PROJECT	
Project name:	[Bioenergy innovations in waste management: European experience in implementing a circular economy]
Project acronym:	[BIOINWASTE]
Coordinator contact:	[Yelizaveta CHERNYSH], [Sumy State University]

## D3 Obtaining skills in developing bioenergy projects

**Purpose:** Students and teachers will become active participants in the study and discussion of international practices in this field, which will contribute to obtaining skills in developing bioenergy projects and their feasibility studies based on best practices of EU countries.

## Realization

The spring online school on the course "*EU* implementation of bioenergy technologies for waste recycling" within the Jean Monnet module "Bioenergy innovations in waste management: European experience in implementing a circular economy" (BIOINWASTE) of the EU Erasmus+ program has already completed its work this year. Students and teachers became active participants in the study and discussion of international experience in this area, which contributed to the acquisition of skills in the development of bioenergy projects and their feasibility studies based on the best practices of EU countries.





Examples of participant certificates

## **Promotion of EU Bioenergy and Circular Economy Policies:**

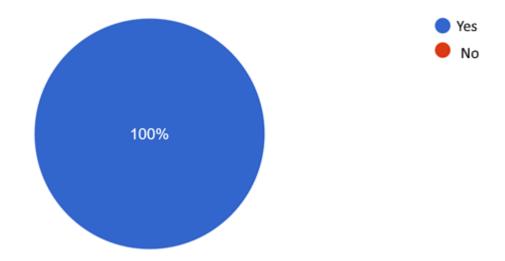
- A structured 60-hour interdisciplinary training course "EU Implementation of Bioenergy Technologies for Waste Recycling" was delivered annually, covering eight thematic topics on European bioenergy practices and sustainability.
- 148 students and academic staff from Sumy State University and other Ukrainian universities completed the training during the three-year implementation period.

## **Strengthening Academic Exchange and EU Awareness:**

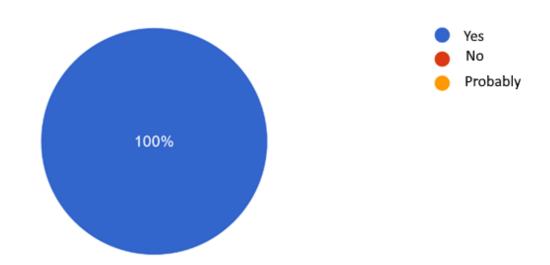
- A total of **21 open-access webinars** (30 academic hours per year) were conducted, with **342 participants** annually.
- International experts from Germany, Czech Republic, Sweden and other EU countries contributed lectures, providing comparative insights and EU best practices.
- Recordings of all sessions were made available on the module's YouTube channel, ensuring open access and long-term usability.

The results of the survey showed an effective mastery of the topic of bioenergy innovations in waste recycling and the EU experience in this area. Some statistics as a final assessment of the spring school are shown in the diagrams below.

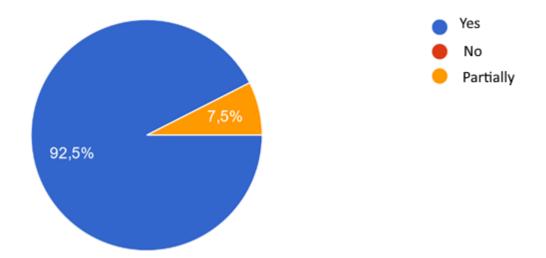
Did you find our spring school course useful?



Do you think the development of bioenergy technologies is relevant for the post-war reconstruction of Ukraine?



Did the spring school help you understand the European Green Deals on the example of waste recycling?



If you require additional materials related to the statistics of the Jean Monnet Module "Innovations in Bioenergy for Waste Management: European Experience in Implementing the Circular Economy" (BIOINWASTE), including, for instance, the participants' survey results over all three years, please contact the project coordinator.

Guest experts were involved to discuss international experience in the field of bioenergy and to review example bioenergy projects and their feasibility studies based on the best practices of EU countries:

Dr. Hynek Roubik, Head of the Biogas Research Group, CZU mobiLAB, Associate Professor of Sustainable Technologies, Faculty of Tropical Agricultural Sciences, Czech University of Natural Sciences in Prague, Czech Republic.

Dr. Joachim Venus, Leibniz Institute of Agricultural Engineering and Bioeconomics (ATB), Department of Microbiome Biotechnology, Germany

Eric Fehrhau, Technical University Bergakademie Freiberg, Institute of Heat Engineering and Thermodynamics, Department of Gas and Heat Engineering Systems, Freiberg, Germany

Alex Henrik Prast, Professor, Department of Case Studies - Environmental Change, Linköping University, Sweden

Werner Fuchs, Associate Professor, Director of the Institute of Environmental Biotechnology, Vienna University of Renewable Resources and Life Sciences, Chairman of the Strategic Board of the Austrian Competence Center "Bioenergy and Sustainable Technologies", Austria

Dr. Wolfgang Gabauer, Group Leader, Biogas Research and Consulting, Institute of Environmental Biotechnology, Vienna University of Renewable Resources and Life Sciences, Austria

Dr. Karin Tonderski, Associate Professor, Department of Management and Engineering - Environmental Technology and Management, Linköping University, Sweden

Björn Magnusson, Planning and Technology Engineer, Gasum AB, Sweden

Jan Mostedt, Research Manager, Biogas Research and Development, Tekniska verken i Linköping AB (publ.), Senior Lecturer, Department of Case Studies, Environmental Change, Linköping University, Sweden Dr. Pierre Buffier, Professor, Head of DEEP Laboratory - Waste, Water, Environment and Pollution, National Institute of Applied Sciences of Lyon, France

Dr. Stefan Junne, Professor at Aalborg University Esbjerg, Denmark, Research Group Leader at the Technical University of Berlin, Germany

Prof. Mykola Kharytonov, Chief Research Scientist of the project of the Ministry of Education and Science of Ukraine, public position: Head of the Center for Natural Agricultural Production, Doctor of Agricultural Sciences, Professor of the Department of Ecology and Environmental Protection, Dnipro State Agro-Economic University, Dnipro

Georgii Geletukha, Doctor of Technical Sciences, Chairman of the Board of the Bioenergy Association of Ukraine"

Ivan Traksler, PhD, Director of MHP Eco Energy, member of the Bioenergy Association of Ukraine

Dr. Yevhenii Shapovalov, leading reseacher at State Scientific-Technical Library of Ukraine and National Center of Junior Acdemy of Sciences, Ass. Prof. at National University of Food Technologies, Ukraine

Videos of lectures and workshops are available on the YouTube channel (<a href="https://www.youtube.com/@bioinwaste">https://www.youtube.com/@bioinwaste</a>) of the BioInWaste project.

All the information you can find on the Deliverable 3 in the news website of the project (21.06.2023):

Obtaining skills in developing bioenergy projects within the framework of the Jean Monnet module (BIOINWASTE) – Educational module Jean Monet BIOINWASTE (sumdu.edu.ua)

The full presentation material for the training course "EU implementation of bioenergy technologies for waste recycling" is available on the project website here:

https://bioinwaste.ecolog.sumdu.edu.ua/?page\_id=199

The project's Tiktok, Instagram, and Facebook pages:

https://www.facebook.com/groups/bioinwaste

https://www.instagram.com/bioinwaste/

https://www.tiktok.com/@bioinwaste?lang=uk-UA