



Bioeconomy for sustainable food and agriculture

FACTS & FIGURES

- Shifting to a sustainable, low carbon, circular bioeconomy could be worth **USD 7.7 trillion** by 2030 for food and feed waste, products and energy.
- Around **60 countries and regions** have dedicated bioeconomy strategies or bioeconomy-related strategies focusing on areas such as bioscience and biotechnology.
- For the **2023 UN Food Systems Summit +2 Stocktaking Moment**, **118 countries** submitted a **Food System Transformation Pathway**: **8** directly highlighted bioeconomy as a driver, while most prioritized actions related to circularity, sustainable consumption and production, biofertilizers, and biopesticides.
- In 2015, **62 agricultural ministers** at the **Global Forum for Food and Agriculture** called on **FAO** to coordinate international bioeconomy work to enhance food and nutrition security worldwide.
- FAO** is the first United Nations entity to make bioeconomy a strategic priority.

What is a sustainable and circular bioeconomy?

The bioeconomy is the production, utilization, conservation, and regeneration of biological resources, including related knowledge, science, technology, and innovation, to provide sustainable solutions (information, products, processes and services) within and across all economic sectors and enable a transformation to a sustainable economy (**Global Bioeconomy Summit Communiqué, 2020**).

Agrifood systems account for the largest share of the global bioeconomy and thus have enormous potential to bring about transformative solutions to many sustainable development challenges.

Biological resources are renewable – if we look after them, we can ensure many other co-benefits including climate change mitigation, biodiversity conservation, ecosystem restoration, clean air, water provision, energy and food security. This requires extracting the maximum value from biological resources through their whole life cycle, converting any leftovers into feedstock for new resources in a sustainable and circular way.



FAO's core work areas



Policy Support

FAO assists countries around the globe in developing sustainable and circular bioeconomy strategies, policies, and guidelines. For example, FAO has supported Namibia and Uruguay in drafting their national bioeconomy strategies and helped Malaysia to embed sustainability and circularity in its strategy. FAO has also developed a set of ***Aspirational principles and criteria for a sustainable bioeconomy***.



Partnership Building

FAO leads the **International Sustainable Bioeconomy Working Group**, a major global bioeconomy network that since 2016 has been bringing together multiple stakeholder groups, including international organizations, governments, research and academia, and the private sector. FAO is also part of other international bioeconomy fora (e.g. International Advisory Council on Global Bioeconomy, International Bioeconomy Forum, World Bioeconomy Forum) and continuously integrates bioeconomy into existing environmental and sustainable development frameworks.



Capacity Development

FAO supports countries in building bioeconomy capacities and promoting bio-innovations. Examples include a project in Côte d'Ivoire supporting women in valorizing urban market waste to rear **black soldier fly** larvae for animal feed, using the frass by-product as organic fertilizer; and a multi-year Global Environment Facility project in Pakistan turning waste from the banana production chain into **bio-based textiles**.



Knowledge Exchange

FAO has created a number of knowledge products, including **publications** and multilingual **videos and infographics**, and exchanges knowledge on best practices with bioeconomy stakeholders through **conferences, workshops, webinars**, and other engagement opportunities.

Bioeconomy as an FAO Strategic Priority

FAO Members endorsed **Bioeconomy for Sustainable Food and Agriculture** as one of 20 programme priority areas (PPAs) in FAO's **Strategic Framework for 2022-2031**. The bioeconomy PPA is led by FAO's Office of Climate Change, Biodiversity and Environment, and co-led by the FAO Agrifood Economics Division.

FAO's approach to bioeconomy has a special focus on Sustainable Development Goal 12 (Responsible Consumption and Production), in particular on achieving more sustainable natural resource management, less pollution and less waste. It also aims to promote bioeconomy innovations to support food security, rural livelihoods, indigenous rights, gender and youth empowerment, climate action, and biodiversity and ecosystem restoration.

For more information

You can find all latest information on FAO's work on sustainable and circular bioeconomy here: fao.org/in-action/sustainable-and-circular-bioeconomy

Contact the FAO bioeconomy team at BIOEconomy@fao.org



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