

**GESTIONE ED IMPATTO DEGLI  
EVENTI ESTREMI SUI SISTEMI  
AGRICOLI**

**A cura dei GTI Acqua e GTI  
Cambiamenti**

**2023 OPEN  
DISTAL**



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA  
DIPARTIMENTO DI  
SCIENZE E TECNOLOGIE AGRO-ALIMENTARI

Rino Ghelfi, Yaprak Kurtsal - DISTAL  
22 Settembre 2023

# Outline of this presentation

## Introduction

- Education and Training (ET) in Bioeconomy

## Introducing two Projects ongoing at DISTAL

- FOEBE
- BioGov.net

## Some outputs from the Projects

## Main take-aways and the way forward

## Setting the scene

- 🍏 **The bioeconomy** is expected to be **a lever for sustainability** and a **solution to several ecological and social challenges** (e.g. climate change mitigation, cleaner production processes, economic vitality, new employment opportunities).
- 🍏 Despite all efforts, transition towards a **sustainable bioeconomy** is progressing slowly.
- 🍏 In order to achieve the level of preparation and resilience to realise the transition towards a more sustainable bioeconomy (at a global level),
  - 🍏 (among other things) the stakeholders of the bioeconomy – need to have access to **innovative education and training systems**.
- 🍏 Education in fact is **one of the most powerful and proven vehicles** towards sustainable development.
- 🍏 Towards this direction, the **two projects** we will discuss about, aim to suggest **innovative approaches** to education and training in bioeconomy – for the sustainable uptake of the bioeconomy sectors.

# The two Projects at a first glance

Both projects aim to tackle the **Skill Gaps** and **Mismatches** and contribute to the **transition to an innovative Bioeconomy**.

## The BioGov.net Project



(Mobilizing European Communities of Practice (CoPs) in biobased systems for better governance and skills development networks in bioeconomy)

### 🍏 The Project's main focus areas are:

- **Adult Learning** and **Lifelong Learning** – rather than formal education
- Merging bioeconomy education with creative industries (e.g. arts, eco-design, culture)
- Draw policy attention to inclusion of marginalized groups (e.g. NEETs, primary producers, stakeholders in remote areas) in decision/curriculum-making processes

## The FOEBE Project



Fostering entrepreneurship for the Bioeconomy

### 🍏 The Project's main focus areas are:

- Creating innovative modules in formal education
- Fostering entrepreneurship in bioeconomy through education

# The BioGov.net Project

- 🍏 3-year Horizon Europe Project (Recently completed its 1st year)
- 🍏 The **Project's Consortium** consists of a University (UNIBO) and a diverse range of research and consulting organizations from 8 different countries: Estonia, Slovakia, Italy, Czech Republic, Greece, Germany, Netherlands and Portugal).

CIVITTA

Q-PLAN

LOBA

PEDAL



IVT

MNEXT  
MULTI-SCALE  
ENERGY  
& TRANSPORT



btg

WILA  
Bonn

## 🍏 The **Project's Beneficiaries** are:

- Research and higher education organisations
- Vocational education organisations
- The bio-based industry
- Policy makers
- Art and Creative Industries

The the focus is on **Adult Learning** and **Lifelong Learning** (rather than formal education).

## 🍏 Main **Project activities**:

- Identifying good practice and case studies in bioeconomy ET
- Mobilise European CoPs to collaborate, communicate and share knowledge and awareness about their regions' governance models
- Promote new ways to strengthen the role of arts and culture in bioeconomy ET
- and delivering Training and Mentoring guidelines tailored to each region's needs.

# The BioGov.net Project

🍎 Some outputs of the Project so far:

## GUIDELINES ON GOVERNANCE OF EDUCATION AND TRAINING (ET) IN BIOECONOMY

- A framework on Governance of ET in designed
- A Questionnaire on Governance of ET in bioeconomy is executed in 8 European countries.
- The data collected is being analysed in order to prepare Guidelines for a wide range of stakeholders

Bioeconomy education and training governance framework	
Component I: Effectiveness of education governance	
Capacity and quality of educational content and	
Capacity and quality of educational infrastructure	
Capacity and quality educators	
Clear roles and responsibilities	
Component II: Efficiency of education governance	
Monitoring and evaluation and quality assurance	
Financing	
Regulatory framework and administrative procedures	
Harmonization of policies and policy coherence	
Component III: Collaboration and engagement in education governance	
Partnerships and multi-stakeholder collaborations	
Social inclusion, inclusion of minorities and underprivileged groups	
Multi-stakeholder decision-making	
Connections to art, humanities, eco-design and culture	

## NEW JOB PROFILES FOR THE BIOECONOMY

A total of 30 new job profiles compiled by the Consortium partners

**Promotore di innovazione sociale**

**Descrizione**  
L'innovazione sociale si riferisce alla progettazione e all'implementazione di nuove soluzioni che implicano cambiamenti concettuali, di processo, di prodotto o organizzativi, che mirano in ultima analisi a migliorare il benessere degli individui e delle comunità. Il responsabile dell'innovazione sociale progetta programmi, piani d'azione strategici per consentire l'innovazione per l'equità, la giustizia sociale e l'inclusione.

**Bio-architetto e bio-designer**

**Descrizione**  
Nel più ampio dominio dell'architettura e del design sostenibile, il bio-architetto e il bio-designer attraversano i confini tra arte-design-scienza per creare soluzioni e applicazioni innovative nel campo della progettazione, della costruzione e nel design del prodotto. Nello specifico, impiegano biomateriali (da residui biologici, funghi, alghe, batteri) per aumentare la sostenibilità delle loro applicazioni.

**Imprenditore sostenibile**

**Descrizione**  
L'imprenditore sostenibile si assicura che la sua azienda contribuisca a risolvere i problemi sociali e ambientali più urgenti, guidando il cambiamento all'interno dei propri team di aziende e industrie. L'imprenditore sostenibile per la bioeconomia, o il "bioimprenditore", trasforma le conoscenze scientifiche di base in prodotti e servizi innovativi e sostenibili.

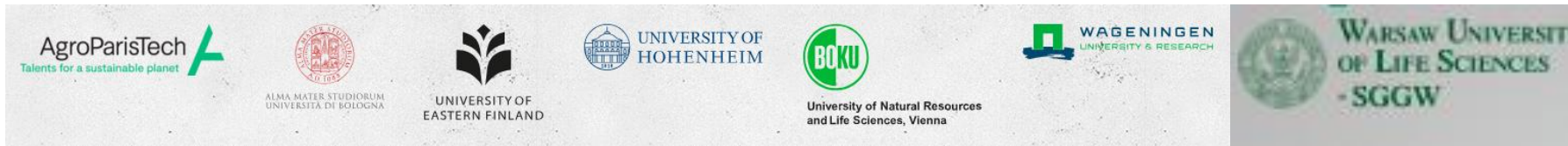
## ESTABLISHMENT OF REGIONAL COMMUNITIES OF PRACTICE

- CoPs established in 8 countries
- Events being organized (eg. Focus groups, workshops)

## IDENTIFICATION OF GOOD PRACTICES AND CASE STUDIES

Collection and assessment of good practices and case studies related to EU and regional training initiatives in bioeconomy

- 🍎 Erasmus+ Strategic Partnership
- 🍎 The **Project's Consortium** consists seven Higher Education Institutions that are also part of the European Bioeconomy University Alliance, from the countries of France, Italy, Finland, Germany, Austria, Netherlands and Poland).



## 🍎 The **Project is designed for:**

- Master and PhD Students

The focus is to create innovative curricula and modules for entrepreneurship

## 🍎 Main **Project activities:**

- Creating skills portfolios and curricula for enterpreneurship in bioeconomy
- Designing courses and training materials based upon joint EBU experience
- Guidelines on innovative teaching formats to foster entrepreneurship through training
- Good practices to enhance the impact of augmented curricula

🍎 Some outputs of the Project so far: Modules created by each partner organization

<p><b>1 INTRODUCTION TO THE BIOECONOMY</b></p> <p>Curriculum Bioeconomy Forest-based economy Biomass resources &amp; value chain Sustainable entrepreneurship</p> <p>AgroParisTech</p>	<p><b>2 ACCELERATED SUSTAINABLE ENTREPRENEURSHIP</b></p> <p>Sustainable entrepreneurship Entrepreneurial method Business planning Value creation Funding strategies Growth &amp; exit strategies</p> <p>University of Hohenheim</p>	<p><b>3 IDEA GENERATION, CREATIVE THINKING</b></p> <p>What is innovation? Innovation categories Innovation generation Innovation process Innovation management</p> <p>University of Eastern Finland</p>	<p><b>4 KNOWLEDGE MANAGEMENT</b></p> <p>Documentation &amp; confidentiality Patent protection basics Patent recherche, EPO</p> <p>BOKU</p>
<p><b>5 BUSINESS MANAGEMENT &amp; FINANCE</b></p> <p>Strategic management Sustainable business model canvas Intro to the theory of finance Investment decisions</p> <p>Wageningen University &amp; Warsaw Uni. of Life Sciences</p>	<p><b>6 LEADERSHIP &amp; EXECUTION</b></p> <p>Leadership &amp; team roles Execution &amp; funding sources</p> <p>University of Bologna</p>	<p><b>7 MARKETING</b></p> <p>Marketing history, definition &amp; concept Strategic marketing Operational marketing</p> <p>Warsaw Uni. of Life Sciences</p>	<p><b>8 DIGITALISATION OF THE BIOECONOMY</b></p> <p>Integration of digitalisation in the bioeconomy Digital tools for entrepreneurs Digitalisation and sustainability</p> <p>AgroParisTech</p>
<p><b>IN-PERSON INTENSIVE STUDY WEEK</b></p> <p>Visits of bioeconomy companies Hackathon: in groups of 2-5 students with teacher mentoring, generating ideas for a bioeconomy company + laying out all major steps from ideation to launch + public presentation</p>			



🍎 Bologna Week organized, and participants are awarded with a certificate.

**FOEBE in Bologna** Day 1



Together with EBU Label

attending 3 exclusive bio seminars and asking ma

**FOEBE in Bologna** Day 3

Day 3 was workshop day! A day buzzing with work sessions and seminars, with a touristic breather in the evening.



**FOEBE in Bologna** Final day

We then attended the original and inspiring presentations of EBU Label students, before saying our last goodbyes.



The FOEBE team is proud of all of its students! We are confident you will all endeavour. It was a fantastic experien we cannot wait to improve this coo bioeconomy entrepreneurship to our students. Thank you for trusting us o

**FOEBE in Bologna**


What an incredible second day we had! We had a nice restaurant, the beach, and the P



**FOEBE in Bologna**

Day 4 of our intensive week was a full one again: we visited Caviro Extra and had a nice walk in Faenza, before getting back to work on the final FOEBE project.








## Fostering Entrepreneurship for the Bioeconomy


### Certificate of achievement


awarded to: **Student Name**  
for successfully completing the requirements of the FOEBE course between January 31st and June 25th, 2022


  
University of Natural Resources and Life Sciences, Vienna


  
WARSAW UNIVERSITY OF LIFE SCIENCES - SGGW


  
UNIVERSITY OF EASTERN FINLAND

  
ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA

  
Co-funded by the Erasmus+ Programme of the European Union

  
AgroParisTech

  
UNIVERSITY OF HOHENHEIM

  
WAGENINGEN UNIVERSITY & RESEARCH

## Main take-aways and the way forward

- 🍎 **Collaboration** and **multi-stakeholder approaches** are necessary to realise the Transition to a Sustainable Bioeconomy
- 🍎 Education and Training in bioeconomy need to be:
  - designed with the use of **New Learning Approaches** (e.g. Student-centered learning, tailor-made to meet diverse needs, focusing on soft skills like systems thinking, critical thinking, and through fostering entrepreneurship and innovation
  - **Inclusive** (i.e. including a wide range of stakeholders in decision and curriculum-making processes
  - based on **Innovative and Participatory Governance** Models (in order to flourish).
- 🍎 There is still some way to go in terms of:
  - raising knowledge and **awareness** about bioeconomy,
  - motivate students to be interested or engaged in bioeconomy,
  - and integrate topics such as Sustainability and Circular economy in curricula starting with early ages to build familiarity about these topics.

**Thank you for your attention**

[rino.ghelfi@unibo.it](mailto:rino.ghelfi@unibo.it)