

BIOECONOMY CONCEPT PAPER

ESTONIA



Mission

To develop a preliminary impact assessment and to set the framework for a national bioeconomy strategy and action plan development, aiming to generate a deeper discussion in Estonia on the necessity of paradigm shift in economic thinking regarding the sustainable valorisation of biomass as renewable natural resources.



Opportunities foreseen in bioeconomy

- To become a successful platform in Europe for bioeconomy related research and development, piloting activities and applications.
- There is potential for increasing processing and for adding more value for local biomass and primary products.
- Bioeconomy development is a precondition for green economic transition.



Strengths in bioeconomy

- Estonia is successful in primary biomass production.
- Mainly traditional bioeconomy related sectors comprise 13% of the GDP, 17% of the exports and 12% of employment.
- Estonia has a good potential to couple innovations in biotechnology and digitalization for the circular bioeconomy development.



Strategic directions

- **Higher value added from circular bioeconomy.** Development of alternative components for food and feed. Development of technology (also ICT) for synthetic biotechnology, cellular agriculture and vertical farms. Use of underutilized residuals for production of high value components for chemical, cosmetics, pharmaceutical and fertilizer industries. Development and production of biopesticides. Development of algae and shells cultivation. Chemical processing of wood.
- **Education, knowledge and awareness.** Systemic societal communication of sustainable circular bioeconomy as a new economic model. Introduction of circular bioeconomy related competences to all educational levels. Circular bioeconomy related knowledge transfer to local municipalities. Empowerment of circular bioeconomy ambassadors.

- **Sustainable use of resources and biodiversity maintenance.** Sustainable management of agricultural land, forests and water bodies. Improving information on the regional production and availability of biomass. Development of infrastructure for collection, storage and pretreatment of biomass. Widening the use of indigenous species.
- **RDI and technology.** Development of collaborative models and networks along and across value chains. Development of infrastructure for experimentations, piloting and upscaling of new technologies. Application of ICT and AI to utilize circular bioeconomy data flows.
- **Competitive economic environment.** Creation of financing models for start-up and spin-off enterprises to support reaching higher TRLs. Support to enterprises for participation in the EU bioeconomy networks and projects. Intensification of private investments to tackle circular bioeconomy. Adaptation of legislative environment to the needs of circular bioeconomy.



Endorsement

The BIOEAST Initiative aims to build knowledge-based agriculture, forestry and aquaculture in the bioeconomy. For this reason, the BIOEASTsUP Horizon 2020 EU project was launched under the auspice of the macro-regional governmental initiative to support eleven countries in building up their own bioeconomy strategies and action plans.