G20
SOUTH AFRICA 2025

Solidarity
Equality
Sustainability

Heading global bioeconomy implementation

What needs to be done to develop the global bioeconomy?

G20 Initiative on Bioeconomy

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Chair
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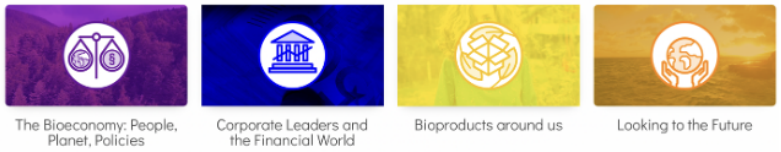
19 September 2025

World BioEconomy Forum

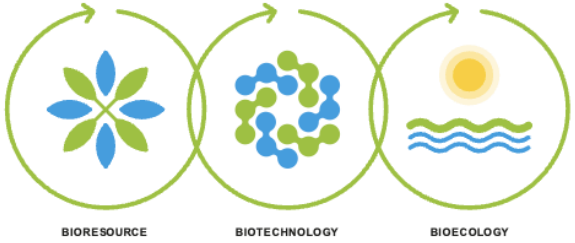
- **Founded:** 2018
- **Mission:** A global platform to drive the circular bioeconomy, focusing on sustainable solutions for climate change and resource preservation.
- **Four-Pillar Structure:**
  - The Bioeconomy: People, Planet, Policies
  - Corporate Leaders and Financial World
  - Bioproducts Around Us
  - Looking to the Future
- **Activities:** Online roundtables, conferences, and the **Annual Declaration** to outline future directions.



WORLD BIOECONOMY ASSOCIATION

Beyond Borders: Ignite, Innovate and Inspire with the World Bioeconomy Association!

- **Founded:** end of 2023
- **Mission:** A hub uniting stakeholders to grow the bioeconomy across sectors and regions.
- **Bioeconomy concept**:
  - **Bioresource Vision**: Enhancing research and technology for biomass conversion from agriculture, marine, and forestry sectors.
  - **Biotechnology Vision**: Promoting biotechnology and biomanufacturing research for diverse industrial applications.
  - **Bioecology Vision**: Optimizing ecological processes to promote biodiversity, strengthen crops, and protect soil quality.
- **Activities**: Engages in knowledge sharing, public outreach, advocacy, and collaborative research to promote responsible use of global resources



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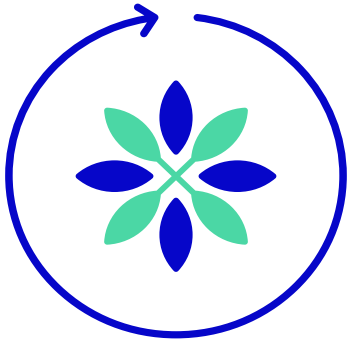
What needs to be done to develop the global bioeconomy?

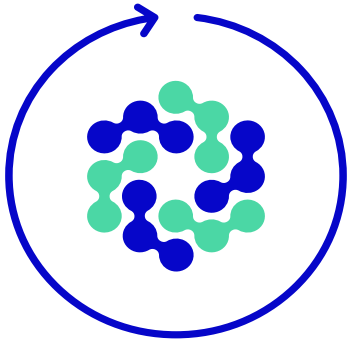
- The concept of the bioeconomy
- Continental and regional aspects
- A global voice for the bioeconomy
- Permanent Forum for the bioeconomy
- Towards a common language for the global bioeconomy
- Financing the bioeconomy – enabling transformation
- Strategic suggestions – from vision to implementation

The Concept of the Bioeconomy



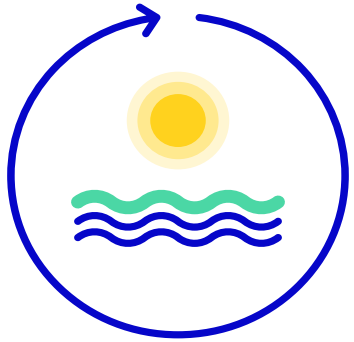
Bioresource vision

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

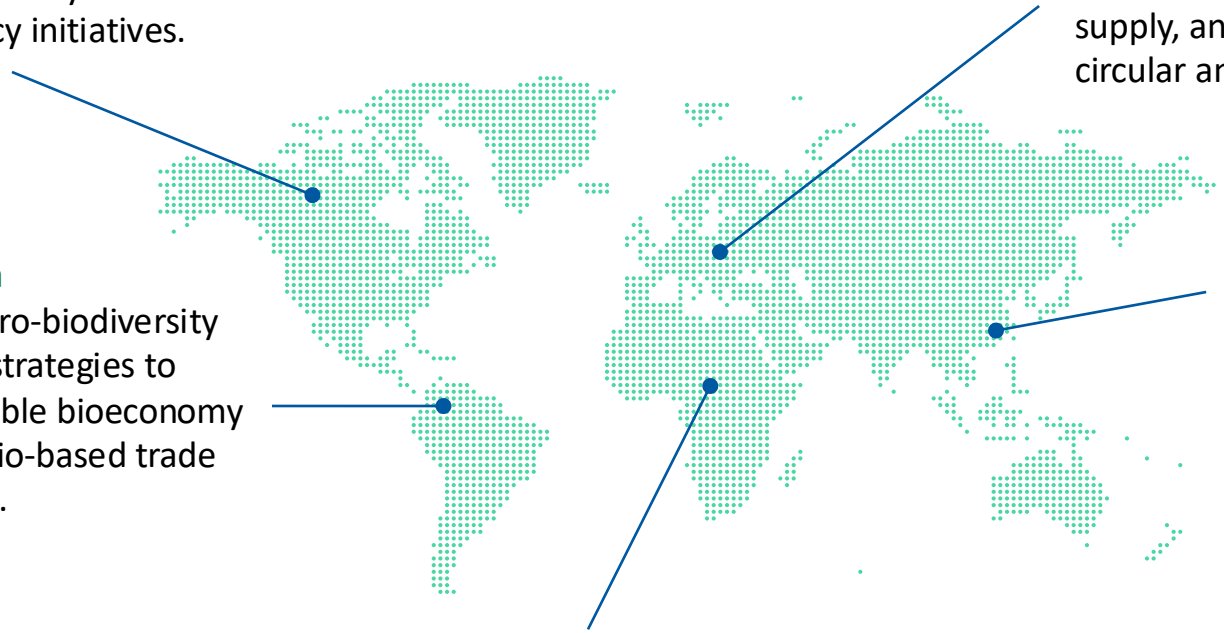
A bioecology vision, highlighting the importance of social and ecological processes, optimisation of land use, energy and nutrients; promoting biodiversity, strengthen crop plants by out-phasing pesticides and protect soil quality against degradation.

Links across climate, biodiversity, land use, and human rights (Rio Conventions)

Continental and regional aspects do account

North America
Global leader in biotechnology, bio-based materials and energy, driven by innovation ecosystems and emerging policy initiatives.

Europe
Updating its Bioeconomy Strategy to scale bio-based markets, ensure resilient biomass supply, and strengthen global leadership in circular and sustainable growth



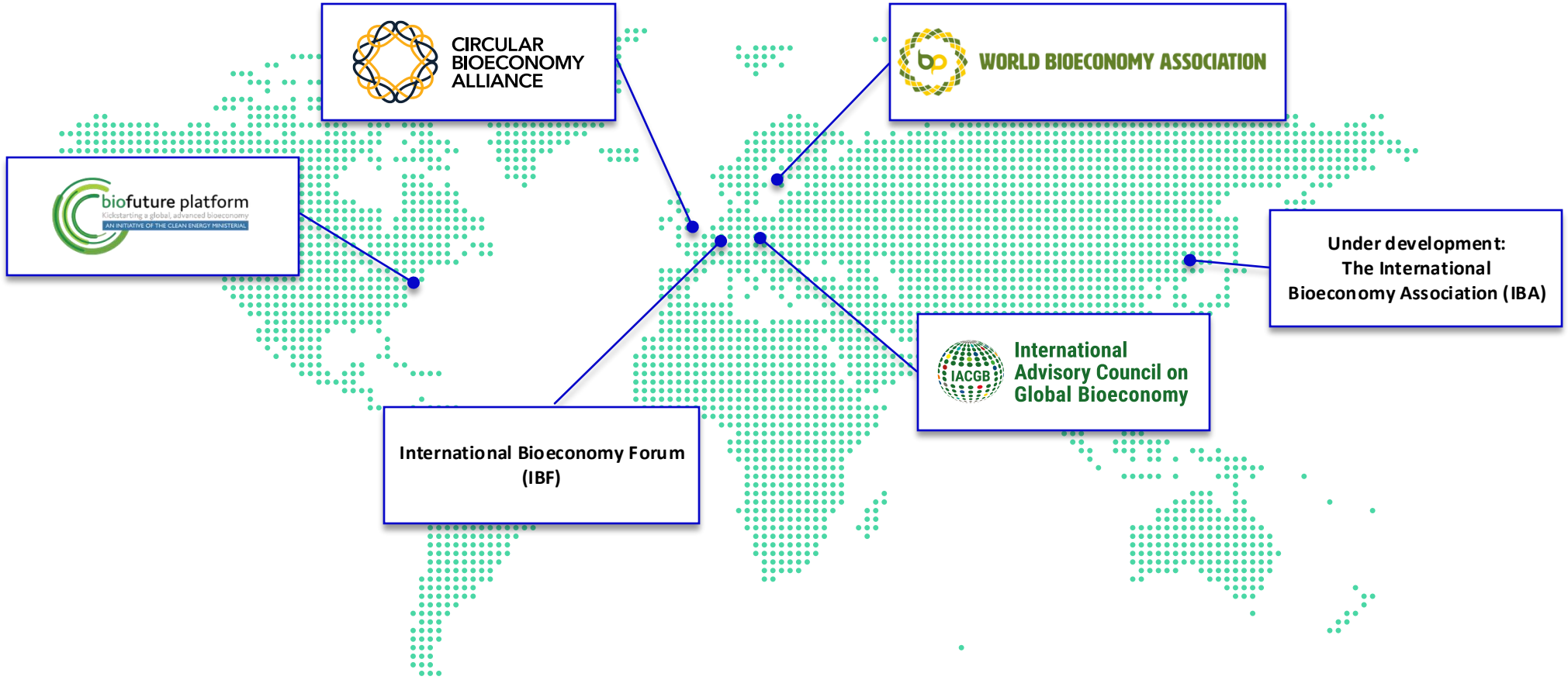
Latin America
Leveraging agro-biodiversity and regional strategies to drive sustainable bioeconomy and expand bio-based trade opportunities.

Asia
Regional collaboration (ASEAN, COSTI) supports diverse bioeconomy pathways — from Japan's biotech traditions and China's large-scale investments to Thailand's BCG model and India's advances in biofuels and agri-waste valorisation

Africa
Opportunity to drive sustainable biomanufacturing and bio-based trade through regional cooperation and finance initiatives

Implementation is context-specific – but global coordination is essential

Global platforms advancing the bioeconomy



A global voice for the bioeconomy

Need for alignment:

- Fragmentation of narratives across countries and sectors
- Disconnect between sustainability targets and national policy
- FAO insight: Risk of incoherent approaches leading to lost opportunities and inequalities
- COP30 (Belém, Amazon) is a historic opportunity to embed bioeconomy in the climate agenda

Proposal:

- Build and empower a *Global Bioeconomy Platform* – inclusive of governments, civil society, science, and private sector
- **FAO complement:** Establish a *Global Partnership on Bioeconomy for Sustainable Food & Agriculture* to ensure food systems transformation and equity

Mechanism:

- Act as a bridge between national action and global governance
- Serve as an advisory body to G20, UN, and others
- **FAO emphasis:** Four pillars → Policy coherence, knowledge & capacity, monitoring, and investment/innovation
- Move beyond one-off events – a permanent mechanism is needed for continuity and inclusivity

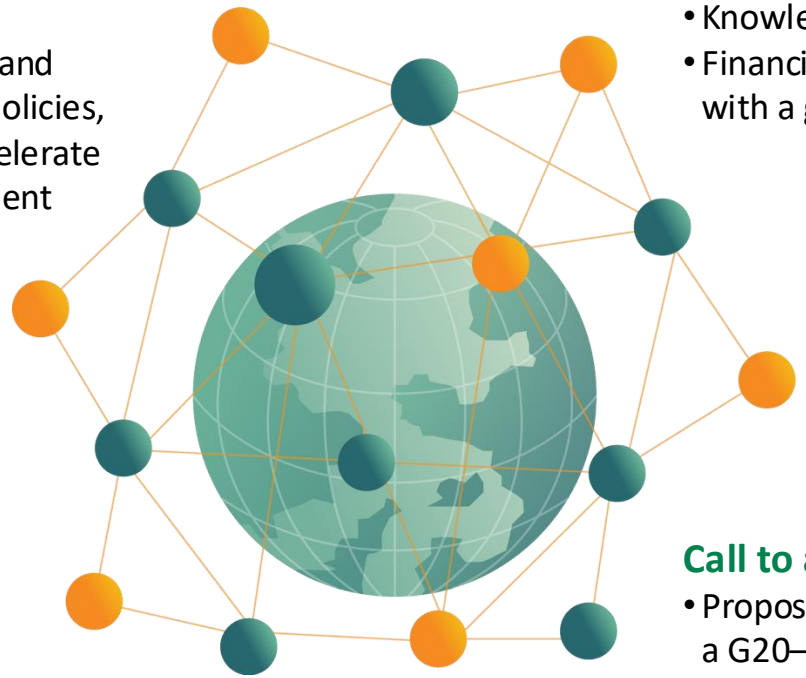
COP30 (Belém) may become a historic moment to institutionalize bioeconomy in climate negotiations.

Permanent Forum for the bioeconomy

Global Bioeconomy implementation Platform

Why a permanent mechanism?

- One-off events don't lead to sustained impact
- Need for a neutral, inclusive, and structured platform to align policies, mobilise investment, and accelerate global bioeconomy development



Key functions

- Policy harmonisation & sustainability standards
- Knowledge exchange, foresight & capacity building
- Financing, investment partnerships & regional hubs with a global secretariat

UN & G20 as vehicles

- UN: hosting/partnering role for implementation
- G20: political oversight and strategic guidance through a technical leadership mechanism

Call to action

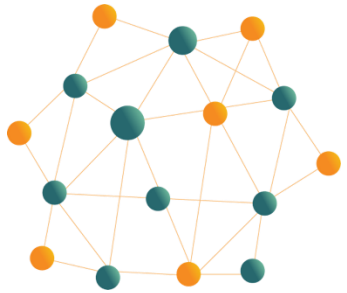
- Propose a pilot version or roadmap towards a G20–UN endorsed Global Bioeconomy Implementation Platform, **in synergy with COP30 efforts to secure bioeconomy as a permanent topic in climate negotiations**

A structured platform ensures continuity independent of single-state politics.

Towards a common language for the global bioeconomy

Why it matters

- No **globally agreed definition** of “bioeconomy”
- Regional differences (EU: circularity, NA: biotech/biomed, APAC: synbio, LA/Africa: inclusive growth)
- Fragmentation slows **policy alignment, cooperation, and investment**



The initiative

Objective: Develop a *Global Bioeconomy Terminology Framework*

Approach: Mapping + stakeholder engagement + comparative analysis + expert workshops

Output: Glossary, policy guidance, open-access digital platform

Expected Impact

- Build a **shared vocabulary** → unlocks trade, research, and investment
- Improve **policy coherence & interoperability** across regions
- Lay foundation for **future international standards**

Shared terminology is essential for policy coherence and interoperability across Rio Conventions.

The bioeconomy can contribute up to one-third of the emissions reductions needed to limit global warming to 1.5°C!

Gomez San Juan, M., Harnett, S. and Albinelli, I. (2022). Sustainable And Circular Bioeconomy In The Climate Agenda – Opportunities To Transform Agrifood Systems. Rome: FAO. https://doi. org/10.4060/cc2668en

Nature-based solutions can deliver emission reductions and removals of over 40% of the mitigation needed to limit global warming to 1.5°C!

Miles, L., Agra, R., Sengupta, S., Vidal, A., & Dickson, B. (2021). Nature-based Solutions for Climate Change Mitigation. Nairobi & Gland: United Nations Environment Programme & International Union for Conservation of Nature.

Global trade and cooperation in sustainable bio-based products can unlock these mitigation potentials across borders.

COP30 provides the chance to recognize bioeconomy as a permanent element of global climate architecture.

Financing the bioeconomy - enabling transformation

	Nature Intensive Bioeconomy	Advanced Bioeconomy	Hi-Tech Bioeconomy
DESCRIPTION	Utilizes biological resources, processes, and principles to produce goods and services. Encompasses agriculture, forestry, fisheries, food, and bioenergy. Aims for sustainable growth and reducted environmental impact.	Evolves traditional practices using innovative technologies and advanced biological processes. Provides sustainable alternatives to fossil-based products and enhances production efficiency and sustainability.	Focuses on high-value, specialized, and technologically sophisticated bioproducts. Characterized by advanced functionalities and higher market value.
STAGE AND LEVEL OF INVESTMENT	Mature stage, significant investments, linked to traditional industries.	Evolving stage, continuous innovation, increasing investments from public and private sectors.	Dynamic stage, subtantial R&D investments, significant funding for cutting-edge projects from both public and private sectors.

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CONCEPT NOTE
Leveraging climate finance mechanisms for a sustainable bioeconomy

Project duration: **April 2025 – November 2025**

Discussion venues:

- G20 meetings
- Climate COP meetings

Executive summary

- Introduction to the **application of climate finance mechanisms in the bioeconomy.**
- Importance of linking carbon markets to **bio-based products that replace fossil-based applications.**
- Expected outcomes and **impact on reducing fossil dependency** through bioeconomy driven solutions.
- Additionally, **the integration of climate finance mechanisms with trade policies can enable bio-based products to compete more effectively** in global markets, fostering new trade opportunities and enhancing investment attractiveness.
- • Alignment with **COP30 SBCOP** and **G20 priorities** and key insights from the 2024 "Financing a Sustainable Global Bioeconomy" Report.

Concept note on
Leveraging climate finance mechanisms for a sustainable bioeconomy

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Why it matters?

- Climate finance can accelerate bio-based alternatives to fossil products
- Current systems undervalue bioeconomy's contribution to emission reduction

Objectives

- Develop frameworks linking climate finance to bio-based substitution
- Align finance & trade policies to enhance competitiveness
- Engage governments, industry & financial institutions
- Reform financing: better instruments, risk-sharing frameworks, and standardized metric

Financing levers (OECD guidance)

- **De-risking**: accessible guarantees & insurance for SMEs and community-led projects
- **Market creation**: contracts-for-difference, carbon pricing, advanced commitments
- **Capital mobilisation**: ensure concessional layers in blended finance are meaningful enough to shift risk-return dynamics
- **Inclusivity**: inclusivity & technical assistance — strengthen pipelines and matchmaking platforms.

Expected outcomes

- Policy & investment framework for bio-based finance
- Scalable market opportunities via carbon & trade systems

Conclusions

Suggested G20 Calls-to-Action:

- **Adopt** a holistic bioeconomy approach linking climate, biodiversity, land use & human rights
- **Build** a joint global voice for the bioeconomy to ensure alignment and coherence – Global Bioeconomy Implementation Platform
- **Accelerate** bioeconomy development through shared terminology
- **Integrate** the bioeconomy into climate action, recognising its role in mitigation and adaptation
- **Embed** bioeconomy in financing mechanisms, linking climate finance, trade, and investment to bio-based transformation

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Thank you

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