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EBU Position on lifelong learning and industry collaboration

Why lifelong learning matters for the bioeconomy

The bioeconomy is a **fast-moving** transition with a **short knowledge life** cycle: technologies, markets, regulations, and sustainability requirements are evolving rapidly. Universities provide the latest scientific knowledge through degree programmes. However, as knowledge continues to evolve, graduates need ongoing re- and upskilling opportunities to keep pace with new developments.

The bioeconomy is highly **interdisciplinary** and represents not only a technological transition but also a **workforce transition**. It integrates biological resources, technological processes, digitalisation, environmental limits, industrial systems, business models, public regulation and social acceptance. Therefore, bioeconomy professionals need more than narrow technical expertise. They may need knowledge and skills in systems thinking, digitalisation and artificial intelligence, innovation, regulation, communication, entrepreneurship, collaboration, climate neutrality, circularity, sustainability, and the ability to work across sectors. However, the current workforce may not always have this **combination of technical background, soft skills, and cross-domain knowledge** that companies need in practical industrial contexts.

The bioeconomy evolves faster than degree curricula can adapt, while industry not only needs recently graduated professionals but also flexible, science-based yet practice-oriented pathways for upskilling and reskilling.

Lifelong learning helps new graduates, early-career workers, and professionals **connect academic knowledge with real-world workplace** experiences. Thus, lifelong learning is necessary because deploying the bioeconomy requires not only technology and investment but also the development of human capital and workforce transition.

Why lifelong learning matters for EBU

The development of **lifelong learning aligns with the EBU's Education Strategy**, which assumes the systematic assessment of the skills demand in the European bioeconomy industry; the development of education programmes for lifelong learners and professionals; and the involvement of industry stakeholders in teaching.

By fostering lifelong learning, EBU can address the bioeconomy's interdisciplinary, cross-sectoral, and rapidly changing nature, as well as the short life cycle of knowledge. Through flexible upskilling and reskilling formats, EBU can **translate its scientific knowledge into economic and societal impact**, complementing degree education. EBU can offer a broader lifelong learning platform than a single university, drawing on the diverse regional, sectoral, and

scientific specialisations of its members. This enables EBU to respond to diverse societal and industrial needs across the bioeconomy value chain while increasing its influence as a European-level actor. Moreover, lifelong learning can strengthen EBU internally by stimulating collaboration among EBU universities and engaging various universities units.

Science-based lifelong learning connects EBU's research and education missions with industry needs, policy priorities, and regional bioeconomy ecosystems.

Policy context

The strongest policy anchor is the Strategic Framework for a Competitive and Sustainable EU Bioeconomy. The framework explicitly identifies EBU as one of the key education initiatives for promoting bioeconomy-related reskilling and upskilling to support the deployment of the EU bioeconomy. The European Digital Identity Wallet is a complementary enabling framework for EBU's lifelong learning initiatives, particularly for interoperable and portable digital credentials across Member States.

EBU's niche in lifelong learning

Various actors provide bioeconomy-related education and training, including scientific and technical universities, universities of applied sciences, vocational education and training providers, consultants and private training organisations, and AI-driven learning tools. EBU's niche lies in its role as an alliance of scientific universities, offering science-based knowledge, long-term scientific insight, European complementarity, credibility, and the ability to link academic theory to practice. EBU's distinctive role is to connect multidisciplinary research excellence, the diversity of European regional bioeconomy ecosystems, industry needs, EU policy priorities, and flexible non-degree education formats.

Industry collaboration

Interaction with industry is essential to lifelong learning. Industry stakeholders can be part of the target audience and serve as co-designers, evaluators, contributors, and implementation partners for upskilling and reskilling. Thus, industry stakeholders may involve company employees as both learners and teachers. Lifelong learning platforms and practices can connect industry and business stakeholders with academic research and education.

In lifelong learning, industry may serve as a co-designer, evaluator and contributor.