



Report of the online workshop

Sustainable Entrepreneurship Education (SEE) is a field, resulting from the intersection of two substantial research and education domains, **Sustainable Entrepreneurship** and **Entrepreneurship Education**.

This particular area has gained attention in recent years, and a number of quantitative and qualitative studies are carried out to explore its diverse dimensions. Given its nature and orientation, SEE is the domain the best adapted to the requirements of the sustainable circular bioeconomy and the bio-based sector.

The domain attracted the attention of the European Commission which published a “[Guide to fostering Entrepreneurship Education](#)” in early 2022. This is a set of five key actions, towards a digital, green and resilient Europe and consistent with the wider new European Research Era, laying on the same principles. The five actions include:

- The development of Entrepreneurship Education competence of leaders and teachers in education institutions.
- The encouragement of cooperation of stakeholders related to the Entrepreneurship Education about policies and curricula.
- The communication about the nature and the potential benefits of Entrepreneurship Education.
- The evaluation of Entrepreneurship Education practices and the demonstration of their impact on European scale.
- The sharing of knowledge on Entrepreneurship Education and its impact on enhancing teaching and learning frames.

In a wider perspective, sustainable entrepreneurship is a promising approach aiming to solve complex social, environmental, and economic problems with innovative solutions. On educational level, this concept tends to merge entrepreneurship and sustainability principle on a common basis. This approach may be considered as an educational reform and as such requires concrete indicators for its evaluation on sustainability, productivity, and efficiency levels. Additionally, it is mandatory to focus also on the issues of academic culture and values as important factors in both economic and social performance. It should be considered that education is institutionally associated with the production of public goods and trust, and therefore it performs an important social function.

In order to achieve these goals, a substantial background work is necessary in order to convert this bottom-up approach into a widely adopted educational model. Many networks and projects are ongoing in Europe and worldwide on this topic, trying to optimise the educational parameters and also to adapt them to various regional and sectorial criteria. In all these efforts, common elements like “critical thinking”, “professional development”, “entrepreneurs’ needs” and “pedagogic excellence” are considered as central.

The challenge is to frame these dimensions in the prism of Sustainable Entrepreneurship, taking into account specific parameters such as:

- Highlighting the potential of entrepreneurship initiatives in all domains (social, economic and environmental) in short- and long-term perspectives.
- Developing a specific protocol to conduct a systematic review of literature and other resources on sustainable entrepreneurship education, including reports on research status and analysis of their results.
- Aligning to European and International standards and priorities, such as the Strategic Research and Innovation Agenda on Bioeconomy, The European Green Deal and the Sustainable Development Goals adopted by the UN.
- Designing specific methodological approaches considering existing practices and various foresight outcomes.
- Reshaping curricula and educational programmes according to the specific needs and directions.
- Meeting the requirements of the new ERA, in particular with regards to closing the gap between academia and business and to support the applicability of research results to enhance innovations.
- Presenting the emerging topics, issues and challenges that need to be addressed in future research.

In view of this debate, a workshop entitled “**Paving the way towards Sustainable Entrepreneurship Education**” was co-organised by *The European Bioeconomy Network*, *Transition2Bio*, *the European Community of Practice for Bioeconomy Education*, *BIOSKILLS*, *BIObec* and *the European Bioeconomy University (EBU)*. The aim of the workshop was to identify how the cross-fertilisation of EE and SE can help design educational curricula and extra-curricular activities for sustainability-minded entrepreneurs of tomorrow. The workshop involved projects and initiatives highlighting the intersection between Entrepreneurship Education (EE) and Sustainable Education (SE), with a special focus on circular and sustainable bioeconomy.

In the first part of the workshop, several projects and initiatives presented their inspirational case studies to provide insights and knowledge, in order to stimulate the discussion and mutual learning. The shared good examples include:

- Veera Tahvanainen - Policy officer DG RTD of the European Commission, who presented a focus on the priorities, interest and objectives defined by the European Commission about Sustainable Entrepreneurship Education.
- The European Bioeconomy Network that facilitates mutual promotion of outcomes, new partnerships, joint event planning and knowledge sharing among EU funded projects and initiatives supporting the bioeconomy.

- The project Transition2Bio that capitalises on the knowledge and identify future skills for the bioeconomy and strengthens communication and stakeholders' involvement.
- The BBI-JU project BIObec that is developing regional education centres of bioeconomy education that reflect and meet identified stakeholders' needs.
- Macro regional activity – the BIOEAST Thematic Working Group Bioeconomy Education that unites eleven countries and discuss the common challenges and opportunities.
- An overview on the ICA-CoP Bioeconomy Education, whose aim is to build a network for educational innovators in the domain of Bioeconomy.
- Go-Up Incubator that support the acceleration of smart growth in Europe by facilitating start-up, cooperativism, impact investment in the domain.
- A special focus on the ICA-Edu Special Interest Group for Sustainable Entrepreneurial Education, the initiative following from two ICA colloquia and the first conference on sustainable entrepreneurship education.
- The project INTRINSIC (INnovative educaTION foR sustalnable eNtrepreneurShIP In Life sCIences) developed an app for web-based mindset monitoring, a networking opportunity for SEE educators, a teaching design tool, a staff training module, and case studies in SEE.
- First results of the study “Promoting education, training and skills” (BioSkills) that is being conducted for DG RTD by Deloitte, empirica, and Fondazione Giacomo Brodolini that identifies, maps and analyses the current state of the art of bioeconomy entrepreneurship education and mindset in ten selected countries.
- A focus on the role of EntreComp Europe in developing a global community of people and organisations involved in entrepreneurial learning policy and practice and, in particular, a zoom-in on the activities of EntreComp Food to stimulate innovation and entrepreneurship among students and young entrepreneurs in the agrifood sector.
- Finally, the support of the initiatives Bioeconomy Ventures and MPowerBIO to SMEs clusters, start-ups and spin-offs to empower their business skills in sustainability.

The speakers presented their case studies on key “what” and “how” questions and highlighted gaps that still to be addressed, including: limited exposure to the biobased related industry in some regions, limited good practice examples to support peer to peer learning and mutual learning, a gap between education and industry, the need to increase transversal capacities and skills and "systemic thinking", the a necessity to develop entrepreneurial and creative mindsets, limited availability of entrepreneurship education in higher and vocational education, as well as giving a central role to entrepreneurship education, in a career perspective.

The “case-storming” was followed by a vivid interaction among the experts, representing a wide spectrum of regions, domains, and sectors to discuss on the necessary competences, educational methodologies and context, to finally provide recommendations.

Specifically, the participants were encouraged to contribute to the following questions with the support of an interactive online MIRO board:

- What are the competences of a sustainable entrepreneur?
- How can education providers respond? What level of education can provide Sustainable Entrepreneurship Education? How? What type of actions (e.g., capacity building, formal/informal education, incubators)? Who can undertake this task?

- Suggest good practices of Sustainable Entrepreneurship Education in Europe: sharing of concrete examples/case studies.
- Suggest recommendations to address the gaps.

The collected suggestions and answers contained valuable considerations, some of them opening wide perspectives for further investigation, such as: an educational framework based on a system-thinking model; enhancing creativity and providing motivation elements; normative competence; foresight thinking; sustainability and innovation in multiple levels including the management and business perspectives; consideration of resilience and green development issues, motivating bioeconomy educators to teach entrepreneurship, and motivating entrepreneurs to teach; distinguishing entrepreneurship, intrapreneurship, and governpreneurship, etc.

The resulted outcomes contribute to facilitating the mutual learning and knowledge sharing among the two domains (EE and SE), with a special focus on circular bioeconomy. Participants were also encouraged to share thoughts on how to address the above mentioned gaps, suggesting the following recommendations, among others: collect evidence on effects of sustainable entrepreneurship education, including feedback and successful actions; involve more entrepreneurs in the education system; motivate teachers able to convey the mindset; develop projects that encourage transfer of good practices; support peer review and mutual learning among entrepreneurs.

Several topics that were discussed need to be addressed in future research and development. The collection and organisations of these outcomes into a concrete study or a research proposal remains a challenging perspective. The existence of a Special Interest Group on sustainable entrepreneurship education in the framework of the Association for European Life Science Universities is encouraging.

Additional materials, like speakers' presentations, contribution of the participants, the recordings of the workshop are available for consultation at [this link](#).