



# Curriculum on forest-based bioeconomy

June 2019



Curriculum is a result of a strategic partnership supporting innovation within the project 'Innovative VET for key competences in the emerging field of forest bioeconomy (VET4BioECONOMY)'. The project is co-funded by the Erasmus+ Programme of the European Union. The curriculum was developed by following project partners: Croatian Forest Research Institute, Institute for Development and International Relations (IRMO), Slovenian Forestry Institute, Slovenia Forest Service, University of Natural Resources and Life Sciences (BOKU) and Austrian Research Centre For Forests (BFW).

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## Preface

Forest-based bioeconomy is becoming the guiding paradigm for the forestry sector. It links the whole forest value chain from management and use of forest resources in a sustainable manner to the delivery of products and services. It can be defined as a production of renewable resources and the conversion of these resources and waste streams into value added products. Bioeconomy sectors and industries have strong innovation potential due to their use of a wide range of sciences, industrial technologies and local knowledge.

Although bioeconomy is becoming an emerging paradigm on the EU level, it is not sufficiently present in vocational education and training-VET and lifelong learning-LLL programmes offered by main forestry related VET and LLL providers in Austria, Croatia and Slovenia. Therefore, we developed this **curriculum on forest-based bioeconomy** as a result of several activities within the [Erasmus+ project VET4BioECONOMY](#). First of all we identified and analyzed some of the existing VET and LLL training programmes in project countries and in forest bioeconomy leading countries in Europe. Secondly, the project partners were trained on forest-based bioeconomy within the C1 activity of the project. As a result of these activities today we have this unique curriculum on forest bioeconomy for VET and adult learners available in English, German, Slovenian and Croatian languages.

Learning is not a question of age. LLL will become more and more important in the future and providing adequate means and methods to support people in this endeavor is of utmost importance. E-Learnings, Webinars, Farminars and so on, allow people to attend courses without needing to leave their homes. This is especially important if potential participants come from remote rural areas or secluded farms or when they f.e. need to attend cattle on a daily basis.

The curriculum will have a positive impact on the VET and LLL providers, partner organizations, target groups and forest bioeconomy stakeholders. First of all, it will enrich the existing offer of VET and LLL programmes on national and EU level. Furthermore, the new curriculum will be promoted to the target groups and will raise the awareness of the stakeholders on the importance of the forest bioeconomy. Also, it represents a basis for the development of the future e-course on the same topic.



## 1. Target groups

- Forest owners
- Forest high school pupils
- Forestry (licensed) engineers



## 2. Timeframe

Six hours of lectures divided in three days (1h/3h/2h).



## 3. Content

### Section 1 Introduction to forest-based bioeconomy

#### 1.1. *Role of forest-based bioeconomy in forest-based value chain- what are added values*

Presenting FBE as multifunctional approach for sustainable use of forest resource along forest related topics and bioeconomy criteria. Including relative context of climate change.

#### 1.2. *Cross-sectoral aspects of forest-based bioeconomy*

Showing FBE as a kind of strategy (for timber, energy, non-wood products and services), rather than simply using biomass, and its relation to other sectors (such as food, rural development, tourism and health).

#### 1.3. *Political framework for forest-based bioeconomy*

Overview of EU Bioeconomy policies and other related policies. Motivational direction on the way we should go and think including what is the future of FBE, what may be the legal/social developments given the background of climate change resulting in the effort to replace fossil resources by renewable ones.

**Timeframe: 1h**

## Learning outcomes

Participants will be able:

- to define main characteristics of bioeconomy as a guiding future paradigm for sustainable use of natural resources
- to present a broad perspective of the numerous fields of activities connected to forest based bioeconomy and its societal challenges
- to understand a broader view of forest based bioeconomy with special emphasis on the bioeconomy criteria and SFM indicators
- to list a different aspects of forest based bioeconomy (economic, social, ecological)
- to identify different approaches for sustainable use of forest resources within forest-based bioeconomy
- to formulate an example of idea/innovation for possible business opportunity in forest-based bioeconomy including relative context of climate change



- to identify and list available resources that can be possibly used in forest based bioeconomy
- to describe current status of bioeconomy in nowadays policy framework
- to point out the most important political issues/concepts related to forest based bioeconomy



## Section 2 Developing start-up business ideas/Forest-based bioeconomy innovations

### Topics

#### 2.1. *From Vision to Mission*

##### 2.1.1. *First: The Idea*

The first Idea is the Core of any (new) enterprise. The business idea is not necessarily something completely new. But it has to be something that is needed on the market. Some already existing innovative businesses and creativity techniques (like mind mapping or Walt Disney method) will be presented.

##### 2.1.2. *Profitability analysis*

In order to check the potential profitability of your new product or service there is a need to do some market research by doing some online research and answering certain questions.

#### 2.2. *Best practice examples*

What was the initial idea, what obstacles had to be tackled, what cooperation had to be found, what did work out AND equally important, what did NOT work? What might be the best legal status for a business?

### Learning outcomes

Participants will be able:

- to recognize the importance of having a clear idea of a potential business opportunity to work as a general guideline for future considerations
- to understand already existing innovative businesses in order to identify the own possibilities
- to list different creativity techniques
- to understand the pros and cons of each technique enables to select the ones best suitable for their needs
- to apply at least one of these techniques in order to develop an inspiring vision for their own idea and to do a quick and brief analyze of the first idea can test its suitability for a future use
- to develop a list of questions for identifying prerequisites for establishing a start-up company.
- to analyze and distinguish strengths, weaknesses, opportunities and threats

- to describe several different business possibilities in forest based bioeconomy
- to identify several good practice examples and their key characteristics of successful results, to present several causes for a success, to define common characteristics of best practice example
- to list examples of positive social and environmental impact caused by business recognized as good practice examples

