

# Financing a Sustainable Global Bioeconomy

September 2024



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# Financing a Sustainable Global Bioeconomy

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# About Financing a Sustainable Global Bioeconomy

*Financing a Sustainable Global Bioeconomy* provides the results of a pioneering landscape analysis of the current and prospective interplay between finance and the bioeconomy.

The substantive context is the keystone role that the bioeconomy needs to play in shaping an equitable, nature positive, low carbon global economy.

*Financing a Sustainable Global Bioeconomy's* institutional context is the leadership taken by Brazil in establishing the *G20 Initiative on Bioeconomy* in its G20 Presidency and hopefully South Africa's G20 Presidency in 2025, the prioritisation of finance and the bioeconomy by the Colombian Presidency of the forthcoming Conference of the Parties of the Convention on Biological Diversity (COP16), and the place of the bioeconomy in building international collaborative action on climate, grounded in the Conference of the Parties on climate change under the Brazilian Presidency in 2025 (COP30).

*Financing a Sustainable Global Bioeconomy* is the initial product of a collaboration between NatureFinance and the World Bioeconomy Forum. It draws on the extensive work of both organisations and draws on the wealth of knowledge and practical experience of many of its partners.

*Financing a Sustainable Bioeconomy* builds on two key pieces of work contributed to the Brazilian G20 Presidency, *The Global Bioeconomy – Preliminary Stocktake of G20 Strategies and Practices* prepared by NatureFinance and the Center for Sustainability Studies of Fundação Getulio Vargas on behalf of a coalition of twenty Brazilian-based civil and business organizations and coalitions, and the *G20 High-Level Principles of the Bioeconomy – a Roadmap for Action*, as well as the final report of the High-level Taskforce on Nature Markets, *Making Nature Markets Work*, released at the Amazon Summit in Belem, Brazil, in August 2023.

**Related material can be downloaded at:**

<https://www.naturefinance.net/resources-tools/>

<https://www.naturemarkets.net/publications>

<https://wcbef.com/online-store/>


# About NATURE FINANCE

**NatureFinance is a Swiss-based, international not-for-profit organisation dedicated to aligning global finance with more equitable, nature positive outcomes.**

We work to make nature count in global finance and the global economy. NatureFinance is active in advancing the use of data to disclose and manage nature related risks, developing impactful and equitable nature markets, and advancing financial innovation in the areas of sovereign debt and nature positive investment. We develop tools to help financial actors better assess and align their investments with nature positive outcomes and push for stronger costs and consequences where finance is failing to address nature liabilities.

## What do we do?


NatureFinance's work is underpinned by four cross-cutting pathways to impact:




**Policy and regulatory:** we work to shape the enabling frameworks for nature finance and nature positive, equitable markets.



**Market development:** we work to create an ecosystem of investable, nature-related ventures with the potential to shape nature positive markets.



**Engagement and advocacy:** we work to build coalitions of practice, public engagement, and communication, supporting civil society development and actions around aligning finance with nature positive, equitable outcomes.



**Innovation and incubation activities:** we work to accelerate nature-positive outcomes at scale through seeding and supporting new efforts like our Sustainability Linked Debt Hub (SSDH).

**Additional information about the work of NatureFinance can be reviewed on [www.naturefinance.net](http://www.naturefinance.net)**



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Our use of Fibonacci sequence imagery is inspired by the association of this unique ratio with the maintenance of balance, and its appearance everywhere in nature- from the arrangement of leaves on a stem to atoms, uncurling ferns, hurricanes and celestial bodies.

# About



**The World Bioeconomy Forum is a global platform dedicated to bringing together stakeholders in the circular bioeconomy to share ideas and promote bio-based solutions. Our focus spans across bioresources, biotechnology, and bioecology visions, fostering a collaborative environment for sustainable innovation.**

## **OUR COMMITMENT**

We are fully committed to sustainability in all aspects of our work and firmly believe in the reality of climate change. Recognizing that there is no one-size-fits-all approach to the bioeconomy, we utilize our unique Four-Pillar Structure to evaluate and advance the status of the circular bioeconomy.

## **THE FOUR-PILLAR STRUCTURE**

Our operations and activities are based on the Four-Pillar Structure, which provides a comprehensive framework for our initiatives:



The Bioeconomy:  
People, Planet, Policies



Corporate Leaders and  
the Financial World



Bioproducts around us



Looking to the Future

This structure allows us to effectively assess and drive progress across the entire bioeconomy sector. By leveraging these pillars, we aim to facilitate holistic and impactful bioeconomic developments, contributing to climate change mitigation and promoting a sustainable future.

**Additional information about the work of the World Bioeconomy Forum can be reviewed on <https://wcbef.com/>**

# Preface

In 2024, Brazil embarked on an unprecedented initiative to strengthen sustainable development, social inclusion, the fight against climate change and the generation of decent employment in international financial discussions. Inspired by the potential of the bioeconomy as a catalyst that propels the economy towards a sustainable path and integrates nature into economic development, Brazil introduced the G20 Initiative on Bioeconomy (GIB) as a key element of its presidency. We are convinced that the bioeconomy is a departure from the traditional linear economy, a new productive paradigm which affords science, technology, innovation and traditional knowledge the same respect.

We suggested to our partners at G20 a methodology that prioritises dialogue and the exchange of experiences. We recognised early on that unlocking the full potential of the bioeconomy requires robust policy frameworks and extensive international collaboration. Today, G20 countries are actively debating and converging on a set of High-Level Principles for the Bioeconomy that will set a paradigm shift in our approach to economic growth, environmental protection, and social equity.

The report *Financing a Sustainable Global Bioeconomy*, proposed at the request of Brazil as an independent input to support the debate, is a stout contribution to a core set of questions that can help improve our global economy. How big is the Bioeconomy? What are the innovative approaches to finance the bioeconomy? What are the main levers and obstacles? How to overcome them? How to promote prosperity while ensuring equity and environmental integrity? Those are some of the elements examined in the report that encourage further debate, research and engagement by governments, academia, private sector and civil society.

Understanding the role of finance and the instruments available to stimulate the bioeconomy is fundamental to driving forward a bioeconomy that is positive for climate, nature and people.

The Brazilian Presidency of the G20 extends its heartfelt gratitude to the group of 22 organizations: Alana Institute, Amazon Concertation, Amazon Environmental Research Institute (IPAM), Arapyaú Institute, Brazil Climate, Forests and Agriculture Coalition, Brazilian Business Council for Sustainable Development (CEBDS), Brazilian Center for International Relations (CEBRI), Brazilian Federation of Banks (FEBRABAN), Brazilian Tree Industry (IBÁ), CDP Latin America, Climate Policy Initiative (CPI), Conservation International (CI), Dom Cabral Foundation (FDC), Getulio Vargas Foundation (FGV), Igarapé Institute, Insper Agro Global, Institute for Climate and Society (iCS), Interstate Consortium for Sustainable Development of the Legal Amazon, Natura&Co, NatureFinance, The Nature Conservancy (TNC), and the World Wide Fund for Nature (WWF) that have been actively contributing to the Initiative on Bioeconomy. This group provided invaluable insights and disseminated the GIB work in several public debates, articles in the media, and research pieces throughout the process.

This document is a valuable contribution that deserves broad circulation to enrich the global dialogue on the bioeconomy.

**Ambassador André Corrêa do Lago**

Vice-Minister for Climate, Energy and Environment of the Ministry of External Relations and Co-leader of the G20 Initiative on Bioeconomy (GIB).



# Executive Summary

**The global bioeconomy is a cornerstone in the transition to a more equitable, low-carbon and climate-resilient, nature-positive economy.** The changing world is resetting our appreciation of how an equitable and sustainable bioeconomy can play a pivotal role in sustainable development. The clean tech revolution has provided one viable pathway, especially for decarbonisation. The bioeconomy provides the complementary basis through which we can secure an equitable, sustainable use of nature, particularly biodiversity, a pre-condition to a just-transition to sustainable development.

**What's needed is to turn the vision of an equitable, sustainable bioeconomy into practice.** At its core, it is about how we use biological resources in sustainable ways that advance an equitable global economy. The bioeconomy holds cultural value, immense economic potential for significant job creation and economic growth. Beyond such quantitative potential, efforts must support the development of socio-bioeconomies that are localised and sustain cultural diversity embodied by the role of Indigenous Peoples and Local Communities, including farmers, in stewarding the world's biodiversity.

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**The bioeconomy is already large and rapidly growing.** Today's global bioeconomy is estimated to be valued at US\$4-5 trillion, with growth potential to US\$30 trillion by 2050. Despite significant data gaps and weaknesses, there is clear evidence of key growth drivers including climate, environmental and health concerns, increasingly embodied in market preferences and regulatory developments. National and regional bioeconomy strategies from countries such as Namibia and South Africa to Mexico and Brazil, and from India and China to Japan, the EU and the US, signal governments' commitments to harnessing this potential.

**The bioeconomy has to be collectively imagined, developed, and governed – and of course financed.** The bioeconomy is a spectrum of bio-based enterprises and markets, ranging from local and regional socio-bioeconomies to the businesses, sectors and economies that blend biodiversity and technologies – from biochemicals and bioplastics through to diverse applications of biogenetics. It is essential that this spectrum be considered as a whole. After all, we all share the same biodiversity resources which have to serve many purposes. We need a commonly agreed approach to managing the nexus between economic and livelihood priorities, and increasingly fragile biodiversity.

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**Brazil has raised the policy bar in encouraging international cooperation in advancing an equitable, sustainable bioeconomy through the G20.** The G20 Initiative on Bioeconomy is an exemplary recognition of the need for collective action. Notably, it seeks to converge on a set of high-level principles that can inform policy making and market development. Such principles will focus on the normative dimensions, such as social equity, livelihoods and sustainable prosperity, and the need for the bioeconomy to address nature and climate goals. Moreover, they are likely to highlight the need to ground the bioeconomy in good science, and to secure common definitions, accounting and metrics, as well as enabling trade rules and financing arrangements and flows.

**Bioeconomy financing challenges can be considerable and have diverse roots.** Private investor interest in the socio-bioeconomy can be constrained, for example, by limited scale and restricted commercial rights over traditional knowledge. Nature-intensive bioeconomy enterprises, such as certified bio-products including food, chemicals and plastics, face unfavorable market conditions, often made worse by perverse fossil fuel and environmental subsidies. The higher-tech bioeconomy, especially early-stage businesses, often need risk capital, often blended with public funding support, which is only available in some parts of the world, restricting opportunities in many parts of the Global South.

**Failing to act collectively, and ambitiously, in developing an equitable, sustainable bioeconomy into a major part of the global economy will result in the continued destruction of nature and associated negative climate and social equity outcomes.**

**Financing the bioeconomy is entirely possible, drawing on a wealth of existing financial instruments.** Beyond conventional commercial financing channels, there are a host of existing 'sustainable finance' instruments that can be deployed in financing the bioeconomy. Nature credits, for example, including carbon and biodiversity credits, can both augment revenues and provide long-term income security that de-risks and lowers the costs of capital. Sustainability-linked financing instruments, likewise, especially in corporate and sovereign debt markets, can further reduce the cost of capital, attracting both impact investors and those betting on the potential of bio-products in tomorrow's, more sustainability-focused markets. Blended, public-private instruments have an important role to play, highlighting the importance of development finance institutions in advancing the bioeconomy in low to middle-income countries.



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**Investors will be more attracted to the bioeconomy where governments and regional bodies have put in place integrated bioeconomy strategies and associated executable plans.** Less likely to work are isolated bioeconomy funds, high-level bioeconomy strategies lacking market buy in or execution capability, and public support for new bioeconomy enterprises and sectors absent of links to enabling trade policy. What's needed is an 'integrated' approach that for example, connects enterprise and market development with growing public awareness, suitable infrastructure, and enabling fiscal arrangements, education and research institutions and capabilities.

**National and regional strategies and actions have to be complemented by international cooperation.** International cooperation is essential for scaling the positive impacts of the bioeconomy and mitigating its risks. There is much that can be done at the national and regional levels, as witnessed by the growing number of sophisticated bioeconomy strategies. While national and regional actions are crucial, they must be complemented by global efforts to ensure a sustainable and equitable bioeconomy. The following priorities are critical for this endeavour:

1

### **PRINCIPLES**

We cannot afford to allow the emergence of a 'buccaneering' bioeconomy - there is a need to converge on what public interest outcomes the bioeconomy needs to align with, an approach exemplified by the high-level principles being advanced by the G20 under Brazil's Presidency.

2

### **MEASURING PROGRESS**

The lack of common measurement standards and related data makes it hard to measure, or more importantly guide progress. This is not just a matter of measuring its breadth and size but ensuring a common 'operating system' rooted in the science of natural capital accounting and building out through financial accounting to asset valuation and investment decisions.

3

### **STRATEGIES AND PLANS**

Strategies and plans, including core economic and industrial strategies. In in many cases, these are linked to the development and enforcement of land tenure rights and other mechanisms to secure the rights, roles and rewards for nature's stewards, largely Indigenous Peoples and Local Communities, including farmers.

4

## FINANCING

Principles, measurement, strategies and trading conditions need to be locked into a range of largely existing financing instruments, raising investor awareness, mitigating risks, and opening the way to effective collaboration, in combination with action to reduce, offset, or repurpose perverse environmental and fossil fuel subsidies.

5

## PRICING NATURE

To accelerate on-going efforts to increase the price of nature in the global economy which will increase investor interest in the sustainable bioeconomy, through improved risk analysis, explicit pricing, regulatory developments including action by financial regulators such as enhanced application of anti-money laundering rules in addressing nature crimes.

6

## TRADE RULES

Financing is less likely to flow unless the right enabling trade and associated investment rules are in place to encourage principles-aligned bioeconomy-related trade. This can and should be advanced in regional, as well as bilateral and international agreements, with the associated need to address the distorting effects of perverse subsidies, as well as industrial subsidies that can have the effect of restricting low and middle-income countries to move up the bioeconomy value chain.

7

## KNOWLEDGE AND CAPABILITIES

There is a need to overcome the current lack of systematic analysis of the bioeconomy, in part by overcoming current shortfalls in data, especially to inform the development of robust bioeconomy strategies and plans as well as providing investors with much-needed information to support investment decisions.

### **Broader international policy orchestration is required to ensure effective and timely efforts.**

The G20 is the obvious platform to take on a broad international coordination role, given its thematic coverage, convening power and signalling influence. Brazil has begun this journey during its Presidency and there is a compelling logic to extending Brazil's efforts into future G20 Presidencies, notably the South African in 2025, and US in 2026. Complementing this, there is a need for the imperative to rapidly expand an equitable, sustainable bioeconomy in the deliberations of other key regional and international platforms, including the UN Convention on Biological Diversity (CBD) and the UN Framework Convention on Climate Change (UNFCCC). The imminent CBD COP16 in Colombia, and UNFCCC COP30 in Brazil in 2025, offer timely opportunities to prioritise this important topic.