

Bioeconomy related knowledge, research and best practices in sustainable management of bioresources in Uzbekistan

It is known, biological resources are natural sources of obtaining material goods necessary for people. Therefore, the task of modern society is to provide conditions for the sustainable renewal of biological resources, since at the current rate of economic growth, a significant part of biological resources is subject to disappearance.

An important form of biological resources is biomass in the form of biodegradable waste or residues of biological origin, plant and animal substances widely obtained and used in agriculture and forestry, aquaculture, industry and energy, household waste processing, etc. Thus, biomass can be considered the largest renewable resource for the country's economy.

The largest share of biomass in Uzbekistan is formed in the form of agricultural and forestry products, providing the population with food, as well as animal feed and raw materials for industry. Also, biomass in Uzbekistan plays an important role as primary energy sources recovered by biotechnological means. Of particular importance is the use of economically acceptable biotechnological approaches for the disposal of agricultural waste, the introduction of which is limited in practice. The biomass of agriculture and forestry is currently a significant economic potential in Uzbekistan.

The Government of Uzbekistan is implementing a strategy for the country's transition to a green economy, in which understanding and awareness in the field of biological resources and biomass use management become the main tools. An important direction of the strategy is to increase the efficiency of natural resources use and preservation of natural ecosystems, which includes a wide range of activities on water, agriculture and forestry.

Among other measures, attention is drawn to such as improving the efficiency of water resources use and preventing further salinization and deterioration of land quality, restoring degraded pastures and introducing mechanisms for sustainable pasture management, crop diversification, attracting investments in the processing of agricultural crops and organic animal waste, breeding highly productive animal breeds and plant species (varieties), restoration and conservation forest territories in all natural zones of the country, etc.

It is planned to increase the production capacity of renewable energy sources (the share in the total volume of electric energy is more than 30%, now it is about 8%), increase energy efficiency (by 20%) and reduce energy intensity (by 30%, now it is about 5%), increase the efficiency of water use and the introduction of water-saving technologies (on an area of up to 1 million hectares), expand green areas (by 30% by planting 200 million seedlings per year), an increase in forest reserves (up to more than 90 million cubic meters) and the level of processing of generated household waste (up to more than 65 percent), etc.

Special attention is paid to the development of the system of training and retraining of personnel, as well as to improving the curricula of higher and secondary special education, taking into account the basics of the "green" economy and supporting research and innovative developments in the field of "green" technologies, strengthening cooperation with leading foreign educational institutions and research centers, etc.

An important event of the last year was the Samarkand EU-Central Asia Connectivity Conference under Global Gateway. This connectivity conference explored possibilities for increased cooperation between the EU and Central Asia on digital, transport and energy connectivity as well as building stronger partnerships. It included dialogues on sustainable management of water and energy resources, improving the quality and inclusiveness of education, training and employment system in Central Asia as well as optimizing energy efficiency and renewable energy development etc.

Uzbekistan has a huge potential for accelerated economic growth, especially in those sectors that include the use of natural resources, in other words, bio-resources. There is also a political will. In order to develop such an economy, it is necessary to take a number of actions, including in the field of educating specialists. At the moment, there is a shortage of specialists in the country, due to the inconsistency of curricula related to the bioeconomy.

European Union (EU) set the course for a resource-efficient and resilient bioeconomy in 2012, with a view to a more innovative and low-emission economy that combines the requirements of sustainable agriculture, forestry and fisheries, food security and the use of renewable biological resources for industrial purposes, while ensuring biodiversity and protecting the environment. Bioeconomy is an economic approach that involves the production of goods and services using renewable biological resources and the transformation of these resources and waste streams into value-added products: food, feed, textiles, bioenergy, etc. To achieve these goals, the European Commission developed a bio-economy strategy in 2012, which was updated in 2018.

The first international scientific and practical forum on bioeconomy for academic, government institutions and enterprises of various sectors of economy was held at the Samarkand branch of the Tashkent State Agrarian University of the Republic of Uzbekistan from 27 to 28 April 2022 under the title "Bioeconomy for sustainable development of countries and regions". Possibilities for the development of bioeconomy in Uzbekistan were discussed with an emphasis on its essence, role, advantages, differences from the sectoral approach and the tasks and benefits of various actors in a single bioeconomic ecosystem.

The forum brought together representatives of relevant government institutions and businesses, university professors and students, scientists and experts in the field of bioeconomy from the European Union and Uzbekistan for a comprehensive dialogue and development of practical proposals on possible directions for the development of bioeconomy and for the higher education in the field of bioeconomy in Uzbekistan.

The 2nd Bioeconomy Forum and its goals

The 2nd joint bioeconomy forum will be organized at the Tashkent State Agrarian University in the Republic of Uzbekistan, on May 2-3, 2023. The forum is one of the project's events, which offers extensive meeting of universities, public and private sectors stakeholders in the development of the bioeconomy that see their role in these processes.

The forum will be attended by involved partners (teaching staff of universities in Uzbekistan and EU countries), students, administrative staff of the involved universities in Uzbekistan, as

well as other invited experts from the private and public sectors: thematically relevant government bodies related to bioeconomy, for example, the Ministry of Agriculture of the Republic of Uzbekistan, the Ministry of Economy and Finance of the Republic of Uzbekistan and the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan, enterprises of the country representing the relevant sectors: agriculture, forestry, food and material processing, enterprises involved in energy, water supply, sewerage and the use of industrial and household waste. In parallel, according by the order of Cabinet Ministries of Uzbekistan № 101-F, at 7.03.2022, scientific conference focusing on bioeconomy sector above mention topics will be organised.

The forum will focus on capacity development for knowledge, research and best practices in sustainable management of bioresources and biomass in Uzbekistan.

External experts from Latvia, Lithuania and Finland are invited to participate in the forum, who are able to demonstrate best practices in the field of implementing the bioeconomy in practice.

The following stakeholders are invited to the forum:

- Representatives of relevant state institutions and departments involved in the bioeconomy sectors.
- Manufacturers and processors from various sectors of the national economy that are directly or indirectly related to the field of bioeconomy: food production and processing, forestry, fisheries, pharmaceuticals, chemical industry, textile processing, mechanical engineering, etc.
- Potential students.
- Other higher education institutions.

Register for participation in the forum online: In english; Russian; Uzbek

Please register until April 25, 2023!

https://docs.google.com/forms/d/e/1FAIpQLScIw8Ow3tLkozKRcqQHoVtstzcJFgQ9MjA44_di_V-m0Q59g/viewform

For more information about the Forum, please contact: **Firuza Galimova** at Tashkent State Agrarian University.

Tel: +998 909 570 575; e-mail: firuzaza@gmail.com