¹⁶ is one of the main tools in financing the agribusiness production chain. CPRs are issued by farmers, cooperatives, or associations, serving as a pre-sale of their forthcoming harvest.

Investors, including banks or individuals, purchase these certificates, providing farmers with immediate cash while holding the certificate as security. Upon maturity, farmers either deliver the promised agricultural product or settle the debt with its market value. CPRs offer farmers access to financing without traditional collateral, improve cash flow, and potentially yield higher returns than loans. Investors benefit from a secure investment backed by agricultural products, potentially offering higher returns than traditional fixed-income options. CPRs are settled in two forms: physical, where the product is delivered, and financial, where the debt is resolved with the market value.

In 2020, amendments to the rural credit law introduced the Green CPR, a credit title designed to finance reforestation activities and the maintenance of native vegetation on rural properties.¹¹⁷



While the National Monetary Council offers guidance to financial institutions regarding the promotion of sustainable development through rural credit, the existing framework for CPRs does not provide specific guidance on environmental behaviour and sustainability-based financing conditions. Consequently, while beneficial for farmers, CPRs could take a more proactive approach to incentivise sustainable practices.

FEBRABAN REGULATION FOR MANAGING THE RISK OF ILLEGAL DEFORESTATION IN THE BEEF SUPPLY CHAIN

In March 2023, the Febraban Self-Regulatory Board approved SARB No. 026/2023, a new regulation aimed at enhancing sustainability within the beef supply chain. This regulation sets minimum requirements for signatory banks that provide credit to meatpacking plants and slaughterhouses in the Legal Amazon and Maranhão regions.¹¹⁸ It underscores Febraban's commitment to promoting sustainability within the Brazilian financial sector.

SARB No. 026/2023

OBJECTIVE:

Managing the risk of illegal deforestation in the beef supply chain and defining guidelines to be adopted by its Signatories.

→ Destined to:

Signatory financial institutions that voluntarily adhere to the normative axis and aim to finance meatpacking plants and slaughterhouses.

→ Credit Granting Requirements for Meatpacking Plants and Slaughterhouses:

✓ Meatpacking plants and slaughterhouses must implement traceability and monitoring systems by December 2025 to ensure that cattle is not associated with unlawful deforestation from direct and indirect suppliers. This system must:

- Track cattle back to their origins
- Ensure compliance with environmental regulations
- Include information such as embargoes, overlaps with protected areas, identification of deforestation polygons, and authorisations for the suppression of vegetation, in addition to the CAR registry of properties from which animals or groups of animals originated

→ Banks must also:

- ✓ Consider social factors, such as verifying that meatpacking plants are not using slave labour.
- ✓ Define tailored adaptation plans, incentives, and potential consequences for non-compliance.
- ✓ Track progress over time according to defined performance indicators that meatpacking plants must periodically disclose.

While Febraban's self-regulation norm sets commendable standards that surpass legal requirements, its impact remains incomplete. Focusing solely on meatpackers and slaughterhouses, it overlooks livestock farms, which serve as the origin of many irregularities in the Brazilian beef supply chain. Additionally, while addressing illegal deforestation, the global urgency to tackle climate change demands zero deforestation across the entire supply chain. This calls for broader regulations that encompass all stakeholders and prioritise comprehensive environmental sustainability.

FINANCIAL POLICIES SPECIFIC TO SUSTAINABLE AGRIBUSINESS

To achieve Sustainable Development Goals, financing cannot rely solely on one source or investor profile. Collaborative efforts among public, private, and social entities are crucial to create synergies and solutions. Sustainable agribusiness financing in Brazil encompasses various financial models beyond government allocations and private sector engagements, including a mix of public and private sector initiatives alongside innovative mechanisms such as blended finance.

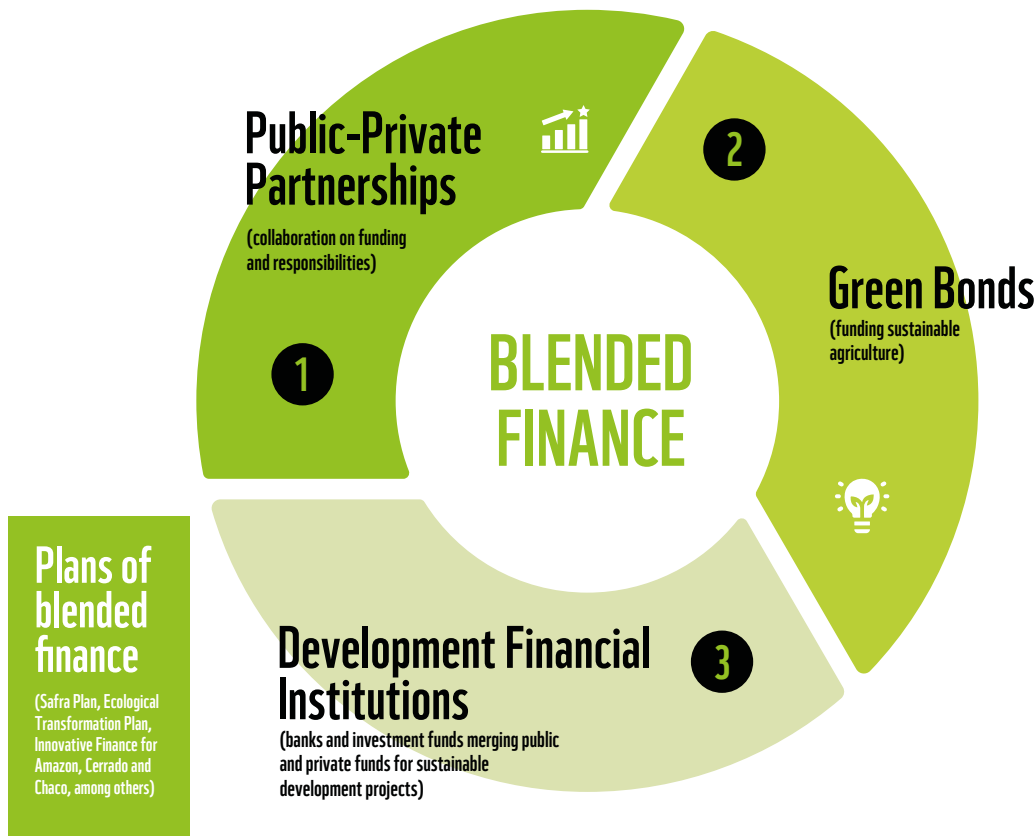
Public-private partnerships are utilised to pool resources from both public and private sectors for sustainable agricultural projects. These collaborations involve cooperation between government bodies, private companies, and other stakeholders to distribute risks, responsibilities, and funding for endeavours promoting sustainable farming practices, conservation, and rural development.

Additionally, Green Bonds, implemented in Brazil, are financial instruments designed to raise capital for projects with positive socio-environmental impacts, including sustainable agriculture. Brazilian corporations and financial institutions may issue green bonds to finance investments

in agroecology, land revitalisation, and climate-resilient agriculture. These bonds appeal to investors interested in supporting sustainability initiatives while generating financial returns.

Development Finance Institutions, including multilateral development banks and impact investment funds, provide concessional financing and technical support to strengthen sustainable agriculture projects in Brazil. These institutions often employ blended finance mechanisms, merging public funds with private sector investments, to address market deficiencies, mitigate risks, and mobilise additional resources for sustainable development projects.

Plans implementing blended finance relevant to sustainable agribusiness in Brazil include the Safra Plan, the Ecological Transformation Plan, and the Innovative Finance for the Amazon, Cerrado, and Chaco. Likewise, the National Programme for the Conversion of Degraded Pastures into Sustainable Agricultural, Livestock, and Forestry Production Systems (discussed in chapter 2) also relies on mixed finance.



Safra Plan (established in 2003)

OVERVIEW:

- Government initiative aimed at providing financial support and incentives for agricultural activities to boost agricultural production and stimulate economic growth in rural areas.
- Runs for one year, announced annually in June.

→ The Safra Plan 2023-2024¹¹⁹ - reflects a growing emphasis on environmental sustainability



A notable 27% increase from the previous year's allocation led to record-breaking resources totaling **R\$364.22 billion** being allocated.

- Prioritises eco-friendly practices through financial incentives
- **0.5%** reduction of interest rate for rural producers with a valid CAR under specific conditions such as no environmental liabilities
- **0.5%** reduction of interest rate for adopting specific sustainable practices such as organic farming, waste treatment, renewable energy in poultry farming and tracked cattle herd and sustainability certification
- Allows cumulative reduction of up to **1%**

Offers dedicated sustainable programmes

→ Sustainable Agricultural Production Systems - RenovAgro (previously called Plano ABC)

Supports investments in sustainable practices aiming to:

- I. Reduce greenhouse gas emissions from agricultural activities
- II. Adapt rural properties to environmental legislation
- III. Increase sustainable agricultural production
- IV. Implement and expand crop-livestock-forest integration systems
- V. Reduce deforestation
- VI. Encourage the recovery of degraded areas

→ Other Programmes: Inovagro, Proirriga, Moderfrota, and Moderagro

Aim to encourage low-carbon agricultural production.



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ECOLOGICAL TRANSFORMATION PLAN (PLANO DE TRANSFORMAÇÃO ECOLÓGICA)

Introduced by the Brazilian Finance Minister during COP28 in 2023, the Ecological Transformation Plan outlines a strategy for fostering sustainable economic and social progress within Brazil. This comprehensive plan serves as a roadmap for shaping policies and implementing practices aimed at facilitating ecological transformation nationwide.

INNOVATIVE FINANCE FOR THE AMAZON, CERRADO, AND CHACO (IFACC)

Led by The Nature Conservancy (TNC), the Tropical Forest Alliance (TFA), and the United Nations Environment Programme (UNEP), the Innovative Finance for the Amazon, Cerrado, and Chaco (IFACC)¹²¹ initiative aims to accelerate lending and investment for climate-friendly beef and soy production models in these critical biomes. Recognising the significance of expanding investment in these sectors to transform food production practices, IFACC complements efforts such as supply chain commitments, traceability systems, and public policies. The initiative focuses on financing various beef and soy production models, including expanding

production over degraded pasturelands, increasing yields sustainably, and protecting and restoring native vegetation. It places significant emphasis on incorporating net-zero carbon solutions across various sectors to balance economic advancement with environmental conservation. The plan is structured around six axes: sustainable financing, technological development, bioeconomy, energy transition, circular economy, and infrastructure, and adaptation to climate change.¹²⁰

production over degraded pasturelands, increasing yields sustainably, and protecting and restoring native vegetation.

IFACC collaborates with leading companies, asset managers, banks, and investors to raise awareness of the need for transitional finance in these sectors and leverages financial mechanisms to support sustainable agriculture. IFACC provides support for environmental and social impact management, facilitates connections to capital providers, shares intelligence on financing opportunities, and engages with producers through its Producer Advisory Group.

POLICY INITIATIVES BY BANKS IN BRAZIL

The Amazon Plan (Plano Amazônia), initiated by Itaú, Bradesco, and Santander in 2020, centers on fostering sustainable development in the Amazon region. Its objectives include promoting environmental preservation, advancing the bioeconomy, safeguarding the basic rights of local communities, and investing in sustainable infrastructure.

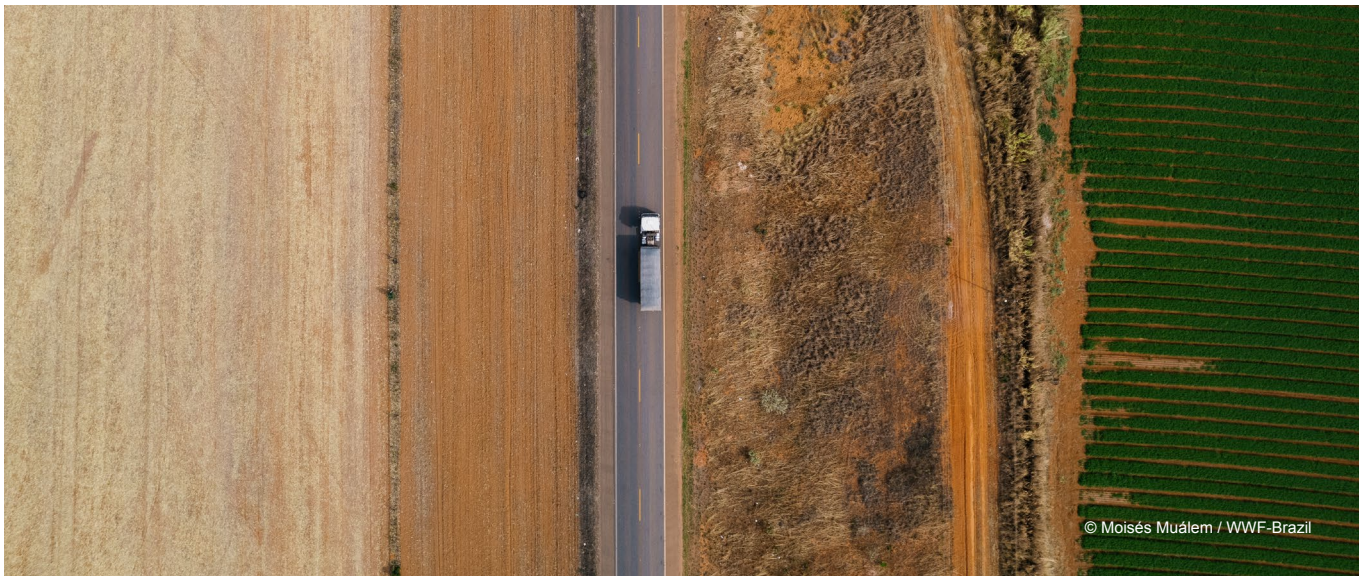
Among its ten outlined measures to realise these objectives, one specifically targets meatpackers and deforestation. This initiative aims to eliminate illegal deforestation within the meat industry while enhancing traceability in the supply chain.¹²²

INTERNATIONAL INITIATIVES TACKLING DEFORESTATION WITHIN THE FINANCIAL WORLD

The Glasgow Financial Alliance for Net Zero (GFANZ), established in 2021, is a global coalition that unites eight independent net-zero financial alliances.¹²³ These alliances encompass over 700 financial institutions across 50 countries, dedicated to facilitating the transition to net zero by 2050 and adhering to the goals of the Paris Agreement. GFANZ members comprise banks, insurers, asset owners, asset managers, financial service providers, and investment consultants operating within varied economies and financial systems worldwide.¹²⁴

The CAIXA Forests Programme (Programa CAIXA Florestas), introduced by Caixa Econômica Federal in 2020, is a socio-environmental initiative centered on conserving and restoring forests in Brazil while assisting vulnerable communities. The program's objective is to plant 10 million trees over five years and restore 3.5 million hectares of degraded land.

The Finance Sector Deforestation Action (FSDA), initiated in 2021, is a global initiative that brings together over 30 financial institutions, collectively holding assets valued at over \$8.7 trillion. The FSDA is dedicated to removing deforestation risks linked to agricultural commodities such as cattle, soy, palm oil, pulp, and paper from their investment and lending portfolios by 2025.¹²⁵



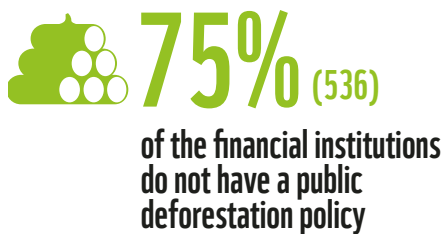
IN PRACTICE: CLIMATE TALKS, DEFORESTATION (STILL) WALKS

While some positive environmental initiatives have been taken within the financial system, they largely lack the teeth needed to tackle deforestation effectively.

In Brazil, while many sustainability practices are in place, they often lack direct targeting of deforestation, instead forming part of a broader environmental agenda. Even initiatives that specifically target deforestation, like Febraban 2023 Normative focusing on the beef supply chain, only address illegal deforestation, falling short of the global consensus on zero deforestation policies needed to

combat climate change. Additionally, financial instruments like the Rural Producer Certificate lack specific guidelines and monitoring conditions, highlighting the need for more comprehensive sustainability measures.

At the international level, recent findings from the Global Canopy's Deforestation Action Tracker, which monitors financial institutions with climate commitments, underscore the urgent need for stronger commitments and actions from these institutions to address deforestation, conversion, and associated human rights abuses.¹²⁶



Moreover, practice demonstrates that these efforts have not been significantly effective in curbing deforestation. In fact, financial institutions have continued to fund companies associated with deforestation for years. This is highlighted by a recent investigation revealing that between 2013 and 2019, over US\$44 billion were transferred by over 300 investment firms, banks and pension funds headquartered across the globe, to companies directly or indirectly linked to deforestation activities in the largest rainforest regions of the world, including the Brazilian Amazon.¹²⁷ This often occurs despite these institutions having public commitments and policies against deforestation.¹²⁸



These discrepancies demand a decisive shift. Financial institutions must adopt the uncompromising standard of zero deforestation and ecosystem conversion and enforce stringent, targeted due diligence practices for deforestation and conversion. This is imperative to meet global expectations and effectively tackle this pressing environmental issue.

DEFORESTATION AND CONVERSION DUE DILIGENCE FOR FINANCIAL INSTITUTIONS IN BRAZIL – A CALL FOR ACTION!

WHY DEFORESTATION AND CONVERSION DUE DILIGENCE IS IMPERATIVE FOR PRUDENT INVESTORS?

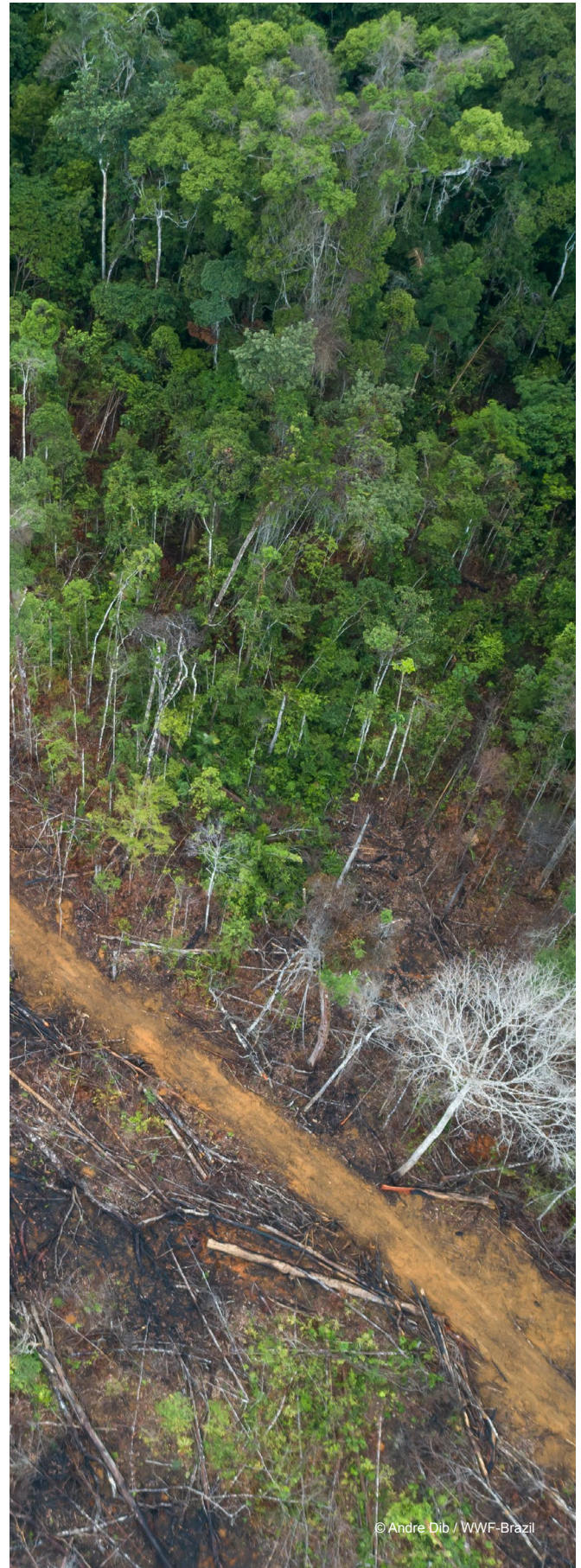
In today's landscape, sustainability has evolved beyond being merely a trendy term to become a vital element crucial for both businesses and investors, indispensable for society and the world. Disregarding the hazards associated with deforestation and ecosystem conversion is no longer viable. For astute investors, incorporating thorough deforestation and conversion scrutiny is not just an ethical consideration; It is a strategic necessity with significant financial implications.

Investors wield immense influence: By directing their investments towards companies committed to combating deforestation and ecosystem conversion, they can drive the shift towards responsible practices across the environmental, social, and governance (ESG) spectrum, and beyond: requiring targeted efforts to address this pressing issue.

Shared responsibility is the new frontier. Legislation and market dynamics are evolving to enforce accountability among investors for the environmental impact of their portfolios. The concept of shared responsibility is gaining momentum, recognising that investors can be deemed indirect polluters through their investment decisions. Neglecting deforestation and conversion due diligence exposes investors to legal risks and harm to their reputation.

Deforestation poses an economic issue. It can disrupt supply chains, leading to resource scarcity, price fluctuations, and reduced productivity. This translates into tangible financial losses for investors who hold stakes in companies linked to deforestation and land conversion activities.

Reputation matters. The tide is turning as consumers and stakeholders become more aware of the harmful effects of deforestation and ecosystem conversion. They are actively seeking out brands and businesses committed to sustainability. Failure to address deforestation and conversion can result in brand depreciation, customer backlash, and lost investor confidence.



A Step-by-Step Guide to Deforestation and Conversion Free Supply Chain Portfolio

Deforestation and conversion free investing is an ongoing journey that requires constant vigilance and proactive actions to unmask hidden risks and make the zero-deforestation ambitions a reality. The following checklist offers a comprehensive step-by-step guide to help investors navigate the investment landscape with confidence and ensure deforestation and conversion free supply chain choices¹²⁹

Pre-Financing Steps

1. Analysing the Risk Landscape

Identify Sectors and Geographical Areas with significant deforestation and land conversion footprints, such as timber, cattle, soy, and palm oil. Focusing on areas with rampant deforestation and conversion activity, like the Amazon rainforest and the Cerrado savanna, necessitates further scrutiny. **Check potential investees' activity in these sectors and regions.**



For farm-related businesses – Inspect rural property documents to ascertain the presence of any environmental restrictions, such as land categorisation as PPA/LR, embargoes or fines imposed by IBAMA, as well as considerations like the land's location (whether it falls within indigenous or quilombola territories) and compliance with environmental licensing. Additionally, confirm registration in the CAR.



For slaughterhouses or meatpacking businesses – Verify whether they have signed the TAC and review their compliance history. Assess the presence of monitoring systems and their coverage of indirect suppliers.



For traders (especially in the food industry) – Examine traders' monitoring and traceability tools for upstream chain actors (such as the farms cultivating the soybeans). Review traders' requirements for sustainable agriculture policies among their upstream chain actors, as well as traders' own due diligence policies to ensure compliance with sustainable agriculture standards.

Check History of Potential Investees in activities related to deforestation and land conversion.

Gather Information from potential investees, covering their **current:**



Deforestation commitments.



Policies regarding sustainable agriculture and sustainable land-use systems (such as, rotational livestock grazing, integrated crop-livestock-forestry systems, livestock semi-intensification, reuse of land already deforested, soil conservation, agroforestry and reforestation).



The rigor of their compliance procedures.



Transparent traceability systems across the entire supply chain.

Consider Incorporating the 'Double Materiality' Disclosure Requirements.

This concept entails companies reporting not only on how sustainability issues could pose financial risks for the company (financial materiality) but also on the company's impact on people and the environment (impact materiality).¹³⁰

2. Check Facts with Rigour

Verify Information Independently through a combination of methods: conduct independent audits, utilising ground-based monitoring (such as IBAMA Open Data) and satellite imagery analyses from public or third-party sources (including DETER, PRODES, MapBiomas, and Programa Queimadas); and engage in consultations with stakeholders. Employ these approaches to ensure comprehensive verification of information and to identify any potential discrepancies.

Dialogue and Engage with potential investees and stakeholders, including local communities and NGOs, to discuss deforestation and conversion risks.

3. Quantify Deforestation and Conversion Risks

Develop a Comprehensive Risk Scoring Methodology to assess the potential investee's exposure to deforestation and conversion, flagging low, medium and high risk. Factors such as sector and geographical area of the investee's business, its operational practices, deforestation and conversion policies and commitments, compliance procedures, and supply chain transparency, as well as its impact materiality, must be rigorously evaluated by specialised personnel of the investors.

Post-Financing Steps

1. Ensure Action and Progress

Establish Robust Monitoring Mechanisms to ensure compliance with agreed-upon deforestation commitments and effective progress towards goals for deforestation and conversion-free supply chains.

Verify Compliance Independently through a multifaceted approach, including independent audits, utilising ground-based monitoring and satellite imagery analyses, as well as information from stakeholders, to identify deforestation and conversion trends within the investee's supply chain and highlight areas needing improvement.

Engage and Collaborate with Stakeholders, including local communities and NGOs to gain on-the-ground insights into the investee's progress and challenges in implementing deforestation and conversion free practices. Utilise their knowledge to refine your monitoring strategies and address emerging issues.



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2. Engage in Improvement – Be a Catalyst for Change

Collaborate with Investees to Develop Personalised Action Plans for improving their practices in relation to deforestation and land conversion. Offer technical assistance, capacity building, and access to resources to support their transition towards deforestation and conversion free supply chains. Empower them with the ability to make informed decisions and cultivate a collaborative approach through this ongoing partnership.

Define Clear Procedures for Addressing Non-Compliance, including engagement escalation, divestment, or legal action, taking into account the increased legal obligations for investors regarding deforestation and conversion. Define Penalties such as higher interest rates or withdrawal in whole or in part of financing for non-compliance with agreed action plans.

Encourage Public Disclosure of deforestation and conversion risks associated with investments and progress made towards mitigating them. Focus on increasing transparency within the investee's supply chain, paving the way for collective action and industry-wide change.

3. Incentivising Positive Change

Implement Mechanisms to Incentivise and Reward demonstrably improved sustainable agriculture methods, traceability and deforestation and conversion free practices within the investee's Brazilian operations. Offer preferential loan terms, increased financing, or other benefits based on measurable progress.

Join Forces with Other Investors to collaborate on developing and implementing common standards and best practices for deforestation and conversion due diligence in Brazil. Leverage collective investor power to drive systemic change within the market and contribute to a more sustainable future for the country.

END NOTES

¹ According to World Wide Fund for Nature (WWF) Living Planet Report (2022), between 1970 and 2018, freshwater populations have declined the most compared to other species groups, with an average 83% decline. WWF (2022) Living Planet Report 2022 – Building a nature-positive society. Almond, R.E.A., Grooten, M., Juffe Bignoli, D. & Petersen, T. (Eds). WWF, Gland, Switzerland. Available online at <https://wwflac.awsassets.panda.org/downloads/lpr_2022_full_report_1.pdf> (last accessed on 16 April 2024).

² According to the World Bank's estimation, by 2050, climate change could force 216 million people to migrate within their own countries. Clement, Viviane; Rigaud, Kanta Kumari; de Sherbinin, Alex; Jones, Bryan; Adamo, Susana; Schewe, Jacob; Sadiq, Nian; Shabahat, Elham. 2021. Groundswell Part 2: Acting on Internal Climate Migration. © World Bank, Washington, DC. Available online at <<http://hdl.handle.net/10986/36248>> (last accessed on 16 April 2024).

³ According to WWF Living Planet Report (2022) (ibid., note 1), monitored wildlife populations, including mammals, birds, amphibians, reptiles and fish, have seen a 69% drop on average between 1970 and 2018. According to the report, Latin America and the Caribbean regions have seen the largest decline of monitored wildlife populations globally, with an average decline of 94% between 1970 and 2018. The report indicates that the main drivers of wildlife population decline are habitat degradation and loss, exploitation, the introduction of invasive species, pollution, climate change and disease.

⁴ As per PreventionWeb, the total losses stemming from natural disasters in 2023 amounted to \$250 billion, with over 86,000 fatalities recorded. See <<https://www.preventionweb.net/understanding-disaster-risk/disaster-losses-and-statistics>>. See also, the joint publication of the United Nations Office for the Coordination of Humanitarian Affairs, the International Federation of Red Cross and Red Crescent Societies, and the Red Cross Red Crescent Climate Centre, Extreme heat: Preparing for the heatwaves of the future, October 2022, available online at <https://www.unocha.org/attachments/1b9e280d-d877-4022-97bb-c10e2boffab6/OCHA_IFRC_extreme_heat_report_2022.pdf> (last accessed on 16 April 2024).

⁵ IPCC, 2023: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, 184 pp., doi: 10.59327/IPCC/AR6-9789291691647. Available online at <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf> (last accessed on 16 April 2024).

⁶ The Paris Agreement was adopted by the Conference of the Parties to the United Nations Framework Convention on Climate Change on 12 December 2015 (COP 21) in Paris, France.

⁷ United Nations Environment Programme (2019). Emissions Gap Report 2019. UNEP, Nairobi. Available online at <<https://wedocs.unep.org/bitstream/handle/20.500.11822/30797/EGR2019.pdf?sequence=1&isAllowed=y>> (last accessed on 16 April 2024).

⁸ See Accountability Framework Initiative definitions at <<https://accountability-framework.org/issues/deforestation-and-conversion/>> (last accessed on 16 April 2024). The need to take a broader approach was also acknowledged by the EU Commission. See note 28.

⁹ IPCC, 2023: Climate Change 2023: Synthesis Report (ibid., note 5), p. 44.

¹⁰ Ibid.

¹¹ WWF website, Places/Amazon. Available online at <<https://www.worldwildlife.org/places/amazon>> (last accessed on 16 April 2024).

¹² National Institute for Space Research (Instituto Nacional de Pesquisas Espaciais, INPE) website, Common Questions/Territory Monitoring: Forests. Available online at <<http://www.inpe.br/faq/index.php?pai=6#:~:text=PRODES%20%2D%20Monitoramento%20da%20Floresta%20Amaz%C3%B4nica,Rond%C3%B4nia%2C%20Roraima%20e%20Tocantins>> (last accessed on 16 April 2024).

¹³ Critical Ecosystem Partnership Fund, Ecosystem Profile Cerrado Biodiversity Hotspot, February 2017. Available online at <<https://www.cepf.net/sites/default/files/cerrado-ecosystem-profile-en-updated.pdf>> (last accessed on 16 April 2024).

¹⁴ WWF website, Places/Cerrado. Available online at <<https://www.worldwildlife.org/places/cerrado>> (last accessed on 16 April 2024).

¹⁵ Ibid.

¹⁶ WWF-Brazil, With 11 thousand km² destroyed in the last year, a new plan is urgent to stop deforestation in the Cerrado, 28 Nov 2023. Available online at <<https://www.wwf.org.br/?87341/With-11-thousand-km-destroyed-in-the-last-year-a-new-plan-is-urgent-to-stop-deforestation-in-the-Cerrado>> (last accessed on 16 April 2024).

¹⁷ Sistema de Estimativa de Emissão de Gases (SEEG), Estimativa de Emissões de Gases de Efeito Estufa dos Sistemas Alimentares no Brasil, Observatório do Clima, 2023, pp. 11, 39. Available online (PT) at <https://www.oc.eco.br/wp-content/uploads/2023/10/SEEG_alimentares.pdf> (last accessed on 16 April 2024).

¹⁸ WWF Website, Save the Cerrado. Available online at <<https://www.worldwildlife.org/pages/save-the-cerrado-our-climate-depends-on-it>> (last accessed on 16 April 2024).

¹⁹ UN Convention to Combat Desertification (UNCCD), 1994.

²⁰ Convention on Biological Diversity (CBD), 1992.

²¹ United Nations Convention to Combat Desertification, 2022. The Global Land Outlook, second edition. UNCCD, Bonn. Available online at <https://www.unccd.int/sites/default/files/2022-04/UNCCD_GLO2_low-res_2.pdf> (last accessed on 16 April 2024).

²² In September 2023, 20 civil society organisations from Brazil, the EU and US with expertise in anti-corruption, climate change, and human rights have joined forces to issue a warning to more than 200 investors, urging them to keep away from Brazilian meat company JBS's attempt to dual list its shares on the New York Stock Exchange. Global Witness, Press Release: Experts issue warning to investors as Brazil's corrupt Batista family attempt to gain almost full control of world's biggest meat company, 19 Sept 2023. Available online at <<https://www.globalwitness.org/en/press-releases/experts-issue-warning-to-investors/>> (last accessed on 16 April 2024).

- ²³ Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market Text with EEA relevance. Available online at <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010R0995>> (last accessed on 16 April 2024).
- ²⁴ Regulation (EU) 2023/1115 of the European Parliament and of the Council of 31 May 2023 on the making available on the Union market and the export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010 (Text with EEA relevance). Available online at <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1115&qid=1687867231461>> (last accessed on 16 April 2024).
- ²⁵ The EUDR is part of a broader plan of actions to tackle deforestation and forest degradation first outlined in the 2019 Commission Communication on Stepping up EU Action to Protect and Restore the World's Forests (available online at <<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1565272554103&uri=CELEX:52019DC0352>>). This commitment was later confirmed by the European Green Deal (available online at <https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en>), the EU Biodiversity Strategy for 2030 (available online at <https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en>) and the Farm to Fork Strategy (available online at <https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en>). The European Commission Impact Assessment Report 'Minimising the risk of deforestation and forest degradation associated with products placed on the EU market' is available online at <<https://circabc.europa.eu/ui/group/34861680-e799-4d7c-bbad-da83c45da458/library/dete09c6-8221-4f59-82b3-a5d6bb1e1f02/details?download=true>> (Part 1) and at <<https://circabc.europa.eu/ui/group/34861680-e799-4d7c-bbad-da83c45da458/library/1ff4e85e-2b95-4f91-9843-3c8f073d68f2/details?download=true>> (Part 2) (last accessed on 16 April 2024).
- ²⁶ EUDR, Art. 25.
- ²⁷ EURD, Preamble, Para 34. In this regard, see also Tiago N. P. dos Reis et al, Trading deforestation—why the legality of forest-risk commodities is insufficient, 2021 Environmental Research Letters, Volume 16, Number 12, available online at <<https://iopscience.iop.org/article/10.1088/1748-9326/ac358d/pdf>> (last accessed on 16 April 2024).
- ²⁸ The Greens/EFA, Proposed EU Regulation on Deforestation & Forest Degradation – Understanding the Impact of Excluding Other Ecosystems. Available online at <https://resources.trase.earth/documents/Greens_Proposed-EU-regulation-on-deforestation-%26-forest-degradation.pdf> (last accessed on 16 April 2024). Acknowledging the limitation regarding its scope of application, the EUDR had set June 30, 2024, as the deadline for the EU Commission to present an impact assessment accompanied, if appropriate, by a legislative proposal to extend the scope of the Regulation to include other wooded land. See EUDR, Preamble, Art. 82 and Chapter 8, Art. 34.
- ²⁹ UK Environment Act 2021, Schedule 17. Available online at <<https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>> (last accessed on 16 April 2024).
- ³⁰ US Bill of the Forest Act of 2021. Available online at <<https://www.congress.gov/bill/117th-congress/senate-bill/2950/text>> (last accessed on 16 April 2024).
- ³¹ The New York Declaration on Forests, 2014. Available online at <https://forestdeclaration.org/wp-content/uploads/2021/08/NYDF_Declaration.pdf> (last accessed on 16 April 2024).
- ³² The Bonn Challenge website is available at <<https://www.bonnchallenge.org/>> (last accessed on 16 April 2024).
- ³³ The Roundtable on Sustainable Soy website is available at <<https://responsiblesoy.org/?lang=en>> (last accessed on 16 April 2024).
- ³⁴ E.g., UN Global Compact of 2000 that encourages businesses to adopt ten principles covering human rights, labour, environment, and anti-corruption, and report on their progress (available online at <<https://unglobalcompact.org/what-is-gc/mission/principles>>); UN Guiding Principles on Business and Human Rights of 2011, which provides guidance for states and businesses to prevent, address, and remedy human rights abuses committed in business operations (available online at <<https://www.undp.org/sites/g/files/zskgke326/files/migration/in/UNGP-Brochure.pdf>>) (last accessed on 16 April 2024).
- ³⁵ E.g., OECD Guidelines for Multinational Enterprises (2011) (last updated in 2023 and available online at <https://www.oecd-ilibrary.org/finance-and-investment/oecd-guidelines-for-multinational-enterprises-on-responsible-business-conduct_81f92357-en>), OECD Responsible business conduct for institutional investors - Key considerations for due diligence under the OECD Guidelines for Multinational Enterprises (2017) (available online at <<https://mneguidelines.oecd.org/RBC-for-Institutional-Investors.pdf>>), OECD Due Diligence Guide for Responsible Business Conduct (2018) (available online at <<https://mneguidelines.oecd.org/OECD-Due-Diligence-Guidance-for-Responsible-Business-Conduct.pdf>>), and the OECD-FAO Guidance for Responsible Agricultural Supply Chains (2016) (available online at <https://www.oecd-ilibrary.org/agriculture-and-food/oecd-fao-guidance-for-responsible-agricultural-supply-chains_9789264251052-en>). A recent addition to these guidelines which specifically target deforestation is the OECD-FAO Business Handbook on Deforestation and Due Diligence in Agricultural Supply Chains, July 2023 (available online at <<https://www.oecd.org/publications/oecd-fao-business-handbook-on-deforestation-and-due-diligence-in-agricultural-supply-chains-cod4bca7-en.htm>>) (last accessed on 16 April 2024).
- ³⁶ LOI n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre (1), 27 March 2017. Available online (FR) at <<https://www.legifrance.gouv.fr/loda/id/JORFTEXT000034290626>> (last accessed on 16 April 2024).
- ³⁷ Lov om virksomheters åpenhet og arbeid med grunnleggende menneskerettigheter og anstendige arbeidsforhold (åpenhetsloven), 18 June 2021. Available online (NO) at <<https://lovdata.no/static/lovtidend/ltavd1/2021/nl-20210618-099.pdf>> (last accessed on 16 April 2024).
- ³⁸ über die unternehmerischen Sorgfaltspflichten in Lieferketten, 16 July 2021. Available online (DE) at <https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&jumpTo=bgbl121s2959.pdf#_bgbl_%2F%2F*%5B%40attr_id%3D%27bgbl121s2959.pdf%27%5D_1713458413400> (last accessed on 16 April 2024).
- ³⁹ Proposal for a Directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937. Available online at <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0071>> (last accessed on 16 April 2024).

- ⁴⁰ Rio Declaration on Environment and Development (1992), Principle 3. Available online at <https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf> (last accessed on 16 April 2024).
- ⁴¹ Law No. 6,938 of 31 August 1981, Art. 3, Art. 14 § 1 (general liability clause).
- ⁴² Brazilian Constitution, Art. 225 Para. 3. See also, Rio Declaration on Environment and Development (1992), Principle 16.
- ⁴³ Superior Tribunal de Justiça, Recurso Especial (REsp) Nº 1.071.741 - SP (2008/0146043-5), Relator: Ministro Herman Benjamin, 24 Mar 2009, Para. 12.
- ⁴⁴ Law No. 6,938 of 31 August 1981, Art. 12 and Art. 12 Single Paragraph.
- ⁴⁵ Bloomberg Law, Brazil Fines Spanish Bank Santander in Amazon Deforestation, 26 Oct 2016. Available online at <<https://news.bloomberglaw.com/environment-and-energy/brazil-fines-spanish-bank-santander-in-amazon-deforestation>> (last accessed on 16 April 2024).
- ⁴⁶ Consultor Jurídico, MPT ajuíza ações contra sete bancos por crédito a empresas “lista suja”, 25 May 2019. Available online at <<https://www.conjur.com.br/2019-mai-25/mpt-ajuiza-aco-es-bancos-credito-empresas-lista-suja/>> (last accessed on 16 April 2024).
- ⁴⁷ Law No. 12,651 of 25 May 2012.
- ⁴⁸ Law No. 12,651 of 25 May 2012, Arts. 29-30.
- ⁴⁹ Law No. 12,651 of 25 May 2012, Art. 78-A.
- ⁵⁰ Law No. 12,651 of 25 May 2012, Arts. 59-60.
- ⁵¹ Law No. 12,651 of 25 May 2012, Art. 26.
- ⁵² See Law No. 12,651 of 25 May 2012, Art 2, § 1; Law No. 9,605 of 12 February 1998, that outlines the criminal and administrative sanctions arising from conduct and activities harmful to the environment; and Decree No. 6,514 of 22 July 2008, that outlines the environmental infractions and administrative sanctions, and establishes the federal administrative process for investigating these infractions.
- ⁵³ Law no. 9,605 of 12 February 1998, Art. 72 §8 (IV). Decree 6,514 of 22 July 2008, Art. 20 (IV).
- ⁵⁴ The National Policy on Climate Change (Política Nacional sobre Mudança do Clima, PNMC), Law no. 12,187 of 29 December 2009, Art. 6 (III).
- ⁵⁵ The reestablishment of the PPCDAm was undertaken in Decree No. 11,367 of 1 January 2023. The PPCDAm, 5th Phase, (2023-2027) was announced in June 2023 and is available online (PT) at <https://www.gov.br/mma/pt-br/ppcdam_2023_sumario-rev.pdf> (last accessed on 16 April 2024).
- ⁵⁶ The reestablishment of the PPCerrado was undertaken in Decree No. 11,367 of 1 January 2023. The Decree also establishes other Action Plans for the prevention and control of deforestation in the Atlantic Forest, Caatinga, Pampa and Pantanal. The PPCerrado, 4th Phase, (2023-2027) was announced in November 2023 and is available online (PT) at <https://www.gov.br/mma/pt-br/assuntos/combate-ao-desmatamento/ppcerrado/ppcerrado_4fase.pdf> (last accessed on 16 April 2024).
- ⁵⁷ Decree No. 11,815 of 5 December 2023.
- ⁵⁸ See also Law No. 6,938 of 31 August 1981; and Complementary Law No. 140 of 8 December 2011 which establishes rules on cooperation between the Union, the States, the Federal District, and the municipalities in administrative actions to protect the environment.
- ⁵⁹ Another executing body is the Chico Mendes Institute for Biodiversity Conservation (ICMbio) which manages protected areas (under the National System of Conservation Units of Nature Law (SNUC), Law No. 9,985 of 18 July 2000) across Brazil, including national parks and reserves, with specific focus on biodiversity conservation. The SNUC establishes a system of conservation units (UCs) in Brazil, divided into two groups: Integral Protection Units (Unidades de Proteção Integral, PI) and Sustainable Use Units (Unidades de Uso Sustentável, US). UCs are protected areas that aim to conserve nature and promote sustainable development. UCs are legally created by act of the government (unlike the permanent protected areas and legal reserve areas in the Forestal Code, that are instituted upon the landowner’s application to register as such) and are under a special administration regime. As these units do not relate to lands on which private economic activity is allowed, they are not discussed further in this document.
- ⁶⁰ Decree No. 6,514 of 22 July 2008.
- ⁶¹ TerraBrasilis/Prodes. Available online at <<https://terrabrasilis.dpi.inpe.br/app/map/deforestation?hl=pt-br>> (last accessed on 16 April 2024).
- ⁶² TerraBrasilis/Deter. Available at <<https://terrabrasilis.dpi.inpe.br/app/map/alerts?hl=en>> (last accessed on 16 April 2024).
- ⁶³ TerraBrasilis/Queimadas. Available at <<https://terrabrasilis.dpi.inpe.br/ams/>> (last accessed on 16 April 2024).
- ⁶⁴ IBAMA/Open data. Available online at <<https://dadosabertos.ibama.gov.br/organization/about/ibama>> (last accessed on 16 April 2024).
- ⁶⁵ IBAMA/Open data/Inspection and notices of infraction. Available online at <<https://dadosabertos.ibama.gov.br/dataset/fiscalizacao-auto-de-infracao>> (last accessed on 16 April 2024).
- ⁶⁶ MapBiomias Brasil website is available at <<https://brasil.mapbiomas.org/>> (last accessed on 16 April 2024).
- ⁶⁷ Since 2019, the MPF has been technically assisted by Boi na Linha, an organisation created on the initiative of Imaflores and in partnership with the Federal Public Ministry, with the aim to promote good practices through monitoring, auditing and reporting of processes and tools, increasing transparency in the search for a cattle chain free from deforestation, slave labour or invasion of public lands.
- ⁶⁸ Chain Reaction Research, Brazilian Beef Supply Chain Under Pressure Amid Worsening ESG Impacts, Aug 2020. Available online at <<https://chainreactionresearch.com/wp-content/uploads/2020/08/Brazilian-Beef-Supply-Chain-Under-Pressure-7.pdf>> (last accessed on 16 April 2024).
- ⁶⁹ According to a study by Imazon, in 2017, just a half of the active meat-packing plants, responsible for 70% of the slaughter capacity, have signed the TAC with the MPF. Available online at <<https://imazon.org.br/en/will-meat-packing-plants-help-halt-deforestation-in-the-amazon/>> (last accessed on 16 April 2024).
- ⁷⁰ Catarina Barbosa, MPF diz que frigoríficos podem, sim, identificar todas as fazendas em que gado passou antes do abate, Reporter Brasil, 20 December 2022. Available online at <<https://reporterbrasil.org.br/2022/12/mpf-diz-que-frigorificos-podem-sim-identificar-todas-as-fazendas-em-que-gado-passou-antes-do-abate/>> (last accessed on 16 April 2024).

- ⁷¹ Catarina Barbosa, Pelo segundo ano consecutivo, irregularidades colocam JBS entre piores frigoríficos para MPF, Reporter Brasil, 15 December 2022. Available online at <<https://reporterbrasil.org.br/2022/12/pelo-segundo-ano-consecutivo-irregularidades-colocam-jbs-entre-piores-frigorificos-para-mpf/#:~:text=Pelo%20segundo%20ano%20consecutivo%2C%20irregularidades%20colocam%20JBS%20entre%20piores%20frigor%C3%ADficos%20para%20MPF,-Por%20Catarina%20Barbosa&text=A%20JBS%20lidera%20o%20ranking,%20Dfeira%2C%2015%20de%20dezembro>> (last accessed on 16 April 2024); Catarina Barbosa (ibid., note 70).
- ⁷² Gov.br/Services and Information from Brazil/Qualify for issuing the Animal Transit Guide (GTA). Available online at <<https://www.gov.br/pt-br/servicos/habilitar-se-para-emissao-da-guia-de-transito-animal>> (last accessed on 16 April 2024).
- ⁷³ The Slave Labour List' is a list created by the Ministry of Labour and Employment (MTE), registering Employers who have subjected workers to conditions similar to slavery.
- ⁷⁴ Further information about SMGeo Indireto is available at <<https://niceplanet.com.br/#inicio-section>> (last accessed on 16 April 2024).
- ⁷⁵ Visipeç is a joint effort of the National Wildlife Federation (NWF) and AVP, based on a methodology developed by scientists and researchers in the Gibbs Land Use and Environment Lab (GLUE) at the University of Wisconsin-Madison (UW). The development of Visipeç was informed by the multi-stakeholder Indirect Supplier Working Group (GTFI) and was further refined in close coordination with industry stakeholders with support from Amigos da Terra Amazonia Brasileira (AdT). Further information is available at <<https://www.visipeç.com/>> (last accessed on 16 April 2024).
- ⁷⁶ Marfrig conclui fase de projeto de rastreamento de fornecedores, Merco Agro, 24 September 2021. Available online at <<https://mercoagro.com.br/noticia/1804/marfrig-conclui-fase-de-projeto-de-rastreamento-de-fornecedores>> (last accessed on 16 April 2024).
- ⁷⁷ Minerva Foods é a primeira empresa do setor a integrar ferramenta para avaliação de fornecedores indiretos em seu sistema de monitoramento da cadeia, Minerva Foods, 17 September 2021. Available online at <<https://minervafoods.com/noticias/minerva-foods-e-a-primeira-empresa-do-setor-a-integrar-ferramenta-para-avaliacao-de-fornecedores-indiretos-em-seu-sistema-de-monitoramento-da-cadeia/>> (last accessed on 16 April 2024).
- ⁷⁸ JBS Transparent Livestock Farming Platform. Available at <<https://jbs360.com.br/en/transparent-livestock-farming/>> (last accessed on 16 April 2024).
- ⁷⁹ Conecta Pecuária. Available at <<https://conectapecuaria.com.br/>> (last accessed on 16 April 2024).
- ⁸⁰ Selo Verde. Available at <<https://www.semas.pa.gov.br/selo-verde/>> (last accessed on 16 April 2024).
- ⁸¹ To comply with the Forest Code, the self-declared information to the CAR needs to be validated by regional or local government bodies, however, it has been reported that they have so far verified just 1% of these declarations. Estados da Amazônia garantem preservação ambiental em 1% das fazendas da região, OECO, 9 December 2021. Available at <<https://oeco.org.br/reportagens/estados-da-amazonia-garantem-preservacao-ambiental-em-1-das-fazendas-da-regiao/>> (last accessed on 16 April 2024).
- ⁸² Amazônia: como criadores de gado driblam acordo com MPF e incentivam desmatamento, Repórter Brasil, 12 June 2020. Available at <<https://reporterbrasil.org.br/2020/06/amazonia-como-criadores-de-gado-driblam-acordo-com-mpf-e-incentivam-desmatamento/>> To address cases where farmers register excessive cattle on legal areas while raising them elsewhere, the 2020 update to the TAC monitoring protocol introduced a “theoretical index.” This index defines the maximum livestock capacity for a given plot, aiding in identifying potential cases of “laundered cattle.” The Monitoring Protocol for Cattle Suppliers in the Amazon is available online at <<https://www.beefontrack.org/wp-content/uploads/2022/10/Monitoring-Protocol-Cattle-Suppliers-Amazon.pdf>> (last accessed on 16 April 2024).
- ⁸³ Amazônia: como criadores de gado driblam acordo com MPF e incentivam desmatamento (ibid., note 82).
- ⁸⁴ Blockchain platform developed by JBS launched to accelerate traceability of entire cattle production chain, JBS Global News, 28 April 2021. Available online at <<https://www.jbsglobal.co.uk/2021/04/blockchain-platform-developed-by-jbs-launched-to-accelerate-traceability-of-entire-cattle-production-chain/>> (last accessed on 16 April 2024). Other platforms that rely on self-declarations include Conecta and SMGeo Indireto.
- ⁸⁵ Com pressão ambiental, Brasil começa a tirar do papel rastreabilidade individual de bovinos, OECO, 5 May 2023. Available online at <<https://oeco.org.br/reportagens/com-pressao-ambiental-brasil-comeca-a-tirar-do-papel-rastreabilidade-individual-de-bovinos/>> (last accessed on 16 April 2024).
- ⁸⁶ Grupo de Trabalho dos Fornecedores Indiretos (GTFI)/Monitoring of Indirect Suppliers. Available online at <<https://gtfi.org.br/en/>> (last accessed on 16 April 2024).
- ⁸⁷ Indeed, a recent investigation by Global Witness into deforestation within ranches that supply cattle to major meatpacking companies in Brazil's cattle capital, Mato Grosso state, spanning the Amazon and Cerrado biomes, revealed that Cerrado Mato Grosso cattle ranches were four times more likely to have deforested land compared to their Amazon Mato Grosso counterparts. Specifically, the investigation found that 43% of Cerrado cattle farms supplying JBS, Marfrig, and Minerva in Mato Grosso had deforested land (deforested after 22 July 2008), contrasting with 10% of Amazon cattle farms. The Cerrado Crisis: Brazil's Deforestation Frontline, Global Witness, 21 Feb 2024. Available online at <https://www.globalwitness.org/documents/20664/MT_report_in_GW_Template_ENG_Final.pdf> (last accessed on 16 April 2024).
- ⁸⁸ 60% of national production of soy comes from the Cerrado. World Economic Forum, The Cerrado: Production and Protection, White Paper Feb 2024. Available online at <https://www3.weforum.org/docs/WEF_Sustainable_Transition_Cerrado_2024.pdf> (last accessed on 16 April 2024).
- ⁸⁹ World Economic Forum, The Cerrado: Production and Protection (ibid., note 88); WWF Website, Save the Cerrado (ibid., note 18); Strassburg, B., Brooks, T., Feltran-Barbieri, R. *et al.* Moment of truth for the Cerrado hotspot. *Nat Ecol Evol* 1, 0099 (2017). Available online at <<https://doi.org/10.1038/s41559-017-0099>> Carlos Klink, C.A. (2020). Tropical Savannas and Conciliating Production with Conservation Strategies: The Case of Brazil. In: Leal Filho, W., Azul, A., Brandli, L., Lange Salvia, A., Wall, T. (eds) Life on Land. Encyclopedia of the UN Sustainable Development Goals. Springer, Cham. Available online at <https://doi.org/10.1007/978-3-319-71065-5_57-2> (last accessed on 16 April 2024).
- ⁹⁰ WWF Website, Save the Cerrado (ibid., note 18) referring to Strassburg, B., Brooks, T., Feltran-Barbieri, R. *et al.* (ibid., note 89).
- ⁹¹ Yuri Botelho Salmona *et al.*, A Worrying Future for River Flows in the Brazilian Cerrado Provoked by Land Use and Climate Changes, Sustainability, Volume 15, Issue 5, 27 February

2023. Available online at <<https://www.mdpi.com/2071-1050/15/5/4251>>; Rodrigues A.A. et al., Cerrado deforestation threatens regional climate and water availability for agriculture and ecosystems. *Global Change Biology*, November 2022. Available online at <<https://pubmed.ncbi.nlm.nih.gov/36073184/>> (last accessed on 16 April 2024).

⁹² World Economic Forum, The Cerrado: Production and Protection (ibid., note 88), referring to Rodrigues A.A. et al. (ibid., note 91).

⁹³ Agricultural Commodity Companies Corporate Statement of Purpose, UN Climate Change Conference 2021, 2 Nov 2021. Available online at <<https://webarchive.nationalarchives.gov.uk/ukgwa/20230106145036/https://ukcop26.org/agricultural-commodity-companies-corporate-statement-of-purpose/>> (last accessed on 16 April 2024).

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¹⁰⁴ CMN Resolution No. 4,327 of 25 Apr 2014. See also CMN Resolution No. 4,557 of 2017.

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¹⁰⁶ Febraban's network stretches across Brazil, with 119 member institutions holding a commanding 98% of the nation's banking assets and 97% of net equity. For more information see Febraban website <<https://portal.febraban.org.br/pagina/3031/9/en-us/institucional>> (last accessed on 16 April 2024).

¹⁰⁷ All members of Febraban must observe the principles of the Code of Ethical Conduct and Self-Regulation. Self-regulation norms are first discussed in the Febraban Executive Self-Regulation Committee, in which 18 banks are represented, and then in the association's Self-Regulation Council.

¹⁰⁸ The Normative Self-Regulation axes concern relationship with the consumer, prevention of illicit acts, and socio-environmental responsibility.

¹⁰⁹ SARB No. 014/2014.

¹¹⁰ The list is available online at <<https://www.autorregulacao-bancaria.com.br/paginas/6/pt-br/signatarias>> (last accessed on 16 April 2024).

¹¹¹ As revised in Deliberação No. 031, de 1º de dezembro de 2020.

¹¹² Law No. 4,829 of 5 November 1965.

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¹¹⁴ The Rural Credit Manual (MCR) is available online (PT) at <<https://www3.bcb.gov.br/mcr/completo>> (last accessed on 16 April 2024).

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¹¹⁶ Law No. 8,929 of 22 Aug 1994.

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- ¹²¹ For more information about the Innovative Finance for the Amazon, Cerrado, and Chaco, see <<https://www.unep.org/resources/newsletter/innovative-finance-amazon-cerrado-and-chaco>> (last accessed on 16 April 2024).
- ¹²² Other measures relate to sustainable crops, bioeconomy, land regularisation, green infrastructure, social infrastructure, climate change, Environmental asset market and Incentive to local development projects.
- ¹²³ More information about the eight sector specific alliances in available at <<https://www.gfanzero.com/about/>> (last accessed on 16 April 2024).
- ¹²⁴ See GFANZ website at <<https://www.gfanzero.com/>> (last accessed on 16 April 2024).
- ¹²⁵ The commitment letter signed by these financial institutions is available online at <<https://racetozero.unfccc.int/wp-content/uploads/2021/11/DFE-Commitment-Letter-.pdf>> (last accessed on 16 April 2024).
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- ¹²⁸ Many of these banks are signatories to the UN Environment Programme Investment Initiative of Net Zero Banking Alliance. See <<https://www.unepfi.org/net-zero-banking/members/>> (last accessed on 16 April 2024).
- ¹²⁹ There are numerous national and international initiatives of voluntary commitments for the financial sector to respect socio-environmental standards that can be used as inspiration and reference. Among these are The Equator Principles (EPs) are intended to serve as a common baseline and risk management framework for financial institutions to identify, assess and manage environmental and social risks when financing Projects, see <<https://equator-principles.com/>>; OECD-FAO Business Handbook on Deforestation and Due Diligence in Agricultural Supply Chains, July 2023 (ibid., note 35); OECD Due Diligence Guidance for Responsible Business Conduct (2018) (ibid., note 35); OECD Responsible business conduct for institutional investors - Key considerations for due diligence under the OECD Guidelines for Multinational Enterprises (2017) (ibid., note 35); OECD-FAO Guidance for Responsible Agricultural Supply Chains (2016) (ibid., note 35); OECD Due Diligence in the Financial Sector: Adverse Impacts Directly Linked to Operations, Products or Services by a Business Relationship (2014), available online at <<https://mneguidelines.oecd.org/global-forum/GFRBC-2014-financial-sector-document-1.pdf>> , Deforestation-Free Finance Roadmap (2022), available online at <<https://guidance.globalcanopy.org/wp-content/uploads/2023/01/DFE-Roadmap-2022-12.pdf>>, Due Diligence towards Deforestation-Free Finance: Guidance for Financial Institutions (2023), available online at <https://guidance.globalcanopy.org/wp-content/uploads/2023/08/DFE_due-diligence-guidance_English.pdf>, The Ceres' Investor Guide to Deforestation and Climate Change (2020), available online at <<https://www.ceres.org/resources/reports/investor-guide-deforestation-and-climate-change>>, WWF Practical Guide for Financial Institutions to Take Action against Deforestation and Conversion Risks (2022), available online at <https://wwfint.awsassets.panda.org/downloads/seeing_the_forest_for_the_trees.pdf>, The Accountability Framework initiative (AFi) Guide for Financial Institutions, available online at <<https://accountability-framework.org/use-the-accountability-framework-for-financial-institutions/>> (last accessed on 16 April 2024).
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A photograph of two people wearing hats and carrying equipment, standing in a field of tall grass and trees. The scene is lit with warm, golden light, suggesting late afternoon or early morning. The text is overlaid in the center of the image.

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For contact details and further information, please visit our website at wwf.org.br