



CONCLUSION POLICY EXPERT DISCUSSION

BIOEAST THEMATIC WORKING GROUP
BIOECONOMY EDUCATION & BIOEAST UNINET
POLICY EXPERT DISCUSSION EXAMINES
HOW SKILLS AND EDUCATION CAN DRIVE
THE EU BIOECONOMY TRANSITION



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INTRODUCTION

The BIOEAST thematic working group Bioeconomy Education (TWG BE Edu) with the support of BIOEAST UniNet organized a Policy Experts Workshop on Bioeconomy Education, aiming to facilitate a high-level exchange among educators, policy makers, and representatives of the European Commission on 10th December 2025 at Warsaw University of Life Sciences. The event focused on advancing bioeconomy knowledge systems and strengthening education and skills development in Central and Eastern Europe and the BIOEAST countries recognizing education as a key enabler of the new Bioeconomy Strategy. Education is increasingly recognised as a key enabler of the new European Bioeconomy Strategy, supporting the development of a skilled workforce capable of driving the green and circular transition. The EU policy on Bioeconomy Education promotes the integration of sustainability and bioeconomy principles across all levels of learning — from vocational training to higher education — while fostering innovation, interregional cooperation, and societal awareness.

POLICY EXPERT DISCUSSION

The policy expert discussion brought together representatives of the European Commission, EU networks, national ministries, NGOs and BIOEAST UniNet members. The discussion focused on how education, training and skills development can be more effectively mobilised to support the implementation of the EU Bioeconomy Strategy, with a particular focus on Central and Eastern Europe and the specific needs of the BIOEAST macro-region.

The meeting was opened by Marie Kubankova (BIOEAST HUB CZ and BIOEAST Thematic working group bioeconomy education), who underlined the need for closer alignment between education systems, research and innovation policies, and real-world bioeconomy value chains. She emphasised the role of BIOEAST UniNet as a platform for dialogue and coordination among higher education institutions and policy stakeholders in the BIOEAST macro-region supporting coherent and coordinated action on bioeconomy education.

In his policy intervention, **Giuseppe Pellegrino** (Directorate-General for Research and Innovation, European Commission) highlighted the bioeconomy as a major strategic opportunity for the BIOEAST macro-region, the Western Balkans and candidate countries. Referring to the new EU Bioeconomy Strategy, he outlined key priorities including the removal of barriers, stimulation of innovation and investment, and the efficient and sustainable use of biomass. Central and Eastern European countries were recognised as having a comparative advantage due to their abundant biomass





resources, while also facing a modernisation and innovation gap that calls for tailored policy responses, capacity building and research and innovation cooperation.

A dedicated segment of the dialogue addressed the skills dimension of the bioeconomy transition. **Nelo Emerencia** (Bio-based Industries Consortium) presented evidence on the scale and economic relevance of the bioeconomy, which employs around 19 million people across biomass-producing and converting sectors in the EU. He highlighted that despite this economic significance, skills and education remain insufficiently developed within existing policy frameworks, representing a structural weakness that could slow down innovation uptake, industrial scale-up and Europe's global competitiveness.

National perspectives provided further insights into ongoing reforms and practical initiatives, as well as the growing importance of lifelong learning and upskilling programmes. **Izabela Rzepczynska** (Ministry of Science and Higher Education Poland) shared experiences with curriculum reforms addressing climate change, circular economy and societal challenges. **Vítězslav Slíva** (Ministry of Science and Education Czech Republic) discussed the need for interdisciplinary education models, including the systematic integration of environmentally oriented programmes into formal curricula.

Denis Dobrynin highlighted the role of the European Bioeconomy University (EBU) as a strategic European alliance supporting the implementation of the new EU Bioeconomy Strategy through education, research, and lifelong learning. He underlined that universities must move beyond traditional degree programmes and take a stronger role in upskilling and reskilling professionals, working closely with industry and policy actors to bridge the gap between research and real-world deployment. **Mona-Anitta Riihimäki** (Häme University of Applied Sciences) presented the ICA Community of Practice on Bioeconomy Education, emphasising learning communities, interdisciplinarity and stakeholder dialogue as key elements for building resilient bioeconomy education systems. The role of agriculture, rural areas and practice-oriented education was highlighted by **Tajana Radić** (Croatian Chamber of Agriculture), who presented initiatives supporting farmers, rural entrepreneurs and women-led innovation through bioeconomy-focused projects, knowledge exchange and policy support across Central Europe. She underlined the importance of connecting research and education with real-life implementation and adaptive policy frameworks.

Further reflections on moving from vision to scale were provided by Stanisław Bielecki (Lodz University of Technology), who stressed the need to treat skills and education as critical infrastructure for the bioeconomy. He highlighted the importance of building a coherent bioeconomy skills ecosystem linking vocational education, higher education, lifelong learning and micro-credentials, and argued that Central and





Eastern Europe can act as a living laboratory for integrated, practice-oriented bioeconomy education connected to real regional value chains.

The policy expert discussion concluded with interventions of representatives of two new BIOEAST UniNet members. **Mariusz Maciejczak (University of Life Sciences Warsaw), a newly joined BIOEAST UniNet member,** presented the university's engagement in bioeconomy education and research. The Rector of the University of Life Sciences "King Michael I" Timișoara, Prof. Mire Kálmán, stressed the importance of the development of bioeconomy education not only in Romania but across the entire BIOEAST macro-region and expressed the commitment of his university to further enhance bioeconomy education.

CONCLUSION

The BIOEAST UniNet Policy Expert Discussion reaffirmed that skills and education are indispensable horizontal enablers for the successful implementation of the new EU Bioeconomy Strategy and for unlocking the bioeconomy potential of Central and Eastern Europe. The discussion confirmed a shared understanding that education and skills development must be positioned as a strategic priority within bioeconomy governance frameworks, underpinning innovation, competitiveness, sustainability and social cohesion. The dialogue also demonstrated broad consensus that while the updated Strategy rightly emphasises innovation, investment, and sustainable biomass use, its ambitions can only be realised if education and training systems are systematically aligned with emerging bio-based value chains, labour market needs, and regional specificities.

Participants highlighted that the BIOEAST macro-region holds a comparative advantage in biomass availability and primary production, yet continues to face a modernisation and innovation gap. This gap was identified as a key structural challenge requiring targeted and coordinated policy responses. Addressing this gap requires treating education and skills not as a downstream policy area, but as critical infrastructure underpinning industrial deployment, rural development, competitiveness, and social cohesion. The discussion underlined that fragmented governance, insufficient science–policy–industry interfaces, and limited practice-oriented training remain key barriers to scaling bio-based solutions.

The meeting confirmed the growing role of BIOEAST UniNet as a coordination platform connecting universities, policy makers, industry, and regional stakeholders. Its recognition within the new EU Bioeconomy Strategy reflects the importance of structured, bottom-up university networks in supporting curriculum reform, lifelong learning, micro-credentials, and regional talent pipelines.



Together with initiatives such as the European Bioeconomy University and the ICA Community of Practice on Bioeconomy Education, BIOEAST UniNet contributes to a more coherent European bioeconomy education ecosystem.

From a policy perspective, the discussion converged on the need for coordinated action across governance levels. This includes embedding bioeconomy education into national and regional implementation plans, strengthening inter-ministerial cooperation between education, research, agriculture and industry portfolios, and ensuring that EU instruments such as Horizon Europe, Erasmus+ and future skills initiatives more explicitly support interdisciplinary, practice-oriented and regionally adapted education models. Particular emphasis was placed on lifelong learning, upskilling and reskilling pathways to support workforce transition in bioeconomy-related sectors.

Overall, the Policy Expert Discussion concluded that there is no bioeconomy transition without people. Skills, competencies and lifelong learning must be placed at the heart of bioeconomy governance if Europe is to move from vision to scale. Central and Eastern Europe, working collectively with a support of BIOEAST TWG and BIOEAST UniNet, is well positioned to act as a living laboratory for innovative bioeconomy education and skills development models. As explicitly recognised in the new EU Bioeconomy Strategy, these efforts can contribute to a fair, competitive and sustainable European bioeconomy.

