

Recommendations from the
Brazilian Business Sector
**for the Development of
the Bioeconomy**





INDEX

Cover Letter	5
Executive summary	7
The main bottlenecks for the bioeconomy in Brazil	9
CEBDS Recommendations for the National Bioeconomy Development Plan	15
Conclusion: the role of the Brazilian business sector	22

What is CEBDS

The Brazilian Business Council for Sustainable Development (CEBDS) is a non-profit civil association that promotes sustainable development in Brazil through engagement with governments and civil society, in addition to disseminating the latest concepts and practices on the subject.

The institution, which turned 27 in 2024, was founded in 1997 by a group of prominent Brazilian business leaders who were attentive to the changes and opportunities that sustainability was bringing, especially after Rio-92. Today, it brings together more than 110 of the largest business groups in the country, from all sectors of the economy.

CEBDS represents the World Business Council for Sustainable Development (WBCSD) network in Brazil, which has nearly 60 national and regional councils in 36 countries, operates in 22 industrial sectors, and includes over 200 business groups that operate on all continents.

Cover Letter

The **bioeconomy emerges as a sustainable response to the conventional economic model**, historically based on the exploitation of fossil fuels and socio-environmental degradation. This new paradigm has gained global relevance, and Brazil, with its vast biodiversity and sociocultural wealth, **plays a strategic role in the transition to a greener and more inclusive development model. In this context, the bioeconomy has always been considered a priority for the Brazilian Business Council for Sustainable Development (CEBDS), aligning with our ambition to position the country as a global leader in a carbon-neutral, inclusive, and nature-positive economy.**

In recent months, **CEBDS has led advocacy actions that reinforce the importance of integrating climate, nature, and society.** In June, we presented a position paper to the Federal Government advocating for the creation of a regulated carbon market, signed by 54 companies from various sectors. In September, during Climate Week in New York, we called on our companies to support a more ambitious and achievable Nationally Determined Contribution (NDC), mobilizing the backing of over 50 major companies. These actions demonstrate **our ongoing commitment to building an integrated vision to address three simultaneous crises: the climate emergency, biodiversity loss, and social inequality.**

The Bioeconomy has the potential to provide solutions capable of addressing these three challenges. Globally, it is estimated to generate between USD 4 and 5 trillion annually, with projections pointing to USD 30 trillion by 2050¹. In Brazil, bioeconomy activities represent 25.3% of the national GDP, totaling BRL 2.7 trillion in 2023, considering sectors such as agriculture, bio-industries, and forestry activities². However, these estimates do not yet consider sustainability criteria nor the intrinsic value of biodiversity. **This reveals a vast additional potential to be tapped through the ecological transition, with a focus on sustainable agriculture and the conversion of biomass into energy products and high-value-added goods. This transition could generate USD 593 billion annually by 2050 and reduce global emissions by 29 GtCO₂eq³, reinforcing its importance for climate balance.**

¹ WORLD BIOECONOMY FORUM; NATURE FINANCE. Financiando uma bioeconomia global sustentável. Set. 2024. Disponível em: <https://www.naturefinance.net/wp-content/uploads/2024/09/POR-FinanciandoUmaBioeconomiaGlobalSustentavel-.pdf>. Acesso em: 2 out. 2024.

² LIMA, C. Z. (2024). MACROBIOECONOMIA PIB DA BIOECONOMIA 2010 - 2023. Observatório de Conhecimento e Inovação em Bioeconomia, Fundação Getúlio Vargas - FGV-EESP, São Paulo, SP, Brasil. Disponível em: <https://agro.fgv.br/publicacao/ocbio-boletim-macrobioeconomia>. Acesso em: 9 out. 2024.

³ ABBI study shows that Bioeconomy can generate US\$592.6 billion per year. ABBI, 2023. Available at: <https://abbi.org.br/noticias/estudo-da-abbi-mostra-que-bioeconomia-podegerar-us-5926-bi-ao-ano/>

The socio-bioeconomy potential is also evident. **Considering solely Brazil's Legal Amazon, the GDP could reach BRL 38.5 billion by 2050, employing more than 900,000 people.** This reality underscores the importance of a new development paradigm based on the appreciation of natural capital and social inclusion.

With Brazil being home to the world's richest biodiversity and a sociocultural diversity that includes over 300 indigenous ethnic groups and traditional communities, the bioeconomy presents an innovative and inclusive path forward.⁴ Decree No. 12,044, enacted in June 2024, establishes the National Bioeconomy Strategy, aiming to advance this agenda by promoting the sustainable use of biodiversity, conservation, and restoration, while striving for climate balance and upholding respect for traditional knowledge.

Brazil also led the creation of the G20's⁵, 10 High-Level Principles on Bioeconomy, consolidating its role as a global leader. However, for this achievement to materialize, it is crucial that the state and the private sector advance in implementing public policies that guarantee a favorable environment for the bioeconomy.

CEBDS outlines in this document its recommendations for the National Bioeconomy Plan, contributing to Brazil's sustainable development and strengthening the country's leadership in this global strategic agenda.

Marina Grossi
CEBDS President

Juliana Lopes
Nature and Society
Director

São Paulo, October 27, 2024

⁴ Due to the lack of reliable data, this is a very conservative estimate and probably underestimated, as it only considers 13 chains of the socio-biodiversity of native Amazonian products for which reliable information exists: açai fruit, açai palm heart, cocoa, chestnut, babassu coconut, babassu oil, cupuaçu, honey, rubber, buriti, annatto, copaiba, andiroba. This forecast does not consider the development of other products innovative.

⁵ Joly C.A.; Scarano F.R.; Seixas C.S.; Metzger J.P.; Ometto J.P.; Bustamante M.M.C.; Padgurschi M.C.G.; Pires A.P.F.; Castro P.F.D.; Gadda T.; Toledo P. (eds.) (2019). 1st Brazilian Diagnosis of Biodiversity and Ecosystem Services. Editora Cubo, São Carlos pp.351. Available at: <https://doi.org/10.4322/978-85-60064-88-5>.

Executive summary

Through a consultation with our members in the Bioeconomy Task Force, we reached a shared understanding of the topic and identified the key bottlenecks and priority actions necessary for its full development.

We understand the bioeconomy as a sustainable development model that responsibly and innovatively uses biological and natural resources, promoting economic value generation from biodiversity while preserving ecosystems and strengthening traditional and scientific knowledge. It integrates sustainable production practices, nature-based solutions, and the circular economy, generating bioproducts and ecosystem services.

For the National Bioeconomy Strategy to succeed, the following enabling elements are crucial:

- 1. Clear planning and defined goals:** It is crucial to develop concrete pathways and mechanisms, with achievable and standardized goals, to guide the implementation of bioeconomy across all Brazilian biomes.
- 2. Integration with the circular economy:** Bioeconomy must align with circular economy principles, leveraging synergies and driving circular practices to generate sustainable value.
- 3. Effective contribution from the private sector:** The active involvement of companies in the development and implementation of strategies is vital. This includes sharing experiences, developing new bioeconomy products and services, and collaborating with the government in execution.
- 4. Financial support and community strengthening:** Facilitating access to financial resources, particularly for cooperatives and associations involved in socio-bioeconomy products, is essential for expanding and strengthening these value chains.
- 5. Scalability and success stories and case studies:** Creating and promoting success stories and studies that can be replicated in different contexts is important to demonstrate the bioeconomy's potential and expand its reach.
- 6. Public-private-community collaboration:** The strategy must ensure a collaborative space that includes the government, companies, indigenous, and traditional communities, aiming for integrated implementation.
- 7. Turning policies into laws:** To ensure legal certainty and avoid the risk of laws and other normative acts not aligning with the National Bioeconomy Strategy defined in Decree 12.044/2024, it would be

advisable to enact a law. There are two options: (i) creation of a government-initiated bill or (ii) alignment with existing bills.

As the primary instrument for implementing the National Bioeconomy Strategy, we believe the Bioeconomy Development Plan should include clear objectives, goals, and priority actions to address the barriers preventing the full realization of bioeconomy in Brazil.

Below, we summarize the **main bottlenecks impacting bioeconomy development in Brazil and present proposals to overcome them from the perspective of the Brazilian business sector.**

Bottlenecks	Proposals to overcome them
Deforestation and land grabbing of public lands	Eliminate illegal deforestation in Brazil and gradually end legal deforestation by strengthening command and control policies; allocate unassigned public lands and accelerate environmental regularization, with full implementation of the Forest Code.
Absence of clear bioeconomy taxonomy	Prioritize biodiversity objectives and ensure the inclusion of bioeconomy-related activities and projects in the Brazilian Sustainable Taxonomy, facilitating access to financing and appropriate public policy formulation.
Lack of adequate financial infrastructure	Create risk mitigation mechanisms (derisking), specific credit lines, hybrid financing (public-private), and strengthen access to international resources.
Difficulty accessing credit for small producers and traditional communities	Establish guarantee funds to facilitate credit and train financial agents to evaluate bioeconomy projects. Create financing mechanisms tied to purchase guarantees (trade finance).
Lack of carbon market regulation	Regulate the carbon market, aligning it with the Paris Agreement, and strengthen the voluntary market by standardizing carbon credit certifications and verifications and guidelines for FPIC - Free, Prior, and Informed Consent.
Lack of integration between regulatory instruments (PES, Forest Code, carbon market)	Ensure complementarity between regulatory instruments, such as the Forest Code, PES, carbon market, and benefit-sharing (Biodiversity Law), to avoid overlaps and legal uncertainty.
Lack of regulation of the Payment for Environmental Services (PES) Policy	Implement the PES policy by establishing clear goals and simple, transparent monitoring and commercialization mechanisms, ensuring resources for its execution.
Low representation of socio-bioeconomy in global markets	Promote productive chains with processing, logistics, and connectivity infrastructure. Improve access to certifications and traceability. Promote acceleration programs for cooperatives and guaranteed purchase mechanisms. Additionally, promote subsidies by creating new or reforming existing ones to prioritize socio-bioeconomy products.
Lack of data on bioeconomy supply and demand	Map and quantify bioeconomy product supply and demand by integrating official databases and developing targeted public policies and investments.

The following pages detail this bottleneck analysis and our proposals to overcome them.

The main bottlenecks for bioeconomy in Brazil

The implementation of the National Bioeconomy Strategy, aimed at leveraging the mapped potential of this new socio-economic development model, requires coordinated actions between the government, civil society, and the private sector to unlock structural barriers in the national landscape.

One of the main obstacles is the unchecked advance of deforestation across all of Brazil's biomes, driven by a combination of economic, social, and institutional factors. Low-productivity agriculture, land grabbing, and illegal mining are the main drivers of deforestation. In the Cerrado, 47% of native vegetation has already been lost, while in the Amazon, deforestation and fires are bringing the biome closer to levels some scientists classify as a point of no return, a threshold that, if crossed, would lead to irreversible ecosystem changes.

In addition to biodiversity loss and ecosystem service degradation, land-use change is also the main source of greenhouse gas emissions in Brazil, accounting for 48% of total emissions in 2022⁶. At the same time, Brazil is estimated to have 109.7 million hectares of pasturelands with some level of degradation⁷. Therefore, there is a common understanding among experts that production and conservation go hand in hand, and bioeconomy activities can contribute to the recovery of these degraded areas through integrated production systems and regenerative agricultural practices, such as Integrated Crop-Livestock-Forest (ICLF).

The deforestation scenario is further aggravated by the illegal occupation of unallocated public lands and delays in land regularization processes, compounded by inefficient public policy implementation and weak enforcement mechanisms. The sluggish enforcement of the Forest Code, Brazil's key legislation for the protection of native vegetation, fosters uncertainty, discouraging compliance with regulations and hindering the adoption of sustainable agricultural and forestry practices.

Another major bottleneck in the development of the bioeconomy is the absence of a clear taxonomy. Without a defined classification for bioeconomy-related products and services, it becomes challenging to attract investments, design effective public policies, and ensure transparency in the market. This lack of taxonomy also impedes the creation of efficient monitoring mechanisms, making it difficult to

⁶ G20 Bioeconomy Initiative (2024). High-Level Principles on Bioeconomy G20. Available at: https://www.g20.org/pt-br/trilhas/trilha-de-sherpas/bioeconomia/LETTER_.

⁷ Bolfe, É.L.; Victoria, D.d.C.; Sano, E.E.; Bayma, G.; Massruhá, S.M.F.S.; de Oliveira, A.F. Potential for Agricultural Expansion in Degraded Pasture Lands in Brazil Based on Geospatial Databases. *Land* 2024, 13, 200. Accessível em: <https://www.mdpi.com/2073-445X/13/2/200>.

establish relevant metrics and indicators, which in turn hinders the accurate measurement and evaluation of environmental and social impacts.

The Brazilian business sector understands that taxonomy is essential for supporting the development of specific financing mechanisms for bioeconomy and redirecting existing resources to sector-related activities. Mechanisms that could be directed to boost the bioeconomy currently concentrate resources in conventional activities, sometimes associated with deforestation. According to Climate Policy Initiative (CPI)⁸, between 2020 and 2022, 7% of properties that took subsidized rural credit deforested, accessing 15% of the total resource volume. There is also a between resources allocated to the bioeconomy and those allocated to conventional agricultural activities: between 2021 and 2023, the amount of rural credit allocated to biodiversity products accounted for only 2% of the value allocated to soybeans⁹.

There is also a lack of adequate financial infrastructure for bioeconomy financing, either due to the lack of guarantees or uncertainty regarding financial returns. Family farmers and indigenous and traditional communities struggle to access credit lines that meet the specificities of their activities. Financial institutions often view these investments as high-risk due to the lack of clear guarantees and the informality of the markets accessed. The lack of guarantees is compounded by the absence of land ownership titles or difficulty proving land possession, leaving these populations further marginalized from conventional financial systems. According to CPI¹⁰, family farming and biodiversity products together received only 17% of all financing allocated to bioeconomy between 2021 and 2023, with rural credit being the main source of financing for biodiversity products. In addition to low investor appetite, small producers often lack knowledge of existing financing options or are not trained to understand the requirements and steps needed to access them. This information asymmetry, in addition to creating a mismatch between credit supply and demand, can result in unfavorable financing conditions, with high-interest rates and operating costs.

High-tech bioeconomy also faces inherent financing challenges, linked to the high cost and risk of technological innovations aimed at converting biomass into high-value-added products. The development of biorefineries, advanced biotechnology, and other emerging processes demands substantial investment in research and development, often surpassing the resources offered by government and private initiatives. This limits the full innovation cycle, from laboratory research to commercialization. Scaling up these technologies is an additional hurdle, as the costs associated with large-scale production remain high, necessitating innovative financing models and public-private partnerships.

⁸ Mourão, João, Mariana Stussi e Priscila Souza. CAR a CAR: A Relação Entre o Crédito Rural Subsidiado e o Desmatamento. Rio de Janeiro: Climate Policy Initiative, 2024. bit.ly/CARaCAR

⁹ Chiavari, Joana, Miguel Motta, Cristina L. Lopes e Ana Flávia Corleto. Financiamento para a Bioeconomia no Brasil: Fontes e Destinação dos Recursos. Rio de Janeiro: Climate Policy Initiative, 2024.

¹⁰ Chiavari, Joana, Miguel Motta, Cristina L. Lopes e Ana Flávia Corleto. Financiamento para a Bioeconomia no Brasil: Fontes e Destinação dos Recursos. Rio de Janeiro: Climate Policy Initiative, 2024.

The high technological risk is also an obstacle, as many investors hesitate to support disruptive innovations due to uncertainty about financial returns, preferring more established sectors.

The bioeconomy benefits from growing global interest in reducing carbon emissions and preserving forests. Brazil can leverage its capacity to generate ecosystem services through sustainable practices in its vast forest areas, as well as integrated production systems and regenerative agricultural practices, directing economic incentives to activities aligned with the 10 High-Level Bioeconomy Principles approved by the G20, through environmental services payment (PES) markets, particularly carbon credits.

Thus, we understand that PES can be an effective tool to combat deforestation in Brazil by incentivizing forest conservation and the recovery of degraded areas through financial rewards for those who preserve the environment. Law No. 14.119/2021, which established the National Policy for Payment for Environmental Services, represents an important milestone by setting guidelines for these initiatives, creating a more favorable environment for rural landowners and communities to receive compensation for conservation practices.

High-Level Principles approved by countries of the G20 in September 2024:

1. Promoting inclusive growth.
2. Technological and scientific innovation.
3. Sustainable use of biodiversity.
4. Reduction of social inequalities.
5. Valorization of local resources.
6. Integration of production systems.
7. Transition to a low-carbon economy.
8. Environmental preservation and restoration.
9. Creation of sustainable production chains.
10. Strengthening public and international policies

However, its implementation faces considerable challenges, mainly due to the lack of regulation and broad financial incentives, as well as the absence of more robust monitoring and enforcement mechanisms to ensure project efficiency and transparency.

Brazil has enormous potential to offer credits associated with environmental services, particularly carbon credits from preservation or restoration activities, which already have a more developed market, driven by increased demand from companies that have committed to reducing or zeroing their net greenhouse gas emissions and by country commitments to the Paris Agreement.

However, the creation of a regulated carbon market in Brazil still lacks a legal framework, which is fundamental to generating stronger demand for credits. Meanwhile, the voluntary carbon market faces obstacles that hinder its full realization. On the one hand, the lack of standardization in carbon credit certification and verification methodologies, as well as weak enforcement, raises doubts about the reliability of the emission reductions being traded. On the other hand, how the benefit-sharing of these credits is negotiated with local communities, often without the proper Free, Prior, and Informed Consent (FPIC), poses a risk to the establishment of socio-environmental safeguards and can result in weakening the autonomy of these communities over land use.

Therefore, CEBDS advocates for the creation of a regulated carbon market at both national and global levels as a fundamental tool for driving the transition to a carbon-neutral, equitable, and nature-positive economy. We believe that this is one of the most efficient mechanisms for reducing Greenhouse Gas Emissions (GGE) associated with economic activities, with the potential to attract investments for technological innovation and leverage the comparative advantages of the national productive sector.

Brazil accounts for 15% of the global potential supply of nature-based solutions (NBS) carbon credits (1,2 – 1,9 GtCO₂eq each year), in addition to the potential for generating energy credits and other technology-based credits. If Brazil reaches its maximum carbon credit generation potential, it could create between 550,000 and 880,000 additional jobs per year. About 60% of these jobs would be located in regions where most carbon projects will be implemented, areas that often face socio-economic challenges. This scenario could generate an economic impact of up to USD 26 billion in annual gross added value¹¹.

In a study conducted by CEBDS in partnership with Idesam, we identified that the main motivating factor for business involvement in initiatives in the Amazon is the incorporation of emission reduction and decarbonization targets into company operations, and beyond that, into their supply chains. As an example of a program, all of the company's activities can be mapped to calculate its carbon footprint.

In the end, the results are converted into financial values that make up a fund for the development of internal carbon offset programs. This practice, along with the development of corporate ESG policies and goals — transversal, followed by everyone in the organization, connecting

¹¹ Iniciativa Brasileira para o Mercado Voluntário de Carbono (BRVCM)

operational areas with decision-making areas under the endorsement of top leadership — helps integrate nature-based solutions into the corporate strategy and budget, one of the key steps to ensuring high quality and avoiding the reputational, financial, and regulatory risks associated with acquiring low-quality carbon credits.

To address these challenges, CEBDS engaged its members in a capacity-building journey for due diligence in acquiring high-integrity credits based on the step-by-step approach proposed by the “Buyer’s Guide to Natural Climate Solutions Carbon Credits”, developed by WBCSD with BCG¹².

Another bottleneck that permeates various aspects of bioeconomy development is the lack of data. The bioeconomy product market, especially that of socio-bioeconomy, lacks reliable information on supply and demand. There are relevant gaps in supply chains and production systems in the official databases of government agencies, and there are discrepancies between data, pointing to the existence of a significant informal market. In the international market, Amazonian socio-bioeconomy products have marginal participation. Although the Amazon exports 64 forest-compatible products with a global market of USD 170 billion, Brazil’s contribution is a meager 0.2%¹³.

Among the main factors for the low representation of Brazilian socio-bioeconomy in the international market are regulatory compliance challenges, as social organizations and cooperatives responsible for processing these products often lack adequate infrastructure, making it difficult to implement good manufacturing practices and impossible to demonstrate compliance with food safety requirements. There is also a bottleneck regarding the absence of certifications required in more demanding markets and the lack of traceability. The absence of professional management in many community businesses also represents a significant barrier, as it affects planning capacity, leading to non-compliance with commercial agreements.

The development of bioeconomy value chains is also hindered by the lack of basic infrastructure, especially in regions like the Amazon. The absence of decentralized processing plants prevents local products from being processed and distributed efficiently. Moreover, the lack of digital connectivity in these areas hampers communication and access to information, limiting the development of innovative solutions and participation in global markets. Another relevant aspect is the precariousness of logistics infrastructure, which increases transportation costs and complicates access to inputs and technologies. Transportation, storage, and distribution challenges for biological products are significant, especially due to the high cost and excessive time to move goods between production regions and consumer markets. This scenario increases the final product cost and compromises its competitiveness in national and international markets.

¹² WBCSD, 2023. https://cebds.org/wp-content/uploads/2024/07/WBCSD-Guia-do-comprador-para-solucoes-climaticas-naturais-Creditos-de-carbono_VF_130524.pdf

¹³ Colovsky, S. Oportunidades para Exportação de Produtos Compatíveis com a Floresta na Amazônia Brasileira. Amazônia 2030, 2021. Disponível em: <https://amazonia2030.org.br/wp-content/uploads/2021/04/AMZ2030-Oportunidades-para-Exportacao-de-Produtos-Compativeis-com-a-Floresta-na-Amazonia-Brasileira-1-2.pdf>

Startups and Science and Technology Institutions (STIs) can play a key role in developing solutions for logistical, processing, and commercialization challenges but lack a structured open innovation ecosystem focused on solutions for the bioeconomy.

CEBDS Recommendations for the National Bioeconomy Development Plan

Within the context presented, CEBDS proposes four key recommendations for the National Bioeconomy Development Plan. The focus is on policies and plans that encourage sustainable practices, strengthen value chains, and facilitate access to financing, aiming to position Brazil as a global leader in bioeconomy.

1. **Eliminate illegal deforestation across Brazil and progressively phase out legal deforestation in all biomes.** Achieving this goal is essential for safeguarding biodiversity, addressing the climate crisis, and fostering sustainable development.
 - 1.1 **Strengthen command and control policies,** which are essential to ensuring the effectiveness of deforestation control actions. CEBDS emphasizes the need for more robust and efficient environmental enforcement, using advanced monitoring technologies, including remote sensing, to identify areas vulnerable to deforestation. The rigorous implementation of the Deforestation Prevention and Control Plans (PPCDAm for the Amazon and PPCerrado for the Cerrado) is seen as a central pillar of this strategy. These plans provide an integrated monitoring approach, with coordinated actions between the federal government, states, and municipalities to reduce deforestation and forest degradation.
 - 1.2 **Allocate unassigned public lands in the Amazon.** Currently, a large portion of these lands is susceptible to land grabbing and illegal deforestation. CEBDS proposes that these areas be properly identified and allocated for conservation or sustainable use projects, such as forest management and bioeconomy. Regularizing these lands would reduce pressure on still intact forest areas, protecting ecosystems and providing legal certainty for sustainable initiatives.
 - 1.3 **Coordinate with states to accelerate the validation of the Rural Environmental Registry (RER) and the implementation of Environmental Regularization Programs (ERPs), in line with the Forest Code.** The RER is an essential tool for monitoring and environmental regularization of rural properties, but many registrations are still awaiting validation, preventing full implementation of the Forest Code. Coordination between the federal government and states is crucial to speed up this process, ensure property regularization, and facilitate compliance with environmental regulations. ERPs, in turn,

are mechanisms that allow for the regularization of illegally deforested areas, offering alternatives for vegetation restoration and meeting legal requirements. Additionally, support is needed for the regularization of small properties, especially for local and traditional communities.

1.4 Prioritize bioeconomy investments in areas compliant with the Forest Code. This means that financial resources and incentives should be directed to properties and territories that already comply with environmental regulations, promoting sustainable land use and the preservation of natural resources. By prioritizing regularized areas, the government encourages responsible production practices and discourages the use of illegal or irregular areas. Bioeconomy can play a crucial role in this context, generating jobs and economic opportunities without compromising the environment.

2. Strengthen Access to Credit and Financing for Bioeconomy. This recommendation involves a series of integrated measures aimed at mitigating risks, aligning investments with the specific needs of activities adhering to the High-Level Bioeconomy Principles, and attracting more resources, both nationally and internationally. The goal is to foster a more favorable financial environment, adapted to the bioeconomy's particularities, enabling companies and sector projects to access resources more effectively and leverage their initiatives.

2.1 Prioritize biodiversity-related objectives in the Brazilian Sustainable Taxonomy. We agree with the prioritization of objectives proposed for the first phase, but we also suggest prioritizing biodiversity-related objectives, a topic that has gained strength in working groups within organizations and is expected to grow stronger in the coming years as the BST is launched. We also advocate for changing the term "Forests" to "Native Vegetation," so the taxonomy can encompass other vegetation formations in eligible activities¹⁴.

2.2 Also define bioeconomy taxonomy, which will serve to classify sector activities and projects, facilitating resource prioritization and creating more effective financial instruments. A clear taxonomy will allow financial institutions to objectively identify which activities are eligible for credit and financing based on sustainability and innovation criteria. This will also help direct investments to projects that significantly contribute to bioeconomy objectives, promoting more efficient resource use.

2.3 Structure a derisking strategy, tailored to socio-bioeconomy. This process involves creating or adapting guarantee rules that facilitate credit access for bioeconomy initiatives, often considered high risk by traditional financiers. The development of a specific public guarantee fund for the sector could be an effective solution for small producers and traditional communities, who face greater difficulty accessing credit due

¹⁴ CEBDS, 2024. Contribuições do setor privado para a Taxonomia Sustentável Brasileira.

to lack of traditional guarantees. This fund would facilitate credit release without burdening borrowers.

- 2.4 Coordinate with the private sector to develop hybrid financing mechanisms.** Combining public resources, such as subsidies or government credit lines, with private investments and philanthropic capital can catalyze technological innovations and open new markets for bioeconomy. This hybrid financing model leverages the strengths of both sectors, increasing the scale and impact of funded initiatives. Private capital, when combined with public incentives, can support the development of new technologies and innovative solutions that would be more difficult to finance in isolation.
- 2.5 Either develop or direct specific credit lines, aligned with bioeconomy taxonomy criteria.** These credits need to be designed to meet the needs and particularities of bioeconomy companies, which often have characteristics different from other sectors, such as longer investment cycles or greater reliance on technological innovations. Specific credit lines, with adjusted parameters, will ensure that bioeconomy companies can access the capital needed to grow and innovate.
- 2.6 Train financial agents to properly evaluate bioeconomy projects according to established criteria.** Financiers' lack of familiarity with the sector can be a significant barrier to credit access. Therefore, it is necessary for banks and other financial institutions to be trained to understand the bioeconomy's potential and apply the taxonomy guidelines when evaluating proposals. Additionally, public financial institutions should incorporate clear goals into their strategic planning, setting result participation targets so that bioeconomy financing becomes a long-term priority, not just a one-off action.
- 2.7 Leverage international resource mobilization.** Currently, only 4% of resources allocated to bioeconomy in Brazil come from international sources, representing an underutilized opportunity¹⁵. The recommendation is to leverage foreign capital, especially through international cooperation, in line with the 10 High-Level Bioeconomy Principles approved by the G-20. We also identify the opportunity to attract foreign capital to fill the current bioeconomy financing gap through the Ecoinvest program, with companies as vehicles to access this capital through existing or new financial instruments, thus directing financial flows towards activities based on the sustainable use, conservation, and restoration of nature. Bioeconomy has global appeal, particularly regarding climate change mitigation and biodiversity conservation, and Brazil can attract more foreign resources by aligning its policies with international standards and commitments, such as those of the G20, Paris Agreement, and Kunming-Montreal Agreement.

¹⁵ Chiavari, Joana, Miguel Motta, Cristina L. Lopes e Ana Flávia Corleto. Financiamento para a Bioeconomia no Brasil: Fontes e Destinação dos Recursos. Rio de Janeiro: Climate Policy Initiative, 2024.

- 2.8 Develop facilitated financing mechanisms tied to purchase guarantees, also known as trade finance.** These mechanisms are based on guaranteed purchase contracts, which provide greater security to investors and lenders, as the commercialization of products or services is assured, reducing the operation's risk. This type of financing can be especially useful in boosting bioeconomy product exports, and facilitating entry into new markets.
- 2.9 Define priority lines for high-tech and high-risk financing, focusing on innovative technologies and startups with high potential impact.** To this end, it is essential to establish partnerships with national companies, promoting investment in startups developing technological solutions for the bioeconomy sector. Non-repayable funding is a useful tool to support these innovations, as it allows high-potential but high-risk technology-based companies to receive the necessary support to develop their solutions without the pressure of repaying the capital.
- 2.10 Define sustainability criteria for constitutional funds.** The selection of projects financed by the North (FNO), Northeast (FNE), and Midwest (FCO) constitutional funds based on sustainability criteria, aligned with the High-Level Bioeconomy Principles, could direct financial flows to activities based on the sustainable use of biodiversity, conservation, and restoration.
- 2.11 Create programs to direct mandatory R&D investment resources to the generation of new products, services, and high-tech Bioeconomy Businesses.** We believe this measure has the potential to guide public and private innovation programs towards the guidelines of Mission 5 of the New Industrial Policy¹⁶, in order to overcome the current bottlenecks associated with the high cost and risk of technological innovations aimed at developing higher value-added biological products.
- 3. Strengthen and implement the Payment for Environmental Services policy.** Payment for Environmental Services (PES) is an essential tool to promote the conservation of natural resources, financially rewarding agents who preserve or recover areas strategic for environmental sustainability. The robust implementation of PES policies can strengthen the bioeconomy and accelerate the transition to a low-carbon economy.
- 3.1 Regulate the Payment for Environmental Services (PES) Policy.** Setting clear goals is fundamental for PES to achieve expected results in terms of conservation and environmental recovery. These goals must be guided by strategic objectives, such as the preservation of critical biomes, protection of water springs, and recovery of degraded areas. It is crucial to develop simple methodologies for quantifying and valuing environmental services and to create a monitoring and verification system to

¹⁶ MDIC, 2024. Nova Indústria Brasil. Disponível em: <https://www.gov.br/mdic/pt-br/composicao/se/cndi/arquivos/missoes-politica-industrial.pdf>

ensure the transparency and credibility of the PES system. Rules and standards for commercialization should also be established, including how generated credits will be sold and purchased, whether in the local or international market. Furthermore, it is necessary to develop economic instruments that facilitate PES operations, such as financing mechanisms that allow upfront resources to be provided to those offering services or structures that enable contract negotiation between different stakeholders.

- 3.2 Regulate the carbon market is indispensable for creating an environment of predictability and legal certainty for both investors and companies.** A regulated carbon market ensures that sectors with high greenhouse gas emissions have clear reduction targets and can offset part of their emissions by purchasing certified carbon credits. The creation of a robust carbon market in Brazil aligns with the commitments made under the Paris Agreement and strengthens the country's position as a key player in climate change mitigation. In addition to being a tool for emission reduction, the carbon market can generate new economic opportunities, enabling Brazil to consolidate itself as a global leader in the market, leveraging its vast environmental wealth to offer high-value-added credits at scale. We understand that such a measure is also essential to achieving the objectives assumed by Brazil under the Paris Agreement and the Kunming-Montreal Agreement through the implementation of the nationally Determined Contribution - NDC and the EPANB - National Biodiversity Strategy and Action Plan.
- **Strengthen voluntary carbon markets, alongside the regulated market, ensuring their integrity and credibility.** For this, the carbon credits generated by these markets need to be based on verifiable and auditable projects, so that emission compensation is effective and brings real benefits to the environment. Developing robust environmental safeguards is essential to ensuring the rights and autonomy of indigenous peoples and traditional communities. However, for this market to strengthen, there must be standardization of certification mechanisms and a clear distinction between credits generated voluntarily and those that are part of the regulated market.
 - **Promote alignment and complementarity between different regulatory instruments, such as the Forest Code, PES, carbon market, and the benefit-sharing under the Biodiversity Law.** These instruments should work in an integrated manner, complementing each other and avoiding overlaps that could generate legal uncertainty or hinder the implementation of effective environmental policies.
 - **Use PES as a tool to ensure the economic viability of socio-bioeconomy products, by integrating the value of environmental services into market prices.** In areas where sustainable management practices are promoted, PES can provide an additional source of income. Developing a PES system

that is simple and low-cost to monitor is crucial for this tool to have greater reach, especially in traditional communities and small properties. PES efficiency can promote the conservation of strategic areas while fostering local economic development, integrating communities into the market economy sustainably.

4. Foster the development of value and market chains for bioeconomy products.

Bioeconomy value chains are still quite nascent and require coordinated action between the government, civil society, and the private sector to develop and scale up.

- 4.1 Map, quantify, and qualify the supply and demand for bioeconomy products.** This involves integrating different official databases as well as including specific bioeconomy-related issues to obtain a systemic and detailed view of the sector. Detailed mapping allows identifying opportunities and gaps. With a clear understanding of supply and demand, public policies and investments can be directed more efficiently.
- 4.2 Define priority territories and value chains for public policy direction.** This definition should take into account each region's natural vocation and the potential of specific value chains, ensuring that investments are focused on areas with the greatest capacity to generate positive economic, social, and environmental impacts and scale up. This targeting optimizes resources and amplifies the results of promotion policies.
- 4.3 Dynamize the bioeconomy ecosystem in territories, through the structuring or strengthening of local productive arrangements and the development of intermediate links in the value chain.** This means encouraging the creation of collaborative networks between producers, cooperatives, companies, and research institutions to increase competitiveness and promote local development. Engaging different actors within the territory facilitates the circulation of knowledge, technology, and resources.
- 4.4 Structure essential services for bioeconomy development.** This includes everything from product processing to logistics and distribution, to regulatory compliance, certification, and traceability services. These elements are crucial to ensuring that bioeconomy products reach the market with added value and meet quality and safety requirements in both domestic and international markets.
- 4.5 Integrate science, technology, and innovation into the territory is another key factor.** Connecting Science and Technology Institutions (STIs) and startups that can develop solutions to improve the efficiency of bioeconomy value chains is vital to increasing sector competitiveness. The use of new technologies can solve local problems, reduce production costs, and promote innovations that make products more attractive to the market.

- 4.6 Develop long-term cooperative acceleration and capitalization programs, aimed at improving the administrative and financial management of these organizations.** Cooperatives play a crucial role in the bioeconomy, especially in regions where small producers are significant. These programs should include support for cooperative formalization and, consequently facilitated access to credit and working capital, providing cooperatives with the resources they need to invest in infrastructure, training, and innovation.
- 4.7 Promote guaranteed purchase mechanisms, modeled on the vertical integration contracts already used in agrosilvopastoral activities.** This type of contract provides security for bioeconomy producers, who can count on a guarantee that their production will be purchased, encouraging increased production scale and the adoption of more efficient practices.
- 4.8 Open public and private markets for bioeconomy products.** This can be done through facilitated institutional purchasing mechanisms that ensure bioeconomy producers' participation in government and corporate tenders and contracts. In addition, access to international markets needs to be facilitated through institutional marketing strategies and regulatory compliance support, so Brazilian bioeconomy products can compete globally, adding value and promoting sustainability.

Conclusion: the role of the Brazilian business sector

Overcoming the identified bottlenecks and implementing the highlighted enabling elements for the National Bioeconomy Strategy are essential to creating a conducive environment for developing strategic alliances to advance bioeconomy in Brazil. These efforts are key to positioning Brazil as a global leader in the just transition to a carbon-neutral, equitable, and nature-positive economy, fostering public-private-community partnerships that drive sustainable development, especially in the context between COP16 and COP30.

Bioeconomy offers a unique opportunity to transform Brazil's development model, preserving and restoring the country's natural capital. Building strategic partnerships that include companies, governments, and traditional communities is a crucial path to leveraging this potential. These partnerships, combined with innovations such as blended finance, the adoption of science-based targets, and corporate commitments to positive impact, will strengthen bioeconomy value chains, generating shared value and restoring ecosystems.

We hope the recommendations presented in this document will contribute to shaping the Bioeconomy Development Plan, fostering a business- and investment-friendly environment for the bioeconomy. The Plan has the potential not only to facilitate the emergence of new business models but also to build an institutional and regulatory framework that supports scalability and enhances Brazil's competitiveness in global sustainable markets.

On this journey, up to COP30, Brazil has the opportunity to establish itself as a global leader in bioeconomy, driving a virtuous cycle of innovation that integrates production with environmental preservation. The private sector, in partnership with governments and communities, will play a pivotal role in this process, forging strategic alliances and enabling investments that fuel sustainable growth.

Technical Data

Brazilian Business Council for Sustainable Development (CEBDS) 2024

Letter prepared by CEBDS through consultation with companies associated with the Bioeconomy Task Force regarding the mapping of bottlenecks and recommendations for the National Bioeconomy Plan, addressed to the Bioeconomy Secretariat of the Ministry of Environment and Climate Change. .

Technical Coordination:

CEBDS

Review:

Marina Grossi - President - CEBDS

Daniela Mignani - Director of Institutional Relations and Communication - CEBDS

Juliana Lopes - Director of Nature and Society - CEBDS

Marcelo Behar - Senior Advisor - CEBDS

Viviane Romeiro - Director of Climate, Energy, and Sustainable Finance

Karina Simão - Leader of the Bioeconomy Task Force - CEBDS

Content Systematization:

Fabiana Munhoz

Layout:

IG+ Comunicação Integrada

Press Office:

Approach Comunicação, Lygia Fagundes +55 11 96327-5781

Year:

2024

Social media:

cebds.org

Facebook.com/CEBDSBR

Twitter.com/CEBDS

Youtube.com/CEBDSBR

Instagram.com/cebds_sustentavel

CEBDS Address: Av. Almirante Barroso, 81 – 32º andar Centro – Rio de Janeiro – RJ

Zip Code: 20031-004 +55 21 2483-2250

cebds@cebds.or



www.cebds.org