

Newsletter 3 / May - November 2021

Erasmus+ Capacity Building of Higher Education

**Synergy of educational, scientific, management and industrial components for climate
management and climate change prevention/ CLIMAN**

619119-EPP-1-2020-1-NL-EPPKA2-CBHE-JP

NEWSLETTER 3

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Meeting of Ukrainian Partners at National University "Lviv Polytechnic"



On July 1, the team of the National University "Lviv Polytechnic" organized and welcomed the teams of KROK University, Kharkiv National Automobile and Highway University in the frameworks of Erasmus + project «Synergy of educational, scientific, management and industrial components for climate management and climate change prevention/ CLIMAN». LPNU showed the classroom that is being prepared for the CLIMAN project activities, organized university tour.

The university teams held a working meeting for discussion of key issues, tasks and results of the project, planned upcoming events, exchanged experiences.

Monitoring of CLIMAN Project by National Erasmus+ Office of Ukraine

July 2, 2021 the monitoring of Erasmus + project «Synergy of educational, scientific, management and industrial components for climate management and climate change prevention/ CLIMAN» was held at Lviv Polytechnic National University.

The project teams from all Ukrainian HEIs - Lviv Polytechnic National University, Kharkiv National Automobile and Highway University, KROK University participated at the meeting.

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The monitoring program included:

- Meeting with with the Rectors/Vice-Rectors of the Ukrainian partner HEIs
- Summary of the achieved project results
- Presentation of the project results of each team, discussion of key issues of the project
- Communication with participants of study visits, administrative and academic staff of those divisions where the training module developed and implemented and the center of climate management created
- Discussion with financial administrators/responsible persons for project financial management
- Formulation of the preliminary monitoring conclusions (NEO Ukraine team). Discussion and summing-up the monitoring conclusions with all participants



Representatives of the National Erasmus + Office in Ukraine Svitlana Shytikova, project coordinator, Kateryna Zhdanova, expert in communications and mobility programs, and Petro Krainik, Jean Monet and project registration expert, provided recommendations for project implementation to all universities.

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Study Visit at Mykolas Romeris University

On September 27-29, 2021, 1-st offline Study Visit took place at the Mykolas Romeris University as part of the [CLIMAN](#) project.

The event focused on aspects of Nature Based Solutions, Climate Management and Sustainable Development. The participants received important theoretical knowledge and practical experience from the leading lecturers of the Environmental Management Laboratory of the MRU regarding aspects of Nature Based Solutions, Climate Management and Sustainable Development.



The following topics were presented and discussed:

Climate change and biodiversity loss. What lays ahead?
Sustainable Development goals implementation at MRU
Importance of the UGS for wellbeing and mitigating climate change

An important part of the SV was a visit to Vilnius Park and studying the experience of practical application of methodological approaches to training specialists in the field of environmental and climate management.

This Study Visit is very important for the development of the content of the Training Module "Climate Management" by partner universities.

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International Conference and Project Steering Committee Meeting at Kharkiv National Automobile and Highway University

On 28-29 October 2021 the International Conference “Environmentally oriented Higher Education. Methodology and Practice – 2021” and Project Steering Committee Meeting 2 were organized in the frameworks of Erasmus+ Project “Synergy of educational, scientific, management and industrial components for climate management and climate change prevention”/ CLIMAN at Kharkiv National Automobile and Highway University, Kharkiv, Ukraine.



Viktor BOHOMOLOV, Professor, Dr. of Sc. (in Tech.), Rector of Kharkiv National Automobile and Highway University; Oleksiy SHKURATOV, Professor, Dr. of Sc. (in Economy), Deputy Minister of Education and Science of Ukraine on European integration; Alla DULOVA, Director of the Kharkiv Center for Professional Development of Teachers of the Kharkiv City Council; Ivanna ATAMANCHUK, Expert in Project Monitoring and University Academic Mobility of National Erasmus Office of Ukraine; Anatoliy

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HRYTSENKO, Professor, Doctor of Geographical Sciences, Director of NDU "UKRAINIAN RESEARCH INSTITUTE OF ENVIRONMENTAL PROBLEMS" welcomed the participants.

Project teams from Kharkiv National Automobile and Highway University; KROK University, Ukraine; Lviv Polytechnic National University, Ukraine; Akaki Tsereteli State University Kutaisi, Georgia; Batumi Shota Rustaveli State University, Georgia presented developed Training Modules on Climate Management as one of project results of CLIMAN Project. Problems and challenges that appeared during the development of the Climate Management training modules were discussed. The participants demonstrated willingness to pilot developed training module.

Heads of UNESCO Chairs of Ukrainian HEIs were invited to participate in the Event as independent experts to assess the quality of the developed training modules and compliance with international climate control requirements, to provide recommendations for improving of the presented modules in the context of the Open Science program and the Principles of the Concept of Sustainable Development. EU Experts from Project consortium and Heads of UNESCO chairs filled preliminary prepared Evaluation forms and asked additional questions or provided remarks. Their recommendations were taken into account by the project teams.

The organizer of the event Kharkiv National Automobile and Highway University prepared the Conference Publication the with description of the developed modules. The Online version of the Publication is available on the project website.

Project Steering Committee 2 was organized with participation of Project Managers of CLIMAN Consortium. The team of Coordinators summarized the achievements of the project and presented the current results, as well as held sessions on management issues.



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Partner universities presented their own activities. The project goals, tasks, schedule, study visits and trainings of the CLIMAN project were discussed at the meeting, the activities of the 2nd package on Development of Climate Management Modules were considered in detail.

All participants actively participated in networking, exchange of experience, ideas, further plans as it was the first onsite meeting of the project partners.

Many thanks to Kharkiv National Automobile and Highway University for hosting of the event and to all partners, who arrived for the meeting!

News from KhNAHU

Victory in the All-Ukrainian student professional creative competition of projects on ecological management in the context of climate change

In the framework of the Erasmus + project "Synergy of educational, scientific, managerial and industrial components for climate management and climate change prevention" / CLIMAN 619119-EPP-1-2020-1-NL-EPPKA2-CBHE-JP Associate Professor of the Department of Ecology of KhNAHU Ganna ZHELNOVACH and student Alexandra LEBED conducted a study to ensure the environmental sustainability of cities in the context of climate change. The results of this study were presented at the All-Ukrainian Student Professional Creative Competition of Environmental Management Projects in the Context of Climate Change. This competition was initiated by Zaporizhia National University with the support of Zaporizhia City Council and Zaporizhia Chamber of Commerce and Industry.



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A total of 55 scientific papers were submitted to the Competition, 28 of which were invited to the final stage, which took place on September 15, 2021 online. At the final conference, the KhNAHU team presented the results of scientific work on "Ensuring the environmental sustainability of cities in the context of sustainable development of road infrastructure", which won and received a diploma of III degree.

Internationally oriented scientific activity and climate policy



Speaking at the UN Climate Change Conference KS-26 in Glasgow on November 10, 2021, President of Ukraine Volodymyr Zelensky reaffirmed the country's commitment to reducing greenhouse gas emissions. Ukraine's goal by 2030 is to reduce greenhouse gas emissions by 65 percent. To meet its commitments and reduce emissions, Ukraine plans to implement a number of measures over the next 10 years: modernize energy infrastructure and industrial enterprises, develop renewable energy sources, improve energy efficiency in all sectors of the economy, develop clean agriculture, promote the use of electric vehicles, modernization of the transport fleet, more efficient waste processing, reforestation and forestry reform.

On November 26, the UNESCO International Conference "Humanitarian Approaches and Technologies in the Development of Socially Sustainable, Carbon-Neutral Transport" was held, which was attended by leading experts from the United States, France, Italy and Kazakhstan. Scientists from the Department of Ecology of KhNADU took part from Ukraine. Professor Nataliia VNUKOVA made a report on "The relevance of climate management in the key of modernization and innovative technologies in transport." In her report, Professor Nataliia VNUKOVA presented Erasmus + project "Synergy of educational, scientific, managerial and industrial components for climate management and climate change prevention" / CLIMAN 619119-EPP-1-2020-1-NL-EPPKA2-CBHE-JP and invited scientists from

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different countries not only to cooperate in the field of climate research, but also to share experiences to improve the training of specialists in "Climate Management" and improve the relevant training module.

Measures to implement the European Commission's “European Green Deal” initiative



On October 27-29, 2021, on the basis of the Department of Ecology of the Kharkiv National Automobile and Highway University in a hybrid format, events were held to implement the initiative of the European Commission "European Green Deal" and a discussion of the draft UNESCO recommendations on open science (for adoption at the 41st session of the General Conference of UNESCO):

1. International scientific and practical conference with the participation of young scientists "Sectoral problems of environmental safety – 2021"
2. All-Ukrainian conference on the problems of higher education with international participation "Environmentally oriented higher education. Methodology and Practice – 2021".
3. Round table " Synergy of educational, scientific, managerial and industrial components for climate management and climate change prevention " (CLIMAN) – challenges and tools for effective

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implementation "- Is supported by the international ERASMUS + project "Synergy of educational, scientific, managerial and industrial components for climate management and climate change prevention" (CLIMAN) 619119-EPP-1-2020-1-NL-EPPKA2-CBHE-JP.

4. 2nd Project steering committee meeting of the ERASMUS+ project " Synergy of educational, scientific, managerial and industrial components for climate management and climate change prevention" (CLIMAN) 619119-EPP-1-2020-1-NL-EPPKA2-CBHE

5. Meeting "Open Science. Global Challenges for UNESCO Chairs in Ukraine.

Participants and guests of events from universities and organizations of Argentina, Slovakia, Serbia, Lithuania, Latvia, Italy, the Republic of Belarus, Germany, Kazakhstan, Georgia and Ukraine were congratulated by the rector of the Kharkiv National Automobile and Highway University, Professor Viktor BOHOMOLOV, Deputy Minister of Education and Science of Ukraine for European integration Oleksiy SHKURATOV, 2nd secretary of the UNESCO department of the Ministry of Foreign Affairs of Ukraine Nina KRAMAREVA, expert on project monitoring, on the issues of academic mobility of universities of the European Union project "Network of national offices of the Erasmus + program and national teams of experts on reforming higher education" of the institution "Kharkiv Center for Professional Development teachers of the Kharkiv City Council "Alla DULOVA, Director of the Research Institution" Ukrainian Research Institute of Environmental Problems "Professor Anatoliy GRITSENKO.

The events on the implementation of the European Commission's initiative "European Green Deal" and the discussion of the draft UNESCO recommendations on open science have become a platform for discussing global issues of strategic development of international partnerships to address environmental problems of our time, including through the development of environmentally and climate-oriented education. The participants not only presented the results of their own scientific research in the environmental direction, methodological developments on the educational module "Climate Management", but also developed strategic approaches to solving global challenges for UNESCO Chairs in Ukraine in the context of the development of the concept of "Open Science" and the implementation of ERASMUS + management of the project "Synergy educational, scientific, managerial and industrial components for climate management and climate change mitigation ".

We express our sincere gratitude to all participants and partners for their support in organizing and holding events!

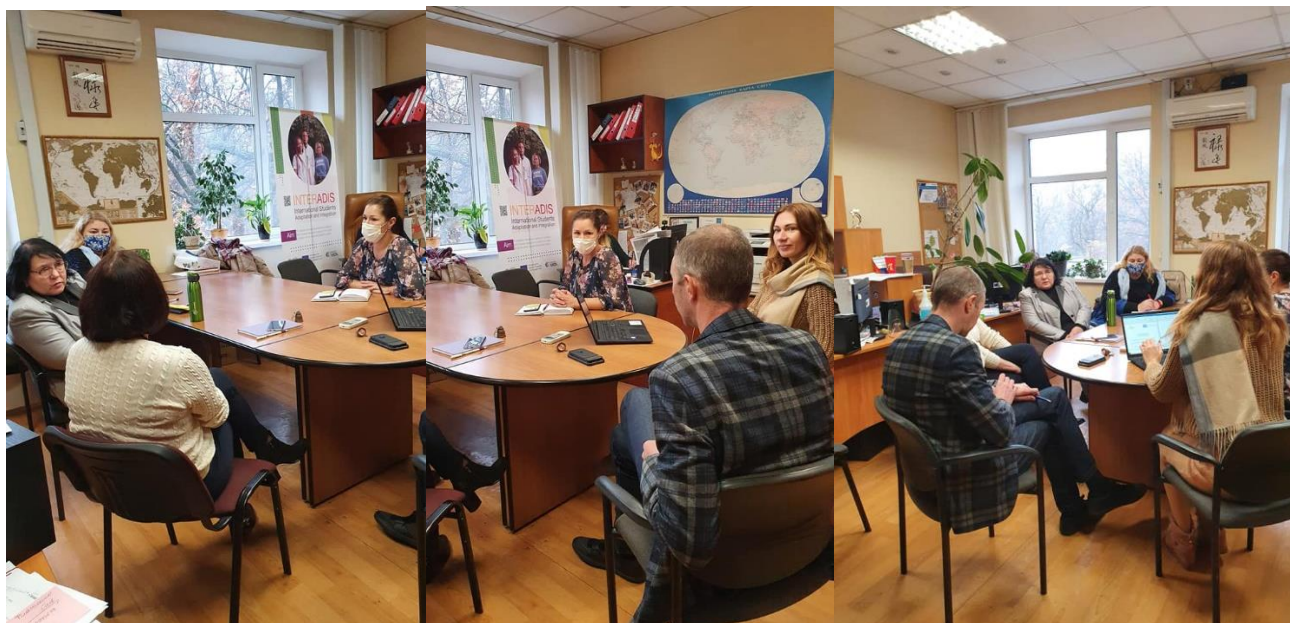
News from KROK

Immediately after returning from the CLIMAN events at Kharkiv, the meeting to discuss the results of the International Conference, to plan the activities of Climate management centre and discuss further project ideas was organized at KROK University with participation of Viktoriia Khrutba, Head of Department of Ecology and Safety of Vital Functions of National Transport University; Ludmyla

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Sumbayeva, director of College of Economics, Law and Information Technologies; Andrii Lotariiev, Head of International Office and Galina Bogachenko, Projects and Programs Manager.



News from BSU

Within the framework of the „Erasmus+“ project “Synergy of educational, scientific, management and industrial components for climate management and climate change prevention” (CLIMAN) 619119-EPP-1-2020-1-NL-EPPKA2-CBHE-JP) grant the master's program “Agroecology ” is being developed at Batumi Shota Rustaveli State University at the Faculty of Technology.



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In May 2021, the preparatory work for the program in “Agroecology” has begun. The goals and learning outcomes of the program were defined by the grant members and faculty members, reflecting the knowledge, skills and competencies of the graduate of the program.

Global environmental problems such as air, water, soil pollution, depletion of living organisms, irrational use of natural resources, activation of erosive processes, soil degradation, desertification processes, production of ecologically unhealthy products are also important problems for our safe country and food. One of the major contributors to these problems is climate change. These issues can be addressed if the agricultural production processes are led by specialists who have the latest methods of environmental research, mathematical processing of the obtained data, modern skills of biotechnological research methods; Be able to determine the cause and effect of environmental stressors, conduct agricultural production on the principles of organic farming, produce environmentally friendly food products using important food safety and biosafety issues, create plant protection, maintain a healthy, rich environment and Mitigating the impact of climate change on the agricultural production process.



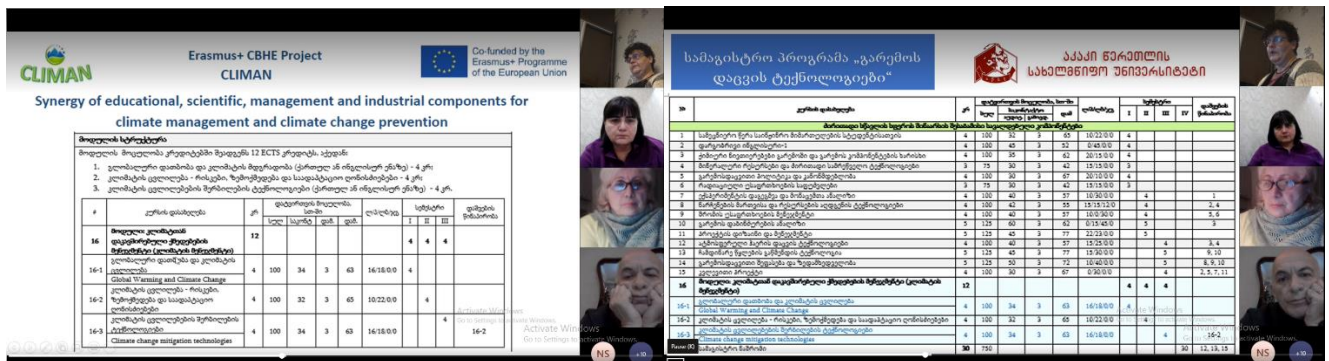
It is with these factors in mind that we are working on syllabi for training courses, several training courses such as Applied Ecology; Climate and global processes; Remote methods in regional geography and GIS programs - are included in the current master program of the Department of Geography. Experience gained as a result of CLIMAN project activities was also important in this process. The given courses, which are already in the study process gives graduates the opportunity to have the knowledge, skills and motivation to pursue a further career stage that will help them develop, plan and implement climate change mitigation and adaptation technologies.

A general meeting of the Department of project participants was held on October 26, 2021, where the master's program was discussed. According to the decisions, the package of the given program is about to be completed and soon it will be possible to start processes for accreditation.

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News from ATSU

Akaki Tsereteli State University is preparing for the renewal and accreditation of the Master's program in Environmental Technology, based on the analysis of international (mostly European) analogue programs and the sharing of good practice, as well as changes in the national qualifications framework and field classifications and updated references. Experience gained as a result of CLIMAN project activities was also important in this process. The academic degree awarded by the program is "Master of Science in Environmental Technology"



The screenshot shows a Zoom meeting interface. On the left, a presentation slide titled "Erasmus+ CBHE Project CLIMAN" is visible. The slide content includes the CLIMAN logo, the European Union flag, and the text "Synergy of educational, scientific, management and industrial components for climate management and climate change prevention". Below this, there is a table with the following structure:

№	კურსის დასახელება	კრ.	დამატებითი მოდულის დრო			საერთო დრო	საერთო ECTS	დამატებითი მოდულის დრო
			საქ.	საერთ.	დამ.			
16	მოვლადი კლიმატის დამატებითი მოდული	12					4	4
16-1	კლიმატის ცვლილება - რისკები, ზემოქმედება და საფრთხილო ელემენტები	4	100	34	3	43	16/18/0/0	4
16-2	კლიმატის ცვლილება - რისკები, ზემოქმედება და საფრთხილო ელემენტები	4	100	32	3	45	10/22/0/0	4
16-3	კლიმატის ცვლილების შემცირების ტექნოლოგიები	4	100	34	3	43	16/18/0/0	4

On the right side of the Zoom window, several participants are visible in their video feeds. The main part of the screen displays a detailed table with multiple columns, including course names, credits, and ECTS values, which appears to be a continuation of the CLIMAN project information.

In May 2021, the preparatory work for the study module "Climate Management" began, led by Professor Tsitsino Turkadze, Professor of the Department of Chemical and Environmental Technologies. The "Climate Management" training module will be included in the master's program as a compulsory module.

The development of the module is conditioned by the international project of "Erasmus + "Development of Innovative Master's Program in Climate Management", in which the direction of environmental technologies of ATSU participates. Project title: Development of Innovative Master's Program in Climate Management.

The development of the module was based on:

- Experience gained as a result of a given project
- Analysis and study of European experience in the implementation of educational and practical activities in climate management (teacher study visits to European partner universities).
- Analysis of curricula, courses, educational materials (textbooks, textbooks, brochures) and modern teaching methods in the Climate Management Master's program at partner universities.
- Sharing the approaches and existing expert knowledge of international and governmental organizations operating in the field of climate change.

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Course Outline Themes of lectures and practical works

Week number	Hr.	Name of the topic	Literature
1	2	Lecture - The scientific foundations of climate change, the earth's energy balance, and the greenhouse effect	1, 2
	1	Practical work. Student expectations. Familiarity with the course syllabus, job content and specifics	1, 2
2	2	Lecture - Greenhouse gases and ozone depleting substances. Cumulative emissions. Greenhouse gas emission scenarios	1, 2
3	2	Lecture - Climate change risk assessment and management - modern approaches	1, 2
4	2	Lecture - Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development; Mitigation pathways in line with the Paris Agreement; Indicative linkages between mitigation options and sustainable development using SDGs.	2
5	3	Seminar (maximum grade - 5 points) <ul style="list-style-type: none"> What are the Impacts of 1.5°C and 2°C of Warming? What do Energy Supply and Demand have to do with Limiting Warming to 1.5°C? 	2; 282 2; 161
6	3	Practical work (maximum grade - 4 points) <ul style="list-style-type: none"> What are the Pathways to Achieving Poverty Reduction and Reducing Inequalities while Reaching a 1.5°C World? What are the Connections between Sustainable Development and Limiting Global Warming to 1.5°C above Pre-Industrial Levels? 	2; 479 2; 477
7	2	Lecture - Ocean and Cryosphere in Climate Change	3
8	Mid-term exam		
9	2	Lecture - Climate change, land and water resources. Precipitation, sea level, soil moisture, water flows and flow in rivers.	4; 13-31



The module gives engineering graduates the opportunity to have the knowledge, skills and motivation to pursue a further career stage that will help them develop, plan and implement climate change mitigation and adaptation technologies.

A general meeting of the Department of Chemical and Environmental Technologies was held on October 21, 2021, where both the master's program package and the readiness of the "Climate Management" training module were discussed. According to the decision of the Department, the package of the given program is complete and it is possible to start processes for state accreditation.

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ABOUT THE PROJECT

Synergy of educational, scientific, management and industrial components for climate management and climate change prevention/ *CLIMAN 619119-EPP-1-2020-1-NL-EPPKA2-CBHE-JP*

Project duration: 15.11.2020-14.11.2023

Project Coordinator: Netherlands Business Academy, the Netherlands.

Project Co-Coordinator: KROK University.

Partners:

- Foggia University, Italy;
- University of Applied Sciences, Germany;
- Mykolas Romeris University, Lithuania;
- Turība University, Latvia;
- Kharkiv National Automobile and Highway University, Ukraine;
- Lviv Polytechnic National University, Ukraine;
- Akaki Tsereteli State University Kutaisi, Georgia;
- Batumi Shota Rustaveli State University, Georgia;
- Polesky State University, Belarus;
- Yanka Kupala State University of Grodno, Belarus;
- Hultgren Nachhaltigkeitsberatung UG, Germany.

The aim of the project is to help the universities of Georgia, the Republic of Belarus and Ukraine to become centers for the development of research of climate management to accelerate integration into the global climate market and to meet global climate regulation requirements by acquiring best European practices in the field of climate change prevention, adaptation and mitigation.

The specific objectives of the project are as follows:

1. Update the existing master degree programs by developing an interdisciplinary training module "Climate Management".
2. Establish consulting Climate Management Centers at partner universities and ensure their sustainable development.

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3. Facilitate the development and strengthening of institutional capacity of partner universities aiming to develop recommendations for the industrial, transport, energy, tourism sectors and local authorities in the sphere of climate change prevention, adaptation and mitigation.

Expected results:

- Updated Master Degree Program by means of development and implementation of Training Module “Climate Management”.
- Trained staff.
- Consulting Centers of Climate Management are established at partner universities.
- Developed “roadmap” of cooperation between the industrial, transport, agricultural and tourism sectors and local authorities on the implementation of climate management policy.
- Qualified climate managers.

The Project is co-funded by the Erasmus+ Program of the European Union.