

FROM RIO TO JOHANNESBURG: PRINCIPLES, PATHWAYS, AND CHALLENGES FOR FINANCING THE BIOECONOMY IN THE G20

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Abstract

The bioeconomy entered the G20 agenda under the Brazilian presidency in 2024, appearing in the Rio Leaders' Declaration, the G20 Bioeconomy Initiative (GIB), and the Sustainable Finance Working Group (SFWG). Its inclusion marks a political advance by repositioning sustainable development as the central axis of the global economic agenda, in the context of the low-carbon transition and the renewal of multilateralism. This study analyzes the trajectory of the bioeconomy in the G20, from its formulation to the challenges of implementation, exploring its intersection with climate finance. Based on the High-Level Principles on Bioeconomy (G20 2024a),² the paper discusses its application, conceptual evolution, and financial and political mechanisms for implementation. It also examines multilateral milestones between 2024 and 2025—such as G20, FfD4, IMF, World Bank, Finance in Common, and COP30—to assess the legacy of this cycle for climate governance and South-South cooperation.

Keywords: Bioeconomy. Climate finance. G20. Climate governance. Nature-based solutions.

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2 Available at <https://www.gov.br/secom/pt-br/assuntos/noticias/2024/09/g20-chega-a-consenso-e-estabelece-principios-de-alto-nivel-sobre-bioeconomia/11092024-g20-principios-bioeconomia-pdf-em-ingles.pdf/view>, accessed on January 5, 2026.

DO RIO A JOANESBURGO: PRINCÍPIOS, CAMINHOS E DESAFIOS PARA O FINANCIAMENTO DA BIOECONOMIA NO G20

Resumo

A bioeconomia entrou na pauta do G20 sob a presidência brasileira em 2024, figurando na Declaração de Líderes do Rio – na Iniciativa de Bioeconomia do G20 (GIB) e na Força-Tarefa de Financiamento Sustentável (SFWG). Sua inclusão marca um avanço político ao reposicionar o desenvolvimento sustentável como eixo central da agenda econômica global, no contexto da transição de baixo carbono e da renovação do multilateralismo. Este estudo analisa a trajetória da bioeconomia no G20, desde sua formulação até os desafios de implementação, explorando sua interseção com o financiamento climático. A partir dos Princípios de Alto Nível sobre Bioeconomia (G20, 2024a), discute-se sua aplicação, evolução conceitual e mecanismos financeiros e políticos de execução. Examina-se ainda marcos multilaterais entre 2024 e 2025 – como G20, FfD4, FMI, Banco Mundial, Finance in Common e COP30 – para avaliar o legado deste ciclo para a governança climática e a cooperação Sul–Sul.

Palavras-chave: Bioeconomia. Financiamento climático. G20. Governança climática. Soluções Baseadas na Natureza.

DE RÍO A JOHANNESBURGO: PRINCIPIOS, CAMINOS Y RETOS PARA LA FINANCIACIÓN DE LA BIOECONOMÍA EN EL G20

Resumen

La bioeconomía entró en la agenda del G20 bajo la presidencia brasileña en 2024, figurando en la Declaración de Líderes de Río, en la Iniciativa de Bioeconomía del G20 (GIB) y en el Grupo de Trabajo sobre Financiación Sostenible (SFWG). Su inclusión supone un avance político al reposicionar el desarrollo sostenible como eje central de la agenda económica mundial, en el contexto de la transición hacia una economía baja en carbono y la renovación del multilateralismo. Este estudio analiza la trayectoria de la bioeconomía en el G20, desde su formulación hasta los retos de su implementación, explorando su intersección con la financiación climática. A partir de los Principios de Alto Nivel sobre Bioeconomía (G20, 2024a), se discute su aplicación, evolución conceptual y mecanismos financieros y políticos de ejecución. También se examinan los marcos multilaterales entre 2024 y 2025 — como el G20, FfD4, FMI, Banco Mundial, Finance in Common y COP30 — para evaluar el legado de este ciclo para la gobernanza climática y la cooperación Sur-Sur.

Palabras clave: Bioeconomía. Financiación climática. G20. Gobernanza climática. Soluciones basadas en la naturaleza.

I. The Bioeconomy in the G20

The Group of Twenty (G20) was created in 1999 with the aim of coordinating economic and financial policies among the world's leading economies, in response to systemic risks to global stability. This role became even more salient in the context of the 2008 financial crisis, when governments—most notably in the United States (Herszenhorn 2008) and the European Union (Walker 2018)—were compelled to intervene directly in the financial system through large-scale rescue operations of banking conglomerates, in order to prevent a deeper economic collapse.

The crisis triggered a wave of regulatory reforms, such as the Dodd–Frank Act in the United States (CFTC), as well as broader international banking reforms under the Basel III framework (BIS), which sought to enhance transparency and strengthen accountability among capital market actors and financial institutions. Similar measures were adopted across multiple jurisdictions, developments that reinforced the role of the G20 in multilateral economic governance and elevated the forum to the level of Heads of State and Government (G20 2025).

With respect to the focus of this article, however, it was during the 2024 G20, under Brazil's presidency, that the bioeconomy was introduced for the first time in a structured manner into the Group's agenda (Furtado 2024)—not merely as an environmental issue, but as a strategic response to multiple planetary crises, with direct implications for democracy, wealth generation, and economic stability itself. Indeed, the linkages between financial risks and those associated with climate change and biodiversity loss have increasingly been the subject of discussions within the Bank for International Settlements (BIS 2021; BIS 2023) and the International Organization of Securities Commissions (IOSCO 2024).

From this perspective, and under the premise that a new economy is required—one not only aligned with traditional financial criteria, but also attuned to the rhythms of nature, the regeneration of natural resources, and the central role of local communities—the bioeconomy has emerged as an integrative concept. Although initially abstract, the term has come to encapsulate diverse aspirations for a regenerative, inclusive, and sustainable economic model.

II. Bioeconomy across the Sherpa and Finance Tracks

With the incorporation of the bioeconomy into the G20 agenda in 2024, the issue gained prominence across both the Sherpa Track—linked to diplomatic coordination—and the Finance Track, cutting transversally across the themes of sustainability, innovation, inclusion, and financing.

Launched by the Brazilian government and led by the Ministry of Foreign Affairs within the Sherpa Track, in coordination with other ministries, the G20 Bioeconomy Initiative (GIB) benefited from strong participation by civil society, governments, and the private sector. This broad engagement facilitated dialogue with other G20 member countries and organizations (Furtado, 2024).

In line with the objectives set out at the launch of the initiative, the GIB successfully delivered the High-Level Principles on Bioeconomy (G20, 2024a), which consolidated the group's shared vision of the bioeconomy as a strategic vector for sustainable development. These principles are aligned with the Sustainable Development Goals (SDGs), the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC), and the Convention on Biological Diversity (CBD). Their significance lies in providing both a point of departure and a roadmap for advancing the bioeconomy agenda, while respecting the sovereignty and specific national contexts of each member.

In parallel, within the Finance Track—led by the Ministry of Finance—the Sustainable Finance Working Group (SFWG), co-chaired by Brazil and the United States, addressed the bioeconomy indirectly through its work on financing Nature-Based Solutions (NbS) and mechanisms to support the ecological transition. Although not a primary focus, the bioeconomy featured in technical documents with the potential to generate tangible outcomes in resource mobilization.

The group discussed four priority areas:

1. Optimization of the operations of international environmental and climate funds to scale up sustainable finance;
2. Advancement of credible, robust, and just transition plans;
3. Assessment of the challenges associated with implementing sustainability reporting standards, including for small and medium-sized enterprises (SMEs) and emerging market and developing economies (EMDEs);
4. Financing of Nature-Based Solutions (NbS).

While these priorities are interconnected, the axis focused on NbS financing proved most directly related to the bioeconomy. The G20 SFWG 2024 explored innovative financial instruments, applied on a voluntary and case-by-case basis, such as blended finance, debt-for-nature swaps, and guarantees, with the aim of expanding private sector participation. The underlying premise was that such initiatives can generate sustainable economic and environmental outcomes, particularly in EMDEs (G20 2024b).

The strategy also included the identification of barriers that constrain the scale and effectiveness of financing, with a view to creating a more enabling environment for investments in NbS. The corresponding report presented twelve case studies across key areas (Toolbox of Nature-Based Solutions—CPI 2024): conservation, restoration, bioeconomy, agroforestry, and marine ecosystem management. Although not exclusively dedicated to the bioeconomy, many of these examples are applicable to the field, and vice versa. The objective was to disseminate exemplary strategies among private investors, development finance institutions, vertical funds, policymakers, and other relevant stakeholders (G20 2024b).

In this context, the SFWG, in its third recommendation and drawing on the aforementioned case studies, suggests that investors—particularly development finance institutions—should consider deploying a broad range of instruments, such as risk-sharing mechanisms, grants, and equity, to mitigate the risks and specific characteristics associated with NbS investments. Well-designed and carefully managed guarantees can have a catalytic effect in attracting private capital to NbS (G20 2024b).

Rather than overlapping, the contributions of the two tracks are complementary and mutually reinforcing, representing an unprecedented step in broadening the scope of the G20's economic agenda. This articulation strengthens territorial strategies that promote the sustainable use of biodiversity—particularly in megadiverse and developing countries—while creating the political and institutional momentum required for the advancement of the bioeconomy.

III. From Principles to Concept

Endorsed by the 2024 G20 Leaders' Declaration (G20, 2024c), the *High-Level Principles on Bioeconomy* initiated a structured international debate on this innovative and complementary productive paradigm. Comprising ten voluntary and non-binding principles, the document establishes guiding

parameters for activities considered part of the bioeconomy, offering a shared reference framework among countries with diverse socioeconomic and environmental contexts.

The principles adopted are as follows:

1. Integrate and promote *sustainable development* across its economic, social and environmental dimensions, contribute to eradicating *hunger and poverty* and improving health and well-being, whilst ensuring global *food security and nutrition*;
2. Be *inclusive and equitable*, uphold the rights of all persons, including Indigenous Peoples and members of local communities, promote gender equality and the participation of all stakeholders;
3. Advance *mitigation and adaptation efforts against global climate change*, in line with applicable multilateral climate agreements;
4. Contribute to the conservation of *biodiversity*, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, subject to national laws and in line with applicable international agreements and instruments;
5. Promote *sustainable consumption and production* patterns and the efficient and circular use of biological resources, whilst promoting *the restoration and regeneration of degraded areas and ecosystems*;
6. Be developed through safe, secure and responsible use of *science, technology, innovation and traditional knowledge*, with potential benefits, risks and impacts assessed scientifically;
7. Benefit from *robust and coherent policy frameworks* that foster trade for bioeconomy products and services, market conditions, sustainable business models, decent jobs, local value creation and private sector and civil society participation;
8. Utilize transparent, comparable, measurable, inclusive, science-based and context-specific *criteria and methodologies* to assess their sustainability throughout the value chains;
9. Be fostered by *international collaboration and cooperation* that addresses global challenges, leverages complementary strengths, innovation and entrepreneurship and promotes financing, capacity building and sharing of best practices;
10. Be based on *country-specific* approaches and implemented in line with national priorities and regional and local circumstances.

To facilitate visualization, each principle described in the official document was condensed into keywords and grouped into two main clusters:

Table 1. Classification of the High-Level Principles

Criteria Principles	Implementation Principles
<i>help define what constitutes the bioeconomy</i>	<i>guide the operationalization of the bioeconomy</i>
sustainable development	science, technology, and traditional knowledge
inclusion and equity	enabling environments and green jobs
climate	metrics and transparency
biodiversity and benefit sharing	international cooperation
circular economy and restoration	national and contextual approaches

Source: table prepared by the author based on the document *High-Level Principles on Bioeconomy*.

This functional classification is intended solely to facilitate the alignment of policies, projects, and financial instruments with the principles in terms of compliance and applicability. It should be emphasized, however, that this division is neither exhaustive nor intended as the only possible framework. In practice, certain principles may be interpreted both as defining criteria and as elements of implementation.

It is evident that the High-Level Principles intersect substantially with the Sustainable Development Goals (SDGs), the targets of the Global Biodiversity Framework (GBF), and provisions of the Paris Agreement, including those related to Nature-Based Solutions (NbS)—particularly with regard to climate action, adaptation, transparency, and just transition. Their value, however, does not lie in the creation of new criteria or an additional set of principles, but rather in the transversal articulation of already consolidated commitments, functioning as a vector of coherence and strategic continuity within the multilateral arena.

The bioeconomy, as articulated in the High-Level Principles, is not limited to conservation, restoration, or mitigation actions. Based on the research conducted, the author argues that its scope is broader and fundamentally economic, encompassing productive value chains (such as food, cosmetics, pharmaceuticals, biofuels, and biotechnology), industrial policies, science, and sustainable finance. Its emphasis lies both in the valorization of biodiversity and in the generation of sustainable socioeconomic opportunities.

IV. Conceptualization: Existing Concepts in the Literature

While the adoption of the *High-Level Principles on Bioeconomy* represents an important political advance, a gap remains between discourse and the definition of concrete means of implementation. Although the term bioeconomy has been in use for more than two decades, there is still considerable controversy regarding what it encompasses and, implicitly, what it excludes (Nature Finance 2024). This ambiguity reflects one of the G20's central tensions: the forum's intergovernmental and non-binding nature allows for meaningful discursive advances, yet limits the effectiveness of decisions when their implementation depends on the political will and institutional capacity of member countries.

Advocating for a clear concept is essential to enable implementation strategies, as well as the measurement and evaluation of progress. Without such clarity, commitments tend to become vague or open to interpretation, undermining consistent responses to multiple global crises.

Nature Finance presents the concept of bioeconomy in a spectrum of three interdependent segments (Nature Finance, 2024):

- *Nature-Intensive Bioeconomy*: primary production and the use of biological resources, such as agriculture, forestry, and fisheries. This segment emphasizes the direct use of natural resources to produce food, fibers, construction materials, energy, and fuels through traditional practices. It is closely linked to the concept of the socio-bioeconomy;
- *Advanced Bioeconomy*: renewable energy and fuels derived from biological sources, biorefineries based on forest and agricultural products, and sustainable agricultural and forestry systems;
- *High-Tech Bioeconomy*: focused on synthetic biology, genomics, and bioinformatics, producing high value-added outputs, with strong investment in research and development (R&D) and the use of technologies such as remote sensing, artificial intelligence, and geospatial modeling to optimize land management.

The Climate Policy Initiative (Brasil-Leigh et al. 2024), reinforcing the organization's earlier perspective from 2022, classifies the bioeconomy into three complementary visions—biotechnological, bio-resource-based, and bioecological—with the aim of organizing narratives, strategies, governance structures, and regulatory frameworks:

- *Bioecological vision*: focused on biodiversity conservation and its sustainable use;

- *Bio-resource vision*: promotes the production and processing of biomass as a substitute for fossil-based raw materials;
- *Biotechnology vision*: emphasizes innovation and the commercialization of biotechnology-derived products.

Although there is no full consensus in the literature, it is common to conceptualize the bioeconomy around three core elements—biodiversity, biomass, and technology—encompassing multiple sectors, as reflected in the approaches adopted by these organizations. This framing was also echoed during the Preparatory Meeting for the G20 Bioeconomy Initiative (GIB) (G20 2024d).

Beyond the conceptualizations proposed by organizations engaged in the topic, Brazil's Decree No. 12,044 of June 2024 established the National Bioeconomy Strategy and introduced, in Article 2, a legal concept to be applied domestically:

[For the purposes of this Decree, the bioeconomy is understood] as a model of productive and economic development that is fair, ethical, and inclusive, generating products, processes, and services efficiently, based on sustainable use, regeneration, and conservation of biological diversity, guided by scientific and traditional knowledge, its innovations, and technologies, aiming for value addition, job and income generation, sustainability, and climate balance

We also concluded, upon reviewing the normative text, that this definition, along with its guidelines and objectives, is closely aligned with the framework established under the *High-Level Principles on Bioeconomy*.

This normative concept engages directly with the High-Level Principles, reflecting similar guidelines and objectives, while also incorporating perspectives advanced by different organizations and establishing a set of principles that functions as an interpretative matrix.

A comparable exercise was undertaken by the International Union for Conservation of Nature (IUCN) in defining Nature-Based Solutions (NbS) and formulating principles to be applied alongside that definition (IUCN). A similar approach could be applied to the construction of a bioeconomy concept. One caveat is that this article deliberately adopts the term concept rather than definition, precisely because it allows for greater breadth and flexibility.

Thus, Brazil has developed a concept aligned with its national objectives and realities, but which can also serve as a reference for other G20 countries to develop their own concepts following a similar logic.

V. From Conceptualization to Implementation

The operationalization of the High-Level Principles on Bioeconomy and of the conceptual framework presented herein requires their translation into concrete instruments capable of guiding public policies, financing strategies, and mechanisms of environmental and social governance.

This transition demands not only political will, but also institutional capacity, international coordination, and the technical design of solutions adaptable to diverse contexts—as already anticipated in the High-Level Principles, particularly those referred to here as implementation principles. By its very nature, the bioeconomy is multidimensional and therefore calls for intersectoral and multiscale approaches that bring together governments, the private sector, civil society, and local communities in the co-construction of policies and projects.

In this regard, the contribution of this article—specifically with respect to the design of the bioeconomy concept—lies in offering suggestions on how to strengthen the bioeconomy agenda as a new economic vision, in which public policy, science, and finance serve as its core instruments.

International Scope

Between the Rio de Janeiro G20 (2024) and the Johannesburg G20 (2025), a strategic diplomatic window emerged to consolidate the bioeconomy as an integrating axis linking climate, biodiversity, and development.

To this end, documents and agendas from the Finance in Common Summit (FiCS), the Presidential Letters of COP30 (Belém), and the Spring Meetings of the International Monetary Fund (IMF) and the World Bank were analyzed. Official communiqués, presidential letters, programs and meeting records were taken into account, as well as, where relevant, side events.

Table 2. Summary of the Main Fora Related to the Topic

FiCS 2025 (Cape Town)	The FiCS 2025 Final Communiqué does not explicitly mention the term bioeconomy (FiCS, 2025). However, the FiCS contribution report to the Fourth International Conference on Financing for Development (FfD4) makes direct reference to “Nature-Based Solutions and Bioeconomy” within the framework of Brazil’s Investment Platform for Climate and Ecological Transformation (Plataforma Brasil de Investimentos Climáticos e para a Transformação Ecológica – BIP). In this sense, the bioeconomy entered FiCS technical inputs to the FfD4, even though it was not reflected in the final communiqué (FiCS 2025).
COP30—Presidential Letters	The first Presidential Letter (10 March) refers to bioeconomy opportunities related to local livelihoods and climate resilience (COP30 2025). The fourth Presidential Letter (20 June) includes “bioeconomy and biotechnology” among the Presidency’s focus areas, assigning them a cross-cutting role within the agenda (COP30 2025).
World Bank/IMF Spring Meetings	Brown-Bag session titled “Fostering an Innovative Bioeconomy” (24 March, World Bank), which discussed the concept of bioeconomy, enabling conditions, and ways in which the World Bank can support countries in its implementation (World Bank 2025). The session also presented a report on the bioeconomy in Paraguay (World Bank 2024).
UN Climate Meetings— Bonn (June)	Side event titled “ <i>Beware of a Bioeconomy Gateway to Big Biomass Energy</i> ”, which offered a critical discussion of bioeconomy pathways and the risks associated with bioenergy production through biomass combustion (EPN 2025).
London Climate Action Week (June)	“From Glasgow to Belém: A Public–Private Dialogue to Foster the Bioeconomy”—a high-level dialogue on promoting the bioeconomy in the context of COP30 (LCAW, 2025). “From Risk to Resilience: Financing the Bioeconomy – Climate Transition”—a dedicated session on bioeconomy finance (LCAW, 2025).

Source: Table prepared by the author based on the specific sources cited for each item.

Based on the research conducted on the bioeconomy, it is evident that, during the period analyzed, the issue’s international visibility remained relatively limited within COP30 diplomacy and found its main avenues of development in parallel policy and finance spaces. By contrast, the official communiqués of the major conferences—namely the Fourth International Conference on Financing for Development (FfD4), the Finance in Common Summit (FiCS), and the G20 Meeting of Finance Ministers and Central Bank Governors—did not address the bioeconomy directly or relied on adjacent framings, without the consistent use of the term in their core documents.

National Scope:

At the national level, the development of the bioeconomy in Brazil gained momentum with the adoption of the National Bioeconomy Strategy (Decree No. 12,044/2024), which established specific objectives, guidelines, and governance arrangements. This framework internalizes the agenda inaugurated within the G20 and positions the bioeconomy as a vector for low-carbon and climate-resilient development.

In 2025, structuring debates advanced around the Brazilian Sustainable Taxonomy, which are essential for defining eligibility criteria and guiding credit allocation and capital markets—particularly in relation to land use, Nature-Based Solutions (NbS), and bioeconomic value chains. In parallel, the regulation of the carbon market and the design of the International Tropical Forests Fund add financial mechanisms capable of generating complementary cash flows for bioeconomy-related activities.

Within the realm of complementary public policies, key initiatives include the Future Fuels Law (Lei do Combustível do Futuro), the National Productive Forests Program, and the National Food Supply Policy, all of which mainstream the bioeconomy across strategic sectors. Interministerial coordination among the Ministry of the Environment (MMA), the Ministry of Science, Technology and Innovation (MCTI), the Ministry of Development, Industry, Trade and Services (MDIC), and the Ministry of Agrarian Development (MDA) reinforces the intersectoral nature of the agenda and underscores the need for executive coordination in its implementation.

With regard to instruments and capital mobilization, particular attention is given to arrangements that structure investment pipelines and attract investors, such as the Brazil Coalition for the Financing of Restoration and the Bioeconomy (Coalizão BRB), the Brazil Investment Platform for Climate and Ecological Transformation (BIP), and the Nature Investment Lab (NIL), as well as the Global Innovation Lab for Climate Finance of the Climate Policy Initiative (CPI Lab). These platforms and accelerators signal a transition from policy guidelines to bankable projects, articulating safeguards, risk-proportionate metrics, and fair and equitable benefit-sharing.

The bioeconomy-related events agenda was particularly prominent throughout 2025. However, as observed at the global level, these events were largely driven by civil society organizations, highlighting the interest and advocacy efforts of diverse stakeholders. At the same time, there are indications of growing domestic political interest in consolidating the agenda,

creating the conditions for its sustainability and development as a state policy, beyond electoral and governmental cycles.

VI .Recommendations for COP30 and the 2025 G20 Summit

In line with the preceding analysis, Brazil is well positioned to lead the bioeconomy agenda by example, leveraging its domestic mobilization around the issue and demonstrating that it is possible to create enabling conditions for the development of the bioeconomy while projecting this experience internationally.

In this context, the following recommendations are particularly relevant to advancing the agenda:

- *Integrate specificities into the Brazilian Sustainable Taxonomy:* As currently approved, the Brazilian Sustainable Taxonomy does not yet include bioeconomy-related activities, although their incorporation is envisaged in a forthcoming revision (Brazil 2025a). A clear definition of which activities qualify as part of the bioeconomy—and of the sustainability attributes of those practices—is essential for assessing what should be incentivized through public policies and financial instruments.
- *Promote international interoperability of taxonomies:* Following the integration of the bioeconomy into the Brazilian Sustainable Taxonomy, and based on dialogue with investors, it will be important to highlight its interoperability with other international taxonomies. This would allow bioeconomy activities to be more readily identified as sustainable across jurisdictions, without creating additional complexity or undermining investor confidence.
- *Map and scale up the use of blended finance for the bioeconomy:* Although bioeconomy projects hold significant socio-environmental development potential, they are not yet familiar to financial and capital markets. In this sense, the use of blended finance structures—separating higher-risk capital from commercial capital, particularly through the deployment of guarantees and insurance—remains critical. Progress in blended finance mechanisms in Brazil has been supported by the CPI Lab since 2016 (CPI Lab) and offers a model to be expanded.
- *Integrate investment platforms and pipeline generators:* Establish a seamless integration between the Brazil Investment Platform for Climate and Ecological Transformation (BIP) and pipeline-generation

initiatives, including financial instrument accelerators (such as the CPI Lab) and project preparation facilities for small and medium-sized enterprises. This approach mirrors the support provided by GFANZ to the BIP and the Nature Investment Lab (NIL) (Brazil 2025b). Such integration is essential to ensure a more effective flow of capital from financiers to climate-aligned projects and is particularly critical for the bioeconomy. Investment portfolios could be prioritized by biome and sub-sector, with defined cycle-time targets and minimum bankability indicators to accelerate project financing.

- *Establish structured South–South cooperation on the bioeconomy:* Launch a dedicated bioeconomy cooperation initiative among countries with similar characteristics in regions such as the Amazon, Africa, and Southeast Asia. The aim would be to harmonize criteria, promote joint calls for proposals, enable co-financing through development banks, and organize targeted missions to stimulate private sector investment.

References

Bank for International Settlements (BIS). n.d. Basel III: International Regulatory Framework for Banks. <https://www.bis.org/bcbs/basel3.htm>. Accessed September 19, 2025.

Basel Committee on Banking Supervision. 2021. Climate-Related Risk Drivers and Their Transmission Channels. BIS. <https://www.bis.org/bcbs/publ/d517.pdf>. Accessed September 19, 2025.

Brasil. 2025a. “Comitê aprova versão final da Taxonomia Sustentável Brasileira.” *gov.br*, September 1. <https://www.gov.br/fazenda/pt-br/assuntos/noticias/2025/setembro/comite-aprova-versao-final-da-taxonomia-sustentavel-brasileira>. Accessed October 28, 2025.

Brasil. 2025b. “BIP celebra um ano com entrada de fundos e avanços na mobilização de investimentos para a transformação ecológica.” *gov.br*, October 16. <https://www.gov.br/fazenda/pt-br/assuntos/noticias/2025/outubro/bip-celebra-um-ano-com-entrada-de-fundos-e-avancos-na-mobilizacao-de-investimentos-para-a-transformacao-ecologica>. Accessed October 28, 2025.

Brasil-Leigh, Amanda et al. 2024. *Toolbox for Financing Nature-Based Solutions*. Climate Policy Initiative, September 12. <https://www.climatepolicyinitiative.org/publication/toolbox-on-financing-nature-based-solutions/>. Accessed September 19, 2025.

Commodity Futures Trading Commission (CFTC). n.d. “Dodd-Frank Act.” <https://www.cftc.gov/LawRegulation/DoddFrankAct/index.htm>. Accessed September 19, 2025.

COP30. Brazilian Presidency. 2025a. Primeira carta da Presidência brasileira. March 10. <https://cop30.br/pt-br/presidencia-da-cop30/carta-da-presidencia-brasileira/10-03-25-visao-cop30-pt.pdf>. Accessed September 19, 2025.

COP30. Brazilian Presidency. 2025b. Segunda carta da Presidência brasileira. May 8. https://cop30.br/pt-br/presidencia-da-cop30/cartas-da-presidencia/segunda-carta-da-presidencia-brasileira/070525_cop30_2carta_pt.pdf. Accessed September 19, 2025.

COP30. Brazilian Presidency. 2025c. Terceira carta da Presidência brasileira. May 23. https://cop30.br/en/brazilian-presidency/letters-from-the-presidency/third-letter-from-the-presidency/250523_cop30_3acarta_pt-br.pdf. Accessed September 19, 2025.

COP30. Brazilian Presidency. 2025d. Quarta carta da Presidência brasileira. June 20. <https://cop30.br/pt-br/presidencia-da-cop30/cartas-da-presidencia/quarta-carta-da-presidencia-brasileira>. Accessed September 19, 2025.

COP30. Brazilian Presidency. 2025e. Quinta carta da Presidência brasileira. August 12. <https://cop30.br/pt-br/presidencia-da-cop30/cartas-da-presidencia/quinta-carta-da-presidencia-brasileira>. Accessed September 19, 2025.

COP30. Brazilian Presidency. 2025f. Sexta carta da Presidência brasileira. August 19. <https://cop30.br/pt-br/presidencia-da-cop30/cartas-da-presidencia/sexta-carta-da-presidencia-brasileira>. Accessed September 19, 2025.

COP30. Brazilian Presidency. 2025g. Sétima carta da Presidência brasileira. August 29. <https://cop30.br/pt-br/presidencia-da-cop30/cartas-da-presidencia/setima-carta-da-presidencia-brasileira>. Accessed September 19, 2025.

Environmental Paper Network (EPN). 2025. “Press Release: Beware of a Bioeconomy Gateway to Big Biomass Energy at COP30.” June 20. <https://>

environmentalpaper.org/wp-content/uploads/2025/06/PRESS-RELEASE-Beware-of-a-Bioeconomy-Gateway-to-Big-Biomass-Energy-at-COP30.pdf. Accessed September 19, 2025.

Environmental Paper Network (EPN). 2025. “Biomass and the UN Climate Negotiations.” November. <https://environmentalpaper.org/biomass/biomass-and-the-un-climate-negotiations/>. Accessed September 19, 2025.

Espinosa Cantellano, Irene. 2023. “Moving Beyond Climate—The Relevance of Biodiversity Loss for the Financial System.” BIS—Central Bankers’ Speeches, January 27. <https://www.bis.org/review/r230207b.pdf>. Accessed September 19, 2025.

Finance in Common Summit (FICS). 2025a. *Final Communiqué*. <https://financeincommon.org/sites/default/files/2025-03/FiCS%202025%20Final%20Communiqu%C3%A9.pdf>. Accessed September 19, 2025.

Finance in Common Summit (FICS). 2025b. *Unlocking the Potential of Public Development Banks for Sustainable Development – A Finance in Common Contribution to FfD4*. <https://financeincommon.org/sites/default/files/2025-02/RAPPORT%20FiCS%20-%20Confe%CC%81rence%20FfD%204%20-%20Digital%20Version.pdf>. Accessed September 19, 2025.

Furtado, Marcelo. 2024. “A bioeconomia no G20 Brasil.” *CEBRI-Revista* 3 (12). <https://cebri.org/revista/br/artigo/190/a-bioeconomia-no-g20-brasil>. Accessed September 19, 2025.

G20. 2024a. *Princípios de Alto Nível sobre Bioeconomia*. <https://www.gov.br/secom/pt-br/assuntos/noticias/2024/09/g20-chega-a-consenso-e-estabelece-principios-de-alto-nivel-sobre-bioeconomia/11092024-g20-principios-bioeconomia-pdf-em-ingles.pdf/view>. Accessed September 19, 2025.

G20. 2024b. *Sustainable Finance Report*. September. <https://g20sfwg.org/wp-content/uploads/2024/10/2024-G20-Sustainable-Finance-Report.pdf>. Accessed September 13, 2025.

G20. 2024c. *Declaração de Líderes do Rio de Janeiro*. <https://www.gov.br/planalto/pt-br/acompanhe-o-planalto/g20-rio-de-janeiro-leaders-em-portugues.pdf>. Accessed September 19, 2025.

G20. 2024d. *Relatório da Reunião Preparatória para a Iniciativa de Bioeconomia no G20 (GIB)*. https://www.gov.br/mma/pt-br/composicao/sbc/comissao-nacional-de-bioeconomia/documentos-de-interesse/3-relatorio_preparatoria-g20-gib_reuniao2-2024-02-29.pdf/view. Accessed September 19, 2025.

G20. 2025. “About G20: Overview.” <https://g20.org/about-g20/overview/>. Accessed September 19, 2025.

Global Innovation Lab for Climate Finance. “The Lab.” <https://www.climatefinancelab.org/>. Accessed October 28, 2025.

Herszenhorn, David M. 2008. “Administration Is Seeking \$700 Billion for Wall Street.” *New York Times*, September 21. <https://www.nytimes.com/2008/09/21/business/21cong.html>. Accessed September 19, 2025.

International Union for Conservation of Nature (IUCN). 2020. *Ensuring Effective Nature-Based Solutions: The IUCN Global Standard for Nature-Based Solutions*. https://www.iucn.org/sites/default/files/2022-02/iucn_issues_brief_-_nbs_standard_eng.pdf. Accessed September 19, 2025.

IOSCO, and Committee on Payments and Market Infrastructures (CPMI). 2024. *Summary of CPMI–IOSCO Workshops on Climate Risks for Financial Market Infrastructures*. December 19. <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD782.pdf>. Accessed September 19, 2025.

London Climate Action Week (LDNCAW). 2025a. *From Glasgow to Belém: A Public-Private Dialogue to Foster Bioeconomy*. <https://www.londonclimateactionweek.org/event/from-glasgow-to-belem-a-public-private-dialogue-to-foster-bioeconomy/>. Accessed September 19, 2025.

London Climate Action Week (LDNCAW). 2025b. *From Risk to Resilience: Financing the Bioeconomy Climate Transition*. <https://www.londonclimateactionweek.org/event/from-risk-to-resilience-financing-the-bioeconomy-climate-transition>. Accessed September 19, 2025.

Lopes, Cristina, Ana Flávia Corleto, and Joana Chiavari. 2024. *Bioeconomia no Novo Governo Lula: Avanços Regulatórios e Institucionais*. Amazônia 2030. <https://www.climatepolicyinitiative.org/wp-content/uploads/2024/11/Bioeconomia-no-Governo-Novo-Lula.pdf>. Accessed September 19, 2025.

Nature Finance, and Fundação Getulio Vargas (FGV). 2024. *A Bioeconomia Global – Levantamento Preliminar das Estratégias e Práticas do G20*. https://climaesociedade.org/wp-content/uploads/2024/11/POR-ABioeconomiaGlobal_FINAL.pdf. Accessed September 19, 2025.

Nature Finance. 2024. *Financiando uma Bioeconomia Global Sustentável*. <https://www.naturefinance.net/wp-content/uploads/2024/09/POR-FinanciandoumABioeconomiaGlobalSustentavel-.pdf>. Accessed September 19, 2025.

International Union for Conservation of Nature (IUCN). n.d. *Proposing IUCN Global Standard for Nature-Based Solutions as the Main Operational Framework to Implement UNEA Resolutions 5/5*. <https://iucn.org/resources/information-brief/proposing-iucn-global-standard-nature-based-solutions-main-operational>. Accessed September 19, 2025.

Walker, Andrew. 2018. “Eurozone Bailout Programme Is Finally Over.” *BBC News*, August 19. <https://www.bbc.com/news/business-45186511>. Accessed September 19, 2025.

World Bank. 2024. *Bioeconomy Paraguay: Innovation and Economic Diversification*. <https://openknowledge.worldbank.org/server/api/core/bitstreams/d99d51e7-80bf-401a-8b7b-eb04c3b0373d/content>. Accessed September 19, 2025.

World Bank. 2025. *Fostering an Innovative Bioeconomy*. <https://www.worldbank.org/en/about/leadership/directors/eds10/brief/eds10-bbl-fostering-an-innovative-bioeconomy>. Accessed September 19, 2025.