



# The **Global Bioeconomy**

Preliminary Stocktake of G20 Strategies and Practices:  
a contribution to the Brazilian G20 Presidency's  
Global Initiative on Bioeconomy

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a contribution to the Brazilian G20 Presidency's  
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Prepared by NatureFinance and Getúlio Vargas Foundation for the G20 Initiative on Bioeconomy (GIB) on behalf of the following organisations:



**Disclaimer:** This Global Stocktake has been prepared as a contribution to the G20 Initiative on Bioeconomy. It takes stock of how G20 members are advancing the bioeconomy based largely on publicly available information. It is a preliminary work in progress and does not necessarily reflect the positions of the aforementioned organisations.



**Ambassador André  
Corrêa do Lago**

Vice-Minister for Climate,  
Energy and the Environment

Ministry of Foreign Affairs

The MFA chairs the G20  
Initiative on Bioeconomy (GIB)

Brazil's presidency of the G20 comes at a time when the world is facing multiple social, economic and environmental challenges. There is growing evidence that climate change and environmental degradation are pushing humanity closer to potentially dangerous tipping points. However challenging, times of extreme difficulty often bring people together and allow new solutions to emerge.

The creation of the G20 Bioeconomy Initiative aims to contribute to such unity and collective work. Although it is a concept with no internationally agreed meaning, the bioeconomy could be ascribed as an economic paradigm that focuses on the sustainable use of renewable biological resources to produce goods, services, information and energy. Brazilian and international experience shows that the bioeconomy has the potential to promote social equity, environmental protection and economic growth, while keeping global warming below 1.5°C.

For this to happen, the bioeconomy must be an integral part of global economic discussions and cooperation, with a view to integrating its inherent environmental and social aspects. The G20 countries, representing 80% of global GDP and a similar share of global greenhouse gas emissions, are well placed to promote such integration.

The Brazilian government is committed to strengthening the broader participation of civil society in the G20. In this context, we encourage contributions that can enrich the debates among countries and provide valuable and up-to-date information.

The stocktaking exercise presented in this document brings together experiences from around the world on how to promote the bioeconomy in different contexts. As the following pages show, bioeconomy strategies can benefit countries with different levels of biodiversity and technological development. Their potential can be realized in a wide range of climates, biomes and environments.

The Brazilian Presidency of the G20 is therefore grateful to the Support Group that has brought together 19 entities from different regions. The Group provided valuable elements that deserved to be shared for the growing importance of bioeconomy in the global debates. Even though this document is not an outcome of the G20 Brazilian Presidency, it deserves wide disclosure to enrich the global debate on bioeconomy.



## Executive Summary

This Global Stocktake objective is to provide a preliminary stocktake of how G20 members are advancing the bioeconomy as a basis for (a) facilitating members' learning and engagement, (b) enabling G20 members' action and (c) increasing cooperation in areas of common interest.

In addressing this objective, the Global Stocktake highlights some common themes on the bioeconomy emerging from the stocktake, which the G20 Initiative on Bioeconomy (GIB) might take forward during the Brazilian G20 Presidency in 2024, or that could be explored beyond 2024 through other fora.

The Global Stocktake is a response to the highly significant growth potential of the bioeconomy.

In its report 'A Status of the Global Bioeconomy', the World Bioeconomy Forum estimates the total value of the bioeconomy from various announcements around the world to be of the order of US\$4 trillion. The Forum predicts considerable growth in the global bioeconomy. For example, China assesses that its bioeconomy will be valued at US\$3.3 trillion by the end of 2025, whereas India is registering double-digit growth rates in recent years. The World Bioeconomy Forum concludes that "...its value will rise to US\$30 trillion by 2050, which is a third of the global economic value" (World Bioeconomy Forum, 2022).

This Global Stocktake aims to represent an initial framing exercise by the G20 Initiative on Bioeconomy for advancing a bioeconomy that is equitable, regenerative of biodiversity, supportive of climate action and an enabler of the sustainable transition of the real economy.

Currently, there is a wide range of views on the definition of the bioeconomy existing. This is due to G20 members having diverse priorities and strategies, contexts and drivers. The approaches to the bioeconomy show however some underlying commonalities. It would be beneficial to foster comparability, complementarity and, in some instances, convergence of these approaches to support learning, integration and mutually beneficial cooperation among the G20 members.

The preliminary analysis indicates that G20 members' approaches are closely aligned across three thematic axes: (a) biotechnology (research, development and innovation); (b) bioresources (sustainable use of biodiversity) and (c) bio-ecology (sustainable development more broadly).

The comprehensive stocktaking has not been exhaustive and draws exclusively on secondary, publicly available materials. It covers the following seven dimensions:

1 Definitions, frameworks and metrics

2 Research, development and innovation

3 Sustainable use of biodiversity

4 Bioeconomy as enabler of sustainable development

5 National and regional bioeconomy strategies

6 Financing of the bioeconomy

7 International cooperation to foster the bioeconomy

Our research showed that G20 members are largely aligned in their objectives in advancing the bioeconomy, despite differences in their priorities given differing contexts. We suggest that Brazil's G20 Initiative on Bioeconomy agrees on the identified objectives and consolidates them in a common set of high-level principles on the bioeconomy.

The principles could take into account that the future global bioeconomy should:

deliver equitable economic and other positive outcomes;

be regenerative of biodiversity;

support action on climate; and

underpin the broader real economy transition towards sustainable development.

Five related themes have been identified through the stocktaking exercise, which could serve as the foundation for a G20 Initiative on Bioeconomy program of work aimed at promoting learning and, when applicable, fostering collective approaches and collaboration.

- 1** Bioeconomy integration into economic, industrial and green growth plans: Exploring how G20 members have integrated bioeconomy elements into national, regional and sector plans would enable learnings as to how the bioeconomy fits into wider development planning and policies.
- 2** Livelihoods and equity outcomes and opportunities: Deepening shared understanding of the livelihoods and equity dimensions and opportunities of bioeconomy development experiences and associated policy options, particularly for the most vulnerable populations such as small-scale farmers, indigenous peoples and local communities and others, would help ensure the long-term sustainability and resilience of bioeconomy strategies.
- 3** Bioeconomy-enabling finance: Understanding how developments in sustainable finance could broadly or specifically support bioeconomy developments, would enable learnings as to how to fund growth, drawing from and informing the work of the G20 Sustainable Finance Working Group.
- 4** Facilitating biotrade: Better understanding of the evolving importance of 'biotrade' arising from the development of a global bioeconomy would facilitate consideration of enabling policies, regulations and incentives.
- 5** Bioeconomy measurement: Sharing experience on the methodologies, indicators and data sources for measuring the bioeconomy would enable a greater understanding of the dynamics of the bioeconomy, its potential and also its usefulness in different contexts.

We suggest using the above key themes as a basis for the G20 Initiative on Bioeconomy to explore the experiences of the G20 members and develop an enabling analytical framework to support learning and develop common understanding.

Finally, given the current dynamic developments of the bioeconomy – and practical constraints that can limit research during the Brazilian G20 Presidency – the G20 Initiative on Bioeconomy could usefully highlight other key themes that might be valuable to consider in the future, whether through the G20 itself or other international cooperation platforms and initiatives.