

17th Global Forum for Food and Agriculture (GFFA) in 2025

Farming a Sustainable Bioeconomy

Background paper

Our global economic system is facing great challenges as it is largely dependent on non-renewable, fossil resources. It uses up finite resources, exacerbates the climate crisis and thus has a drastic impact on global food security. A sustainable, circular bioeconomy can play a key role in the further development towards a sustainable and resilient resource base. A bio-based economy uses raw materials from agriculture, forestry and aquaculture such as wood or algae. It is based on natural material cycles and makes use of biological resources and procedures partially or even completely replacing fossil resources. The bioeconomy transition has great development potential, it is resource-preserving and provides new sources of income. This paradigm shift must go hand in hand with protecting human rights-based approaches and the progressive realisation of the right to adequate food, and must respect the limits of ecosystems. This is how bioeconomy can contribute towards achieving eleven of the seventeen United Nations' Sustainable Development Goals (SDGs).

The world's Agriculture Ministers play a decisive role in shaping this transformation since agricultural and forestry production are the most important foundations of the global bioeconomy. This process can only work in close cooperation with global partners. The global Bioeconomy Initiative of the Brazilian G20 Presidency is an important step in this direction. At the 2025 GFFA, Federal Minister of Agriculture Cem Özdemir aims to continue this dialogue in order to accelerate the further development of a sustainable, circular bioeconomy. Particular focus will be placed on the four following topics:

1. Sustainably producing biomass – Solving conflicts of interest

The basis for a future-proof bioeconomy is sustainable biomass production. The major part of this biomass is generated by our agri-food systems. It includes raw materials from agriculture, forestry and aquaculture as well as organic waste, micro-organisms and insects. Differences in the natural potential of regions as well as societal and economic framework conditions require site-adapted solutions. Using different examples of best practices, the GFFA aims to make a contribution towards establishing understanding and recognition of how sustainable production is defined, measured and implemented in different regions of the world. We aim to jointly discuss the objectives and implementation of different sustainability approaches from a global perspective and work towards consensus with respect to common basic principles.

2. Sustainably using biomass – Ensuring global food security

The efficient and responsible use of natural resources is another core element of a sustainable bioeconomy. Raw material needs should be lowered and waste should be minimised. To this end, the “3 Rs” (reduce, reuse, recycle) will be consistently applied, taking into consideration the cascading principle, i.e. the use of resources at different stages, with decreasing value creation. Coupled and multiple uses lower raw material needs and contribute towards reducing land requirements. The Food First Principle is central to the realisation of the right to food. At the GFFA, there will be discussions based on specific examples around how material cycles can be closed within a bio-based economy, how the cascading principle can be used efficiently, and how we can reduce food losses and food waste.

3. Strengthening innovation – Promoting communication

Research and innovation are important drivers of the bioeconomy. The input of synthetically produced chemical pesticides and fertilisers can be reduced through innovative biological procedures such as the use of biostimulants. Production systems can thereby be made more sustainable and efficient. Food can also become more sustainable and rich in nutrients, and products can be more functional and recyclable, e.g. textiles made from wood fibres. In many areas, we are already seeing innovative applications – either based on practically oriented research or the traditional knowledge of indigenous peoples. However, despite their great potential, they have not yet been comprehensively used in practice. At the GFFA, we would like to learn from one another and foster mutual knowledge exchanges – between North and South, young and old, and also between different economic branches, areas of expertise and sectors. On the basis of examples, there will be discussions around how exchanges can be promoted and what kind of hurdles need to be overcome.

4. Creating a fair framework – Harnessing change

The increased use of biogenic raw materials goes hand in hand with the establishment of new bioeconomic value chains. Rules-based, open, secure and transparent trade as well as the establishment of sustainable value chains are important for a sustainable bioeconomy. It is essential to shape the required framework conditions in a socially, ecologically and economically just manner. At the GFFA, we would like to discuss how this can be achieved. Particular focus will be placed on discussions around the implementation of the right to adequate food, strengthening women, youth and vulnerable groups, supporting rural areas, improving access to land and achieving fair distribution of the yields of a bio-based economy.