

Advancing Bioeconomy Skills Development in Slovakia

Policy Brief | Slovakia CoP

This policy brief outlines the key outcomes and recommendations from the Slovakia CoP's Regional Policy Workshop, held under the BioGov.net project, focusing on identifying deficiencies within governance and feedback mechanisms in bioeconomy skills development.



Introduction

This policy brief outlines the key takeaways and recommendations from the Slovakia CoP's Policy Workshop, held as part of the BioGov.net project. Several workshops, organised by PEDAL Consulting, were held from 13th of June 2023 to 25th of June 2024, involving members of the CoP. The insights gathered from these discussions provide valuable perspectives on enhancing the effectiveness of educational initiatives in this field.



Main takeaways

Policy

01.

Legislative framework:

A strategic legislative framework is necessary to promote bioeconomy initiatives effectively. This includes creating a central platform for sharing knowledge and resources related to bioeconomy projects.

02.

Funding and resources:

Sustainable funding remains a major challenge, especially for smaller, local bioeconomy projects. Simplifying legislative procedures and increasing financial support for education and development initiatives can accelerate growth in the sector.

03.

Monitoring and skill alignment:

Regular assessments of labour market needs and alignment of bioeconomy-related educational programs are vital for bridging the gap between graduates and market demand.

04.

Stakeholder engagement and collaboration in curricula development:

Engaging key stakeholders—across public, private, and academic sectors—in curriculum development fosters a more holistic and effective approach to bioeconomy education. Stronger partnerships can drive innovation and practical application.

05.

Strategic policy reforms in bioeconomy education:

Modernising learning methodologies and updating curricula are essential to keeping bioeconomy education relevant and impactful. Advocating for policy changes to improve funding and accessibility will strengthen the sector's educational foundation.

06.

Integration of bioeconomy in the curriculum:

Bioeconomy is a crucial multidisciplinary field that must be integrated into school curricula at all education levels. Policymakers should ensure its inclusion in mainstream education.

07.

Regional focus:

Regional authorities should actively participate in defining and supporting education priorities at the regional level.

08.

Collaboration:

Stronger partnerships between educational institutions, local governments, and industries are needed to provide students with practical experiences such as field visits, hands-on projects, and real-world applications.

09.

Support for individuals belonging to disadvantaged, vulnerable and marginalised groups:

Policy efforts should include tailored programs to integrate vulnerable populations into the bioeconomy sector. Practical education, mentorship, and social innovation initiatives should be implemented to enhance inclusivity and equal opportunities.

Education

01.

Curriculum Modernisation:

Educators are encouraged to integrate the topic of bioeconomy into existing subjects.

02.

Focus on Skills Development:

There is a strong emphasis on developing transversal skills such as critical thinking, entrepreneurship, and digital literacy among students.

03.

Innovative teaching approaches:

Educators should adopt interactive and experiential learning methods, including virtual reality, case studies, and design-thinking strategies, to enhance student engagement and reflect real-world bioeconomy applications.

04.

Collaboration with Industry:

Strengthening ties between educational institutions and bioeconomy businesses is essential. Schools and universities should integrate practice-oriented learning through internships, fieldwork, and project-based collaborations.

05.

Focus on critical and entrepreneurial thinking:

The curriculum should prioritise problem-solving, environmental literacy, and systems thinking, ensuring students develop cross-sectoral competencies.

06.

Teacher professional development:

Teachers must continue learning themselves, engaging in peer-to-peer education and workshops with researchers and industry experts to stay current with bioeconomy trends and technological advances.

07.

Adapting to Diverse Learner Needs:

Flexible learning formats, including hybrid and project-based approaches, should be adopted to support a broad range of student needs, especially those from marginalised or disadvantaged backgrounds. Education must be accessible, engaging, and practical.

08.

Interdisciplinary and community learning:

Educators should work to break down academic silos, combining knowledge from bioeconomy, technology, and the arts, while fostering community-level educational programs. These can include interest groups and local projects designed to meet regional needs.

09.

Addressing Marginalised Groups:

Special attention should be given to developing education programs tailored to marginalised and disadvantaged groups. These initiatives can provide relevant skills and facilitate their integration into the workforce.

10.

Networking and Knowledge Exchange:

Continuous networking between educators, policymakers, and industry representatives helps drive innovation in bioeconomy education. Regular workshops, co-creation sessions, and collaborative projects facilitate the exchange of best practices and ensure alignment with labour market needs.

Lessons Learned

01.

- **Importance of Policy Ownership:** Successful policy reforms require that regional authorities and policymakers feel a sense of ownership over bioeconomy initiatives. Active involvement in shaping educational priorities increases engagement and results.
- **Systemic Change Requires Legislative Support:** Legislative and regulatory barriers hinder progress in bioeconomy education. Simplifying administrative processes and reducing bureaucracy is essential for better implementation of bioeconomy-related programs.
- **Financial Support is Crucial:** Consistent financial backing from both regional and national governments, as well as from EU funds, is needed to support educational initiatives in bioeconomy. Many regional programs struggle due to limited funding, which impacts their sustainability and outreach.
- **Integrating Bioeconomy into Education Systems:** Introducing bioeconomy topics into all levels of education, from primary schools to universities, requires strategic alignment with national curricula. Decision makers should actively promote the inclusion of bioeconomy subjects to future-proof students' skills.



For more detailed information, visit the [Slovakia regions page](https://www.bio.gov.net) and [BioGov.net](https://www.bio.gov.net) website.

Consortium

CIVITTA

Q-PLAN

LOBA

PEDAL CONSULTING

FAKULTA ZA VEŠTAČENSTVO

ZVTI

MNEXT MATERIALS ENERGY X TRANSITION

UNIVERSITATIS SLOVACAE

bta

WILA Bonn

Funded by the European Union

Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union (Research Executive Agency). Neither the European Union nor the granting authority can be held responsible for them.

CC BY-NC-ND 4.0

BioGov.net

info@biogov.net

in X @biogovnet