



Food and Agriculture
Organization of the
United Nations

TOWARDS SUSTAINABLE BIOECONOMY GUIDELINES

Brief



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INTRODUCTION

‘Bioeconomy is the production, utilization and conservation of biological resources, including related knowledge, science, technology and innovation, to provide information, products, processes and services across all economic sectors aiming towards a sustainable economy’

(Global Bioeconomy Summit, 2018).

Its cross-cutting nature offers a unique opportunity to comprehensively address interconnected societal challenges such as food and nutrition security, fossil resource dependence, natural resource scarcity and climate change, while achieving sustainable economic development.

The promotion of a bioeconomy has been placed on the political agenda of more than fifty countries, including the creation of dedicated visions, strategies and action plans. The combination of bioeconomy and digitalization is often seen as a major driver of the transformation of productive sectors.

However, bioeconomy activities are not necessarily sustainable. The development of an economy that is based on biological resources faces several trade-offs. It is crucial that bioeconomy development contributes to sustainability and helps to achieve the Sustainable Development Goals.

Of paramount concern is that the development of the bioeconomy does not undermine food security, especially in areas with high levels of malnutrition.

To the contrary, bioeconomy should be used as a vehicle to prevent malnourishment, including obesity, and other non-communicable diseases, to find sustainable ways to manage our planet, and to preserve biodiversity in natural systems and primary production. Traditional knowledge, research and innovation can help to develop applications within or across human, plant and animal health, food production, consumption and safety, and the

environment. In particular, the emerging field of microbiome research offers an enormous potential in finding sustainable ways to produce, obtain and prepare food and other bioproducts.

Considering this, in January 2015, on the occasion of the Global Forum for Food and Agriculture summit in Berlin, 62 Ministers of Agriculture recommended that FAO coordinate the international work on sustainable bioeconomy. To that end, the German Ministry for Food and Agriculture has provided support to FAO to develop Sustainable Bioeconomy Guidelines.

GOAL

The project aims to develop sustainable bioeconomy guidelines to assist countries as well as producers and users of biomass and

bioproducts in developing and implementing sustainable bioeconomy strategies, policies and programmes.

KEY AUDIENCE

The primary audience of this project are policy-makers of FAO member countries who seek to develop bioeconomy sustainably. As this cannot be done in

isolation, FAO's work on sustainable bioeconomy guidelines also addresses producers, manufacturers and consumers of biomass and bioproducts.

PARTNERS

The International Sustainable Bioeconomy Working Group, which is composed of policy-makers, private sector, civil society and scientists, advises FAO on the development of sustainable bioeconomy guidelines.

TIMEFRAME

April 2017 – August 2021



APPROACH

A two-phased stepwise programme, “Bioeconomy that Works for People, Food Security and Climate Change”, has been established to assist member countries in developing sustainable bioeconomy in a systematic and targeted way. This project is the second phase, which is based on an evaluation of the successful results of Phase I, implemented in 2016. It covers outreach activities through a series of consultations and dialogues involving members of all relevant stakeholder groups. The outputs of the project and elements of the FAO ‘Sustainable Bioeconomy Guidelines’ include:

- ▶ a report on lessons learned from a selection of examples of sustainable bioeconomy;
- ▶ a report on agreed good bioeconomy practices;
- ▶ a report on policies that promote the implementation of sustainable bioeconomy;

- ▶ a ‘toolbox’ that supports the development of bioeconomy strategies;
- ▶ a report on indicator frameworks to monitor and evaluate the sustainability impact and performance of bioeconomy development;
- ▶ validation of the above-mentioned elements of the guidelines through regional and specific stakeholder meetings and testing of some components in collaboration with pilot countries.

The elements of the guidelines seek to provide support in the development and implementation of national bioeconomy strategies, policies and programmes in line with the Aspirational Principles and Criteria for Sustainable Bioeconomy, which were agreed upon by the International Sustainable Bioeconomy Working Group in 2016.

PROJECT OUTPUTS



ASPIRATIONAL PRINCIPLES AND CRITERIA

FOR SUSTAINABLE BIOECONOMY AGREED BY THE INTERNATIONAL SUSTAINABLE BIOECONOMY WORKING GROUP

PRINCIPLE 1. SUSTAINABLE BIOECONOMY DEVELOPMENT SHOULD SUPPORT FOOD SECURITY AND NUTRITION AT ALL LEVELS

- Criterion 1.1.** Food security and nutrition are supported
- Criterion 1.2.** Sustainable intensification of biomass production is promoted
- Criterion 1.3.** Adequate land rights and rights to other natural resources are guaranteed
- Criterion 1.4.** Food safety, disease prevention and human health are ensured

PRINCIPLE 2. SUSTAINABLE BIOECONOMY SHOULD ENSURE THAT NATURAL RESOURCES ARE CONSERVED, PROTECTED AND ENHANCED

- Criterion 2.1.** Biodiversity conservation is ensured
- Criterion 2.2.** Climate change mitigation and adaptation are pursued
- Criterion 2.3.** Water quality and quantity are maintained, and, in as much as possible, enhanced
- Criterion 2.4.** The degradation of land, soil, forests and marine environments is prevented, stopped or reversed

PRINCIPLE 3. SUSTAINABLE BIOECONOMY SHOULD SUPPORT COMPETITIVE AND INCLUSIVE ECONOMIC GROWTH

- Criterion 3.1.** Economic development is fostered
- Criterion 3.2.** Inclusive economic growth is strengthened
- Criterion 3.3.** Resilience of the rural and urban economy is enhanced

PRINCIPLE 4. SUSTAINABLE BIOECONOMY SHOULD MAKE COMMUNITIES HEALTHIER, MORE SUSTAINABLE, AND HARNESS SOCIAL AND ECOSYSTEM RESILIENCE

- Criterion 4.1.** The sustainability of urban centres is enhanced
- Criterion 4.2.** Resilience of biomass producers, rural communities and ecosystems is developed and/or strengthened

PRINCIPLE 5. SUSTAINABLE BIOECONOMY SHOULD RELY ON IMPROVED EFFICIENCY IN THE USE OF RESOURCES AND BIOMASS

- Criterion 5.1.** Resource efficiency, waste prevention and waste re-use along the whole bioeconomy value chain is improved
- Criterion 5.2.** Food loss and waste is minimized and, when unavoidable, its biomass is reused or recycled

PRINCIPLE 6. RESPONSIBLE AND EFFECTIVE GOVERNANCE MECHANISMS SHOULD UNDERPIN SUSTAINABLE BIOECONOMY

- Criterion 6.1.** Policies, regulations and institutional set up relevant to bioeconomy sectors are adequately harmonized
- Criterion 6.2.** Inclusive consultation processes and engagement of all relevant sectors of society are adequate and based on transparent sharing of information
- Criterion 6.3.** Appropriate risk assessment and management, monitoring and accountability systems are put in place and implemented

PRINCIPLE 7. SUSTAINABLE BIOECONOMY SHOULD MAKE GOOD USE OF EXISTING RELEVANT KNOWLEDGE AND PROVEN SOUND TECHNOLOGIES AND GOOD PRACTICES, AND, WHERE APPROPRIATE, PROMOTE RESEARCH AND INNOVATION

- Criterion 7.1.** Existing knowledge is adequately valued and proven sound technologies are fostered
- Criterion 7.2.** Knowledge generation and innovation are promoted

PRINCIPLE 8. SUSTAINABLE BIOECONOMY SHOULD USE AND PROMOTE SUSTAINABLE TRADE AND MARKET PRACTICES

- Criterion 8.1.** Local economies are not hampered but rather harnessed by the trade of raw and processed biomass, and related technologies

PRINCIPLE 9. SUSTAINABLE BIOECONOMY SHOULD ADDRESS SOCIETAL NEEDS AND ENCOURAGE SUSTAINABLE CONSUMPTION

- Criterion 9.1.** Consumption patterns of bioeconomy goods match sustainable supply levels of biomass
- Criterion 9.2.** Demand and supply-side market mechanisms and policy coherence between supply and demand of food and non-food goods are enhanced

PRINCIPLE 10. SUSTAINABLE BIOECONOMY SHOULD PROMOTE COOPERATION, COLLABORATION AND SHARING BETWEEN INTERESTED AND CONCERNED STAKEHOLDERS IN ALL RELEVANT DOMAINS AND AT ALL RELEVANT LEVELS

- Criterion 10.1.** Cooperation, collaboration and sharing of resources, skills and technologies are enhanced when and where appropriate

MORE INFORMATION

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Food and Agriculture Organization of the United Nations (FAO)



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