



World Bioeconomy Association and World BioEconomy Forum on 29 February 2024

To the Brazil Secretariat of the G20

Subject: Position Paper - Facilitating Bioeconomy Growth for Sustainable Development in the G20

Embark on a transformative journey through the dynamic realm of the bioeconomy with this paper.

Section 1 analyzes a status of the global bioeconomy, shedding light on significant shifts and heightened involvement from influential nations such as the USA and China.

In *Section 2*, diverse regional visions take center stage, emphasizing the importance of a holistic approach to bioeconomy by acknowledging varying bioeconomy visions and regional approaches.

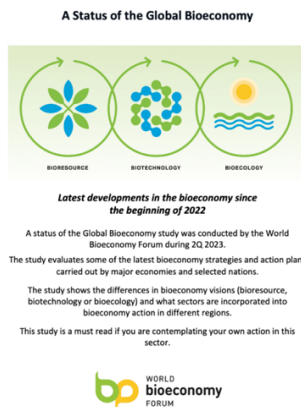
Section 3 presents strategic proposals for the G20 Initiative on Bioeconomy (GIB), advocating a comprehensive strategy, clear leadership, and the sustainable utilization of bioresources.

This paper serves as a compelling call to action, urging stakeholders to recognize the immense potential of the bioeconomy and to align policies for a resilient, sustainable future.



Section 1: Growing Importance of the Bioeconomy

The World BioEconomy Forum conducted a comprehensive comparison of bioeconomy strategies during the first half of 2023, analyzing the latest bioeconomy programs in selected regions, including Brazil. We note Brazil's strong focus on facilitating bioeconomy developments, positioning itself prominently on the international stage.



In the first half of 2023, the World BioEconomy Forum analyzed bioeconomy strategies across key regions. Noteworthy developments include China and the USA's increased engagement, both aiming to lead in the global bioeconomy. The current global bioeconomy value is over 4 trillion USD, expected to reach 30 trillion USD.

Bioeconomy, addressing challenges like climate change and healthcare, varies in approach, with the USA, China, and India focusing on biotechnology, while the EU emphasizes bioresource and bioecology. Recent advancements in digitalization and AI boost biotechnology's importance.

Regions differ in bioresource deployment plans, with the USA leveraging domestic biomass, the EU restricting use, China enhancing management, and Brazil seeking downstream opportunities. Recommendations for stakeholders include prioritizing biotechnology, ensuring biosecurity, sustainable bioresource use, exploring health sector potentials, fostering regional cooperation, and active global participation in bioeconomy arrangements.

Especially since 2022, dynamic shifts have occurred in the global bioeconomy landscape, with major players like China and the USA significantly increasing their engagement. As Brazil assumes the presidency of the G20 in 2024, Brazil has launched ***the Initiative on Bioeconomy (GIB)*** with the goal of composing **High-Level Principles on Bioeconomy**, further solidifying its commitment to this crucial area.

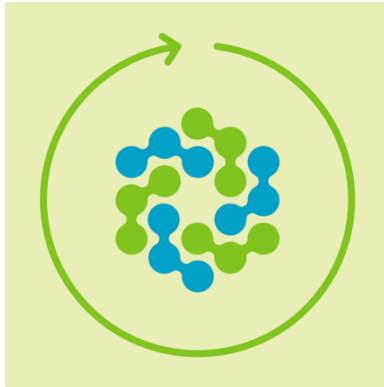
Section 2: Bioeconomy Vision and Regional Approaches

Bioeconomy, although lacking a universally explicit concept, can be evaluated based on the sectors of interest and values declared by each region, making direct comparisons challenging. A visionary approach, incorporating bioresources, biotechnology, or bioecology, is a workable method to express emphasis and priorities in bioeconomy strategies and action plans. These visions are not mutually exclusive but complement each other and are relevant for practical solutions in balancing them each other.



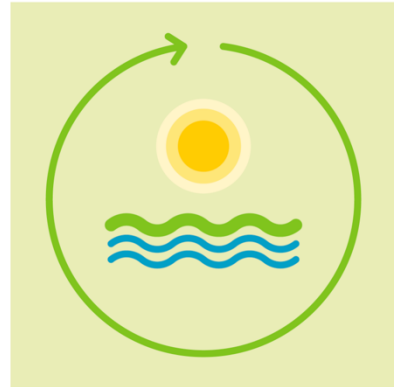
BIORESOURCE VISION

A bioresource vision, focusing on the role of research, technology development and upscaling, needed for conversion and value-chain-valorisation of biomass feed stocks, from agriculture, marine, and forestry sectors.



BIOTECHNOLOGY VISION

A biotechnology vision, emphasising the importance of biotechnology- and biomanufacturing research, for application and commercialisation in different sectors.



BIOECOLOGY VISION

A bioecology vision, highlighting the importance of ecological processes that optimise the use of land, energy and nutrients, giving space for promoting biodiversity, strengthen crop plants by out-phasing pesticides and protect soil quality against degradation. While the previous two visions are technology-focused and give a central role to RD & D in globalised systems, this vision emphasises the potential for regionally concentrated circular and integrated processes and systems.

Notably, the USA, China, and India primarily embrace a biotechnology vision, whereas the EU leans towards bioresource and bioecology perspectives. Encouragingly, there are emerging indications of broader approaches gaining traction.

Biotechnology plays an increasingly pivotal role, buoyed by innovative tools like digitalization, automation, and AI, expediting development processes and fostering heightened investor confidence.

Expectations regarding bioresource deployment exhibit regional variations. The USA tends to emphasize the utilization of domestic biomass, while the EU focuses on stabilizing the sustainable use of biomass and promoting circular economy principles. China places greater emphasis on management and protection, whereas Brazil is actively exploring downstream opportunities within value chains bearing in mind societal and ecological aspects.



Section 3: Proposals for G20 pathway for the bioeconomy

Vision and Principles:

We advocate for the adoption of a comprehensive perspective on the bioeconomy, encompassing **Bioresource, Biotechnology, and Bioecology visions**. Establishing clear accountability within the G20 is crucial for advancing competitiveness, research, technology development, ecological processes, and circularity.

Enhanced Accountability and Leadership in the bioeconomy:

It is essential to establish transparent accountability through the creation of a dedicated international forum for robust discussions on the bioeconomy. This forum would play a pivotal role in providing focused leadership, overseeing, and coordinating various bioeconomy-related initiatives. By doing so, it ensures a cohesive and effective global approach, aligning measures in this emerging multi-sectoral field. The elevation of the bioeconomy on the global agenda signifies its growing importance as a pivotal phenomenon, akin to issues such as climate change and biodiversity.

Balanced approach between bioeconomy visions:

A harmonious approach to the diverse facets of bioeconomy visions is crucial for sustainability. Striking a balance among the triad of fundamental visions - biotechnology, bioresource, and bioecology - forms the cornerstone of a cohesive and effective strategies. This equilibrium is pivotal in navigating the challenges and capitalizing on the opportunities within the global bioeconomic landscape. Embracing innovation, optimizing resource utilization, and prioritizing ecological harmony collectively fortify the resilience and sustainability of the bioeconomy on a global scale. We advocate for the integration of these principles into the upcoming High-Level Principles on Bioeconomy

Sustainable Use of Bioresources:

The sustainable utilization of bioresources is of utmost importance, emphasizing the alignment with circular economy and cascading principles to minimize environmental impact. It requires a constant recognition of planetary boundaries in planned actions. To facilitate the transition to a bioeconomy and enhance the development of bioproducts, the implementation of a robust recycling strategy is essential for ensuring the sustainable utilization of bioresources.

Supply Chain Resilience:

In the face of global uncertainties, including the bioeconomy sector, there is a heightened inclination to bolster the resilience of supply chains. Recommendations for achieving this objective encompass conducting comprehensive risk assessments tailored to bioresource dependencies, fostering strategic diversification among bioresource suppliers, and integrating advanced technologies to enhance traceability and sustainable practices. Transparent



communication and collaboration within the bioeconomy sector, coupled with legislative support for sustainable bioresource practices, are pivotal steps.

The G20 must also play a pivotal role in elevating the resilience of its bioeconomy supply chains through comprehensive risk assessments, strategic diversification, and the integration of advanced technologies for traceability and sustainability. Continuous adaptation to emerging trends in bioeconomy technologies and investments in specialized training programs will fortify bioeconomy supply chains, ensuring their robustness and sustained success in a rapidly evolving global landscape.

Incorporating Biotechnology as an Enabler:

Recognize biotechnology as a crucial enabler for the bioeconomy, leveraging digitalization, automation, and AI for accelerated development.

Biosecurity and Biosafety in Biotechnology:

Acknowledge biosecurity and biosafety as integral components of biotechnology development work for responsible and secure advancements.

Identifying Health Sector Potentials:

Encourage stakeholders to identify potentials in the health sector and incorporate them into bioeconomy action plans.

Ensuring Societal Aspects in Global Bioeconomy Development:

Prioritizing societal aspects in the development of the global bioeconomy is not only a strategic imperative but also an ethical responsibility. By integrating inclusivity, ethical considerations, and a focus on societal well-being, the bioeconomy can become a powerful force for positive change on a global scale.

Enhancing Regional Cooperation for Sustainable Development:

Promote cooperation between different regions, particularly in sustainable development, for a global bioeconomy addressing common challenges.

Active Participation in Global Bioeconomy Hub Arrangements:

Urge bioeconomy stakeholders to actively participate in global arrangements, contributing to international dialogue and ensuring a cohesive and collaborative approach.



We'd also like to propose a collaborative effort to conduct a **global digital survey** on **Global Bioeconomy Hub arrangements**. The survey is envisioned to take place between April and June, with the objective of making results available by August. The intention is to unveil these findings at the World Bioeconomy Forum 2024 in Rio de Janeiro, providing a timely and informative contribution to the G20 Initiative on Bioeconomy (GIB).

In conclusion, the World Bioeconomy Association highlights the dynamic and crucial role of the bioeconomy on the global stage. As the G20 assumes a pivotal role in global governance shaping, we encourage integrating these findings into upcoming **High-Level Principles on Bioeconomy**, demonstrating clear accountability, fostering innovation, and championing sustainable bioeconomy practices.

Thank you for your attention to these critical matters.

On behalf of the World Bioeconomy Association and the World Bioeconomy Forum

Jukka Kantola

Chair at the World Bioeconomy Association

Founder of the World BioEconomy Forum

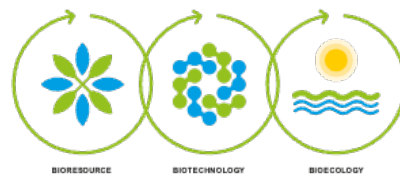


WORLD BIOECONOMY ASSOCIATION

The **World Bioeconomy Association** unites the global bioeconomy community to foster sustainable economic growth and advance the transition to a bioeconomy. Our partners and members include a diverse range of stakeholders, public organizations, business leaders, academics, government officials, NGOs, or other civil society representatives, all committed to pursuing progress in the bioeconomy. The bioeconomy is a multisectoral concept, embraced by three visions of the bioeconomy (bioresource, biotechnology and bioecology) in the Association strategy and communication.

The Association promotes circularity of the bioeconomy, while recognizing that all bioeconomy principles cannot be always circular. In the bioeconomy, resources are produced responsibly and sustainably, generating raw materials, intermediate and end products to replace materials exiting the cycle, thereby complementing the circular economy balance without reliance on a fossil-based economy.

More on: <https://bioeconomyassociation.org>



The **World Bioeconomy Forum** functions as a pivotal global platform, uniting stakeholders for in-depth discussions on the circular bioeconomy. Established in 2018 by Jukka Kantola and co-founders, the Forum has undergone significant evolution, hosting events in various pivotal locations related to the bioeconomy.

Guided by a Four-Pillar Structure encompassing I) The Bioeconomy: People, Planet, Policies, II) Corporate Leaders, III) Bioproducts around us, and IV) Looking to the Future, the Forum takes a comprehensive approach. By engaging diverse bioeconomy stakeholders in meaningful roundtable discussions and an annual conference, it actively contributes to shaping Annual Declarations and influences the progress of the circular bioeconomy.

The Advisory Board, composed of experts from all continents, ensures that the Forum maintains high standards of content and fosters insightful dialogue. With a diverse target audience, including policymakers, bio-related industries, associations, and institutes, the Forum is dedicated to fostering collaboration and sustainability.

More on: <https://wcbef.com>



The Bioeconomy: People,
Planet, Policies



Corporate Leaders and
the Financial World



Bioproducts around us



Looking to the Future