



smartWB

newsletter #1



CURRICULA INNOVATION IN CLIMATE-SMART URBAN DEVELOPMENT BASED ON GREEN AND ENERGY EFFICIENCY WITH THE NON-ACADEMIC SECTOR

Dear colleagues,

We are pleased to present the first issue of the SmartWB newsletter. In this first issue of SmartWB newsletter we bring a number of contributions related to the SmartWB activities.

This is the official newsletter of Erasmus+ Capacity Building in Higher Education project, titled:

Curricula innovation in climate-smart urban development based on green and energy efficiency with the non-academic sector (SmartWB)

Project: 101081724 — SmartWB — ERASMUS-EDU-2022-CBHE

In this unprecedented era of increasing urbanization and the context of the 2030 Agenda for Sustainable Development, the Paris Agreement, the UN Framework Convention on Climate Change and other global development agreements and frameworks, cities should be well-planned and well-managed.

The broader objective of the SmartWB project is to improve the quality of higher education in the climate-smart urban development (CSUD) field, strengthen its relevance for the labour market and society, enhance relations between HEIs in WB partner countries (Albania, Bosnia and Herzegovina and Montenegro) and the economic and social environment by establishing a technological platform for cooperation, exchange of knowledge, experience and good practices, modernising universities' courses in line with EU trends and improving the level of competencies and skills of teaching staff. This broader objective fully complies with the priorities of the Capacity Building projects within the Erasmus+ program, i.e., Green Deal.

To achieve planned wider and specific objectives, the Project Consortium consists of six HEIs from EU Member States and third countries associated to the Programme: Austria, Croatia, Germany, Norway, Spain and Serbia and seven HEIs from targeted countries of Region 1: Albania, Bosnia and Herzegovina and Montenegro, supported by 5 non-academic partners from the West Balkans region.



About the Project

Background

Taking into consideration the fact that cities worldwide are major contributors to global emissions, every urban renewal policy and strategy should include “the linkages between good urbanization and job creation, livelihood opportunities, and improved quality of life”, according to the New Urban Agenda. Western Balkan (WB) region should adopt a new recognition of the correlation between good urbanisation and development which aligns with the 2030 Agenda for Sustainable Development, especially Goal 11 on sustainable cities and communities. Therefore, climate-smart urbanization can be a powerful tool for sustainable development for developing countries since climate change represents a challenge but also business opportunity for the creation of new green jobs, boosting new and innovative technological solutions and business models.

Objectives

The first step towards creating an environment for climate-smart urban development (CSUD) is introducing education that will raise awareness, provide adequate knowledge and skills and profile new professionals who will incorporate a climate-smart urban development approach in all aspects of their professional activity. Therefore, the wider objective of the SmartWB project is to improve the existing education in Western Balkan higher education institutions (WB HEIs) in the field of CSUD, building professional and technical capacities, applying innovative teaching methods and ICT, and creating permanent links with the non-academic sector. One of the specific objectives is to introduce an innovative and problem-based approaches in educational programmes, as well as

courses based on business-academia cooperation designed to be continuously upgradeable by the practical work of students and contributions from companies.

Implementation

The SmartWB project will be implemented through 30 activities within 7 work packages by the consortium consisting of six HEIs from EU Member States and third countries associated to the Programme, seven WB HEIs, and three non-academic partners from the WB region, supported by two WB non-academic associated partners in the field of urban development.

The quality of higher education in CSUD field will be improved by exchanging knowledge, experience, and good practices between HEIs, i.e. acquiring innovative teaching methods and know-how practices via six theme-based trainings, workshops, and study visits to CSUD related companies in EU Member States and third countries associated to the Programme, resulting in improving the level of competencies and skills of teaching staff, using new laboratory equipment and modernisation of courses in line with EU trends.

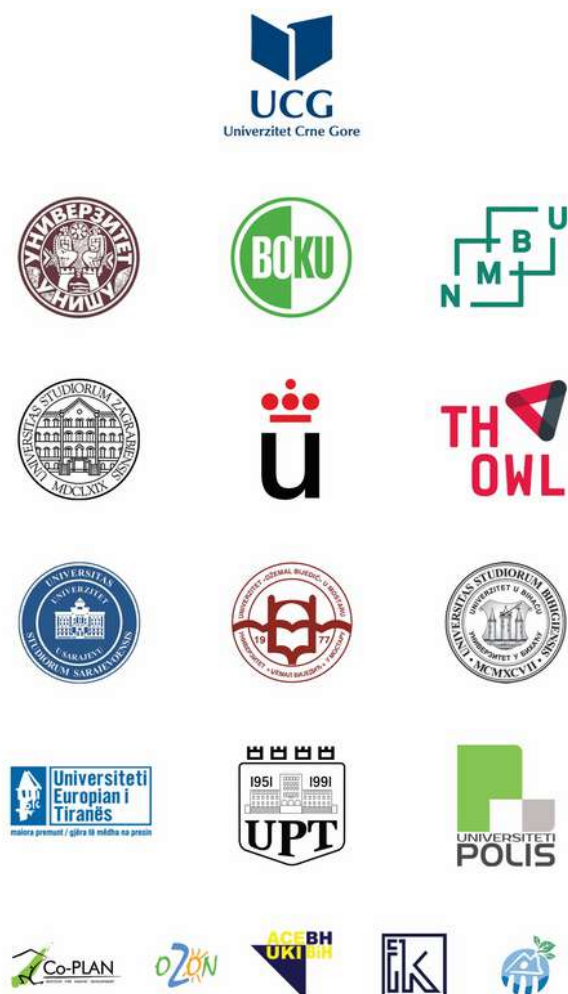
Results

Results are expected to be as follows:

- at least 20 university courses modernized in collaboration with the industry sector;
- 7 up-to-date equipped laboratories;
- 7 innovated curricula involving learner-centred teaching and real problem-based learning;
- 6 three-day theme-based training of teaching staff for acquiring new practical skills;
- 3-day workshop on climate-friendly and innovative solutions and 2-day workshop about green job opportunities in urban development;

- 7 roundtables with the non-academic sector to promote environmentally-conscious urban development;
- at least 14 provided agreements for the future cooperation between WB HEIs and the non-academic sector, including student's internships;
- 7 events for the promotion of using emission reduction approaches and low-carbon technologies in WB countries;
- a technological platform for sharing experiences in CSUD.

Partners



1	University of Montenegro	Montenegro
2	University of Nis	Serbia
3	University of Natural Resources and Life Sciences	Austria
4	Norwegian University of Life Sciences	Norway
5	University of Zagreb	Croatia
6	Universidad Rey Juan Carlos	Spain
7	Technische Hochschule Ostwestfalen-Lippe	Germany
8	University of Sarajevo	Bosnia and Herzegovina
9	Dzemal Bijedic University of Mostar	Bosnia and Herzegovina
10	University of Bihac	Bosnia and Herzegovina
11	European University of Tirana	Albania
12	Polytechnic University of Tirana	Albania
13	Polis University	Albania
14	Co-Plan	Albania
15	Environmental movement Ozon	Montenegro
16	Association of Consulting Engineers of Bosnia and Herzegovina	Bosnia and Herzegovina
17	Engineers Chamber of Montenegro	Montenegro
18	Association Resource Aarhus center in B&H	Bosnia and Herzegovina

SmartWB Project activities

SmartWB Kick-off meeting

The kick-off meeting of the Erasmus+ Capacity Building in Higher Education project "Curricula innovation in climate-smart urban development based on green and energy efficiency with the non-academic sector" (SmartWB), held at the coordinating the University of Montenegro, on the 23rd and 24th of February 2023. The meeting was hybrid and chaired by Marija Jevrić.

The purpose of the meeting was to:

- Develop a shared understanding of the project objectives, tasks, and expected results;
- Clarify project management and administrative procedures;
- Give an overview of the first project year: work plan and partners' tasks and obligations.
- Discuss essential issues, agreements, and actions to be taken.



The meeting agenda was slightly changed at the end of the first day due to the coordinator's suggestion to discuss the text of the Consortium Agreement at the first session on the 24th of February, 2023.

Opening ceremony and project presentation

The meeting started at 9 am with the SmartWB participants' registration.

Marina Rakočević, the dean of the Faculty of Civil Engineering, University of Montenegro, opened the welcoming session on behalf of the host institution, wishing a successful meeting and a pleasant staying in Montenegro for all guests.



Veselin Mićanović, the vice-rector for education of the University of Montenegro, welcomed the participants on behalf of the University of Montenegro. He emphasized that the Erasmus+ program has significantly contributed to the internationalization process of the University. Biljana Šćepanović, the minister for Science and Technological Development of Montenegro, gave opening remarks. She highlighted the importance of this occasion – the kick-off meeting of the first Erasmus+ project coordinated by the Faculty of Civil Engineering, University of Montenegro, being on the path of EU integration and strengthening connections in the region. Ivana Čipranić, assistant professor at the Faculty of Civil Engineering, University of Montenegro, presented the project to all participants. The most significant SmartWB segments were highlighted on this occasion, with particular references to the objectives and expected impacts.

Olga Čalasan, a teaching assistant at the Faculty of Civil Engineering, University of Montenegro, presented the project website and social media networks. Also, she briefly introduced the project management platform, which will be used throughout the project's lifetime. She underlined the importance of promotion and communication activities for the project results and invited the participants to upload information on current activities and news on social networks and web site of the project, on regular basis.

Introducing project technical details and directions from NEO

Marija Jevrić presented the Evaluation Summary Report on behalf of the project coordinator. Although the overall evaluation result was very good (80/ 100), a few negative remarks by EACEA evaluators were presented and commented on, highlighting what should be done while implementing some activities to avoid anticipated risks.



Milan Gocić presented the lump sum funding principles and general changes in the reporting rules, in line with the Grant Agreement and the guides for managing lump sum grants available at the EU F&T Portal. He also showed the rules and conditions to be met for amendments to the Grant Agreement. Dissemination and sustainability of the project were presented by Genti Qirjazi.

He explained the primary purpose of this field and highlighted the importance of communication for promoting the project itself and its results to a broader audience. He also emphasized the importance of dissemination activities and the sustainability of some project results after the end of project funding. He underlined the requirements of the Grant agreement, such as visibility of project results, availability of materials produced, and using of the correct logo and disclaimer. All partners should be aware of the penalties in the case of non-compliance with publicity obligations.



Rina Muhaj, the NEO representative, presented CBHE+ projects' operational management rules: the Partnership Agreement, roles and responsibilities of management structure, possible changes to the Grant Agreement, project implementation, and dissemination principles. The discussion's central themes were the grant's financial aspects and possible transfers between budget lines.

Partner presentations with special emphasis on their higher education research potential

In this part of the meeting, all partners had a chance to present their institutions and inform the audience about their role in the SmartWB project and their skills and institutional and team potential. While colleagues from the Norwegian University of Life Sciences were present online and presented them through Zoom meeting, another partner, Association of Consulting Engineers of B&H sent a video presentation of the institution and team members.

In addition, all speakers from WB HEIs highlighted the importance of this type of project, especially in capacity development and the establishment of future permanent cooperation. Marija Jevrić, on behalf of the coordinator, closes the first working day of the meeting, establishing the project management structures: Steering Committee, Project Management Committee, Quality Assurance Committee, and Work packages leaders. All project representatives agreed with the proposed committees.



Work packages and action plan

Marija Jevrić presented WP1 - Project management and coordination. She informed partners about the role and responsibilities of the coordinator and beneficiaries in line with the Grant Agreement,

as well as future project tasks, activities, deliverables, and deadlines regarding WP1.

Doris Damyanovic presented WP2 - Analysis of the current status in climate-smart urban development and underlined the need for joint work to develop all necessary reports on time. Furthermore, she introduced WP2 tasks and task leaders, emphasizing that four different reports should be prepared, revised, corrected, and uploaded before the workshop, which will be held in Vienna from the 31st of May until the 2nd of June 2023.



Carmen De Pablos Heredero presented WP3 - Capacity building of West Balkans HEIs, highlighting the importance of modernizing curricula according to EU green principles and sustainable development in collaboration with the industry sector.

Željko Bačić and Milan Gocić did presentations of 3-day theme-based training events. Venues were announced, and draft agendas were given for two events organized by the University of Zagreb and the University of Niš.

Agim Kasaj presented WP4 - Creating the technological platform. After completing two tasks introduction with innovative technological solutions and analyzing industry sector needs for green jobs and climate-smart solutions - they will be able to work to develop the technological platform, an interactive and user-friendly tool not only for the SmartWB project but also for all stakeholders. Emina Hadžić presented WP5 - Implementation of modernized courses and

platform. Innovative learning and teaching methods should be implemented with students enrolled.

Milan Gocic prepared a presentation on WP6 - Quality assurance and monitoring, highlighting the importance of a complete understanding of what is being requested and strong collaboration and commitment from the partners.

Genti Qirjazi presented WP7 - Impact and dissemination. He underlined the dissemination and exploitation issues and the need for the preparation of the Dissemination and Exploitation Plan, which includes round tables with the non-academic sector to promote environmentally conscious urban development, workshops for promoting green job opportunities in urban development, and promotion of using emission reduction approaches and low carbon technologies. Milan Gocic, at the end of the kick-off meeting, summarized project activities, work plan, tasks, and obligations of the partners for all three years of project duration but gave a detailed overview of the first project year, highlighting deadlines for deliverables expected.



First theme-based training of teaching staff for acquiring new practical skills

The first Theme-based training of teaching staff for acquiring new practical skills of the Erasmus+

Capacity Building in Higher Education project "Curricula innovation in climate smart urban development based on green and energy efficiency with the non-academic sector" (SmartWB), held at the Centre for Advanced Academic Studies of University of Zagreb in Dubrovnik, Croatia, from 9th to 11th of May 2023. The training was hybrid and chaired by prof. Željko Bačić. The purpose of the training was to:

- educate WB teachers about innovative teaching methods,
- improve the professional, pedagogical, and methodological knowledge and
- acquire new practical skills in the field of CSUD.



First day of Training

The meeting started at 9 am with the SmartWB participants' registration. Manuela Valjalo, representative of the Centre for Advanced Academic Studies of University of Zagreb in Dubrovnik, introduced the host facility on behalf of host institution, wishing a successful meeting and a pleasant stay in Dubrovnik, Croatia for all guests. Željko Bačić, UNIZG team leader within the project, welcomed the participants on behalf of the University of Zagreb. He shortly presented the University of Zagreb, along with short history of Faculty of Geodesy and interesting facts about Croatia.

Iva Cibilić, a teaching and research assistant at the Faculty of Geodesy, University of Zagreb, presented

the technical detail regarding the training, the facility and its surroundings and social events organized withing the Training.

First presentation on the schedule was given by Željko Bačić with the title: “Universities in digital revolution era - bridging the skills gap between supply and demand of education and training”. This lecture was about digital revolution.



Ana Kuveždić Divjak joined the participants online through MS Teams to introduce Bologna process for curriculum developments. Emphasis is given on course descriptors and learning outcomes.

Last presentation of the day was introductory to the topic of mobile phones as an educational tool. Iva Cibilić presented mobile phones as devices in which many sensors are integrated, enabling to use it as tool for many applications in everyday lives, but also in education. The topic of noise pollution was presented, as noise can be measured with mobile phones. In this context, EU regulations and practices were presented along with possibility to use mobile phone for city noise mapping.

Second day of Training

Vesna Poslončec-Petrić presented the topic “Problem based learning - involving business stakeholders in educational process” in online mode through MS Teams. In technology driven study programs and courses, problem-based learning combined with involvement of business stakeholders in educational process is seen as one of solutions to cope with changes. Also, GEOBIZ

project approach, activities and results were presented. The basics and variations in approach that are strongly affecting urban planning are addressed in the lecture given by Željko Bačić, titled: “Smart cities – concept, approaches, solutions and impact of climate change on it”.

Iva Cibilić continued to deal with the topic of noise mapping with the smartphone collected data. The participants were introduced with the basic concepts of field data collection, they were instructed to download a mobile application for noise collection and guided through the process of noise collection.



Third day of Training

On the last day of the training, the participants used the noise data collected the previous day to create a noise map. They were instructed by Iva Cibilić, who guided them through the process and explained the importance of raising the awareness of ecological problems, creation of smart citizens who use available tools like smartphones to make an impact in smart city development.

Last lecture’s topic was Education for sustainable development and Smart cities. Željko Bačić emphasized the importance of education is in the sustainable development and Smart cities. In parallel, sustainable development and Smart cities are influencing education towards Smart education. Training ended with open discussion about the conducted training, topics presented and challenges on the way to introduce climate smart

urban development content in partners curricula. Partners from beneficiary countries shortly presented courses they plan to modernize and way how they intend to do it. Further, discussion was about the Smart cities challenges and possibilities to introduced more Smart cities content in partners syllabuses, up to introducing new study programmes.



Workshop on climate-friendly and innovative solutions: current and future challenges

The workshop on climate-friendly and innovative solutions: current and future challenges took place in Vienna from 31st May to 2nd June 2023. The workshop focused on the related tasks of WP2 and aimed at finding synergies of issues related to CSUD within the programme countries.

The main results of reports were presented and discussed. At the heart of the workshop, interactive sessions were organised to facilitate communication and exchange of knowledge and expertise among the participants. Using the method of World Café, a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) focusing on four key topics with regard to identifying issues related to urban development in Montenegro, Albania and Bosnia and Herzegovina was applied. Small group discussions were structured along the SWOT Analysis focusing on each of the four key

topics. For each country, four tables were organized and participants took part in the discussion of two key topics. Each round was held 20 minutes and the main results were captured on a flip chart. The Table-hosts were pre-selected and assigned to take notes on the flipchart and to report the central messages and points of discussion to the group..



The following highlights were overlapping for all three western Balkan countries:

- The legal framework and guidelines are usually in existence, but the implementation of strategies and policies is often missing.
- Change to more sustainable forms of mobility and a reduction of car dependency.
- Improvement of infrastructure for water and waste management.
- Public awareness of sustainability should be increased.
- The protection of the environment should be prioritized.

All these highlights should not only be realized in practice, but also be taught intensively at Western Balkan universities. The pathway to this aim will be addressed in detail in WP3 – Capacity building of WB HEIs.

The first Project Management Committee meeting

The First Project Management Committee (PMC) meeting of the Erasmus+ Capacity Building in Higher Education project "Curricula innovation in climate-smart urban development based on green and energy efficiency with the non-academic sector "(SmartWB), held at the Institute of Landscape Planning, University of Natural Resources and Life Sciences-Vienna, on the June 1st, 2023. The PMC meeting was face-to-face event. Number of participants at the event was 10 from 9 institutions.



Marija Jevrić (UoM) opened the meeting and gave the overview of the first five months of the project in detail, describing all tasks carried out and plans and reports delivered. She concluded that all work planned for May and June is carried out and expressed gratitude and appreciation to all partners involved. After giving the overview of the following tasks related to WP3 and WP4, she opened a discussion about their interconnectiveness and joint future work.



The first Quality Assurance Committee meeting

The First Quality Assurance Committee (QAC) meeting of the Erasmus+ Capacity Building in Higher Education project "Curricula innovation in climate-smart urban development based on green and energy efficiency with the non-academic sector "(SmartWB), held at the Institute of Landscape



Planning, University of Natural Resources and Life Sciences-Vienna, on the June 2nd, 2023.

Milan opened the meeting by greeting all members. He said that he was impressed by the work and results produced in the first five months, thanks to the task leaders who led all WP2 activities. All deliverables were checked and revised, and preparing of plans was monitored. During these processes, QAC suggested corrections, and most of the comments and suggestions were implemented in the final versions of the documents. That was excellent, and such practice should be continued till the end of the project. As Milan emphasized, the tasks of WP3 are the following, and they will be the most important for the modernization of the courses. WP3 activities should be done in parallel with WP4. In Madrid, at the next QAC and SC meeting, the first draft of the technological platform (WP4) must be presented. As mentioned, all partners must contribute to creating this platform to get the best from it. QAC does not want having a platform only

for the "check" but to use it until the end of the project and achieve its sustainability even after it ends.

For WP3, WP4, and WP5, there will be a lot of things to be checked, e.g. some organizational aspects of the events, e.g. criteria for the election for the participants for some events (roundtables and workshops for promoting green jobs and low carbon technologies) also should be checked.

The first Steering Committee meeting

The First Steering Committee (SC) meeting of the Erasmus+ Capacity Building in Higher Education project "Curricula innovation in climate-smart urban development based on green and energy efficiency with the non-academic sector" (SmartWB), held at the Institute of Landscape Planning, University of Natural Resources and Life Sciences-Vienna, on the May 31st, 2023.

The purpose of the meeting was to:

- Give an overview of the first 5 project months and future tasks;
- Discuss about current issues and future SMARTWB challenges.



The meeting started at 9 am with the SmartWB participants' registration. Marina Rakočević (UoM) opened the First Steering Committee meeting, by wishing welcome to all members - those present in

Vienna and those attending online.

This meeting was simple since all deliverables due to May had already been approved by SC and uploaded to the EC platform. The goal of the meeting was to review the progress of project activities, discuss anticipated risks and resolve communication issues.

The second theme-based training of teaching staff for acquiring new practical skills

The second theme-based training of teaching staff for acquiring new practical skills of the Erasmus+ Capacity Building in Higher Education project "Curricula innovation in climate-smart urban development based on green and energy efficiency with the non-academic sector" (SmartWB), held at the University of Nis in Nis, Serbia, from 14th to 16th of June 2023. The training was face-to-face event and chaired by Milan Gocić.



The purpose of the training was to:

- educate WB teaching staff about innovative teaching methods,
- improve the professional, pedagogical, and methodological knowledge, and
- acquire new practical skills in the field of CSUD.

First day of training

Milan Gocić introduced the host facility on behalf of host institution, wishing a successful training and a pleasant stay in Nis for all participants. He also presented short history of the University of Nis and the Faculty of Civil Engineering and Architecture.

First presentation on the schedule was given by Vuk Milošević with the title “Architectural covers as microclimate modifiers”. He presented architectural covers such as non-enclosed and lightweight covers with illustrative examples.



Ljiljana Jevremović and Ana Stanojević presented the topic “Advances in Managing Built Heritage for Climate-Smart Development” including adaptive measures that address current vulnerabilities in the built heritage and interventions to reduce exposure and facilitate cultural heritage adaptation while preserving their authenticity.

Milan Gocić and Aleksandar Đorđević presented the topic “IoT and smart cities”. They highlighted that smart cities use IoT devices such as connected sensors, lights, and meters to collect and analyze data to predict traffic movement, adjust signal timing to ensure smooth traffic flows, and help decrease commute time.

Second day of training

The second day was oriented to practice and using different tools in educational purposes.

Milan Gocić and Milica Ćirić presented the topic “Augmented collaboration toolkit”. The augmented collaboration toolkit is being developed to support trainers and teachers within higher education and LLL programs, as a support for serious games to create a shared narrative, and for the skills to work in digital environments.

Milan Gocić and Milica Ćirić presented the topic “E-Learning modules for serious games”. Due to the COVID-19 challenge, education leaders must swiftly design responses with specific contexts in mind transforming traditional learning into online using e-modules.

Especially, the development of e-learning modules was presented as well as six created modules. Milan Gocić and Milica Ćirić organized multiplier event titled “Open training on eLearning with serious games” showing the use of GroupMap tool and RiskMap template.

Third day of training

Ljiljana Vasilevska presented the topic “Urban Resilience with Nature Based Solutions - Current Eco oriented Approaches” including definitions, goals, common and specific characteristics, best management practices of Nature-Based Solutions, Ecosystem-Based Adaptation, Urban Green Infrastructure and Ecosystem Services. Borislava Blagojević presented the topic “Urban hydrology - Nature-Based Solutions focused on urban water cycle” as well as how to organize a summer school for international students. Mladen Milanović organized visits of laboratories of the Faculty of Civil Engineering and Architecture.



Results so far

WP2 (***Analysis of current status in climate-smart urban development***) is completed and the reports are made as follows:

In “***Report on WB regional issues related to urban development***”, the regional issues related to urban development in the Western Balkan (WB) region were identified, through the review of the following topics:

- social cohesion,
- national plans in the WB region,
- reducing car dependency,
- preservation of the environment and resources,
- urban planning and land management,
- urban planning regulations, and
- sustainable urban planning.

The gathered information will be further used in preparing a platform for sharing knowledge. The Report on WB regional issues related to urban development was developed based on literature and academic studies covering the wider economic and social environment in the WB region, including those published by national and European public institutions, NGOs, international organisations and research projects and stakeholders and associated partners are consulted during the report development.

The review of responsible institutions and the qualifications of their staff in the urban development sector in WB partner countries is presented.

In “***Report on EU initiatives and policies related to urban development and climate change***” EU initiatives and policies related to urban development and climate change as well as a brief interpretation of EU legislation and its implementation as best practices in project EU partner countries were analyzed.

The produced report gives an overview of EU initiatives and policies related to urban development and climate change including Cohesion Policy focused on five policy objectives around (1) Smarter, (2) Greener, (3) Connected, and (4) Social Europe, and a new cross-cutting objective (5) to bring Europe closer to citizens by supporting locally developed investment strategies across the EU, New Urban Agenda as a paradigm shift based on the science of cities, programs and initiatives such as Urban Innovative Actions based on article 8 of ERDF as an Initiative of the European Union that provides urban areas throughout Europe with resources to test new and unproven solutions to address urban challenges, URBACT as a European exchange and learning programme promoting sustainable urban development, and the Urban Agenda for the EU.

This report examines the different innovative technological solutions used in climate smart urban development (CSUD) initiatives in terms of regulatory frameworks, best practices, and emerging trends in the EU. It also inspects how European policies have been implemented at the national level in the EU Member States and third countries associated to the Programme countries and presents some examples of CSUD projects from the programme countries. Through the programme countries' contributions to national policies and best practices, this report provides valuable insights into the role of innovative technological solutions in promoting CSUD and creating a more sustainable, liveable, and resilient urban environment across Europe.

The aim of this report is to provide an overview of existing and already implemented European policies and initiatives in the field of urban development and to examine how these have been implemented in selected countries. In this way, the potential for further projects or legislation in European countries can be identified.

In “***Report on existing curricula related to CSUD in EU Member States and third countries not or associated to the Programme***”, analysed all project

HEIs' existing curricula in CSUD and provided comparative analysis which can lead at the same time to find the way to improve the existing courses or development new according to the presented curricula in EU Member States and third countries associated to the Programme universities.

There are some structural differences at a curriculum level between the universities from EU Member States and third countries associated to the Programme and universities from third countries not associated to the Programme.

Reforms on the programs of third countries not associated to the Programme universities need to be in accordance with the regional and European developments. The objectives of study programs in CSUD need to be related to the following key factors: development and awareness of students for continued professional education, and protection of the environment based on the EU model.

Collaboration between the non-academic sector and academic institutions is essential to develop innovative curricula that promote green and energy-efficient solutions for urban development. These curricula provide valuable resources for urban professionals to develop the skills and knowledge needed to promote green and energy-efficient solutions for urban development and address the challenges posed by climate change.

The content of ***“Report on climate-friendly and innovative solutions in urban development”*** is structured as follows:

- Consolidation report on Western Balkan (WB) regional issues related to urban development
- Consolidation report on EU initiatives and policies related to urban development and climate change
- Consolidation report on the analysis of existing curricula related to CSUD in EU Member States and third countries not associated to the programme
- Summary of the workshop on climate-friendly and innovative solutions: current and future challenges

The objective of the report was to summarize these reports for a quick overview of the whole work package, as well as the résumé of the workshop, which was held in Vienna from May 31st to June 2nd 2023 describing the methods used and the findings obtained, which will help proceeding to work on modernization of courses.

At the workshop in Vienna, the findings of the three reports 2.1 – 2.3 were presented. Moreover, the core program was a SWOT-analysis using the method of a World Café for four key issues in all three western Balkan countries. This helped to identify differences and synergies of CSUD in Montenegro, Bosnia and Herzegovina and Albania. The following topics were overlapping for all three western Balkan countries:

- The legal framework and guidelines are usually in existence, but the implementation of strategies and policies is often missing.
- Change to more sustainable forms of mobility and a reduction of car dependency.
- Improvement of infrastructure for water and waste management.
- Public awareness of sustainability should be increased.
- The protection of the environment should be prioritized.

All these topics should not only be realized in practice, but also be taught intensively at Western Balkan universities.

In ***“Report on innovative technological solutions in CSUD in EU Member States and third countries associated to the Programme”***, by conducting a comprehensive questionnaire, innovative technological solutions in eight fields of CSUD at the EU level and the national level are collected by partners from EU Member States and third countries associated to the Programme. Furthermore, for each of the eight CSUD aspects, ambitions and legislation, implementation strategies and general practices are discussed, as well as the emerging trends in CSUD.

This report explores the various innovative technological solutions that have been adopted in CSUD initiatives in these regions, highlighting

legislative frameworks, best practices, and emerging trends. Through a comprehensive review of relevant legislations and a questionnaire, this report provides valuable insights into the role of innovative technological solutions in promoting CSUD and creating more sustainable, livable, and resilient urban environments throughout Europe. Climate Smart Urban Development (CSUD) has emerged as a crucial approach to promoting sustainable urbanization and addressing critical development challenges such as energy, water consumption and production, biodiversity, disaster preparedness, and climate change adaptation. By prioritizing sustainability in urban development, CSUD serves as a key lever for overall development around the world.

In ***“Survey of industry sector needs for green jobs and climate-smart solutions in WB”*** the analysis of the industry sector's needs for green jobs and climate-smart solutions in WB was done.

The research was done by surveying various institutions, private and public companies, NGOs, and stakeholders. Altogether, 369 responses (57 responses per million inhabitants) on 32 given questions have been received, providing a solid platform for analysis and conclusions.

Results per country are similar, allowing to make general conclusions for all three countries regarding business, public and professional stakeholder needs for future green and climate-smart professionals. Survey results show that 85.64% of the respondents believe implementing green engineering principles in educational problems is necessary. They undoubtedly indicate the need to strengthen the capacity of higher education in the CSUD field, cooperation between the academic and non-academic sectors, and the importance of lifelong learning. They also indicate that curricula modernization should focus on civil, transportation, energy, and water management professionals.

The survey results are presented in this report separately for each WB country (Albania, Bosnia and Herzegovina, Montenegro), but a joint report

has also been prepared. In this way, an individual and a joint analysis of the state of needs of the industrial sector of the WB countries was obtained, both current and prospecting needs for the next period. The survey results undoubtedly indicate the need to strengthen the capacity of higher education in the field of CSUD, to strengthen cooperation between the academic and non-academic sectors, and the importance of lifelong learning.

Dissemination activities

Two articles for Western Balkans Info hub

The Western Balkans Info Hub is an information platform that provides high-quality targeted information on research, technology, education, culture and innovation in, with and for the Western Balkans (WB). Two articles regarding the SmartWB project have been published on this platform so far, thus helping to raise awareness about the importance of the project and increasing its visibility in the community of interested researchers, academics, policymakers and other stakeholders:

1. Interview with Marina Rakocevic, dean of the Faculty of Civil Engineering in Podgorica, project coordinator of the Smart WB project (article URL: <https://wbc-rti.info/object/news/24090>)

2. SmartWB theme-based training of teaching staff for acquiring new practical skills in Dubrovnik (article URL: <https://wbc-rti.info/object/event/24151>)

Article for Cafe Del Montenegro web portal

Cafe del Montenegro is a popular online news portal which provides news, articles, and discussions on a wide range of topics and aims to

keep its readers informed about the latest happenings in Montenegro, which makes it a valuable source of information for Montenegrin residents. The article "Improving Education in the Field of Climate-Smart Urbanization Brings Together Professors from the Region and Europe" (URL: <https://www.cdm.me/drustvo/unaprijedenje-nastave-u-oblasti-klimatski-pametne-urbanizacije-okupilo-profesore-regiona-i-evrope/>) reports on the project kick-off meeting and highlights project objectives and relevance of its activities for the partners, thus promoting the project, making it more visible to society, and ensuring that the project importance is effectively communicated to the public.

Article for "Vijesti" web portal

The portal "Vijesti" is the largest and most read independent portal in Montenegro. Follows events from Montenegro and the world in various fields: education, science, sports, entertainment...

In the published article "The project aims to modernise university courses and improve the competencies and skills of the teaching staff" (URL: <https://www.vijesti.me/vijesti/drustvo/624888/jevric-cilj-projekta-modernizacija-univerzitetskih-kurseva-i-unaprijedenje-kompetencija-i-vjestina-nastavnog-osoblja>), the SmartWB project manager outlines the project's objectives and the basic information of the project.

Guest Appearance in a Television "Vijesti" Program

The Faculty of the Civil Engineering University of Montenegro dean presented the Erasmus+ project SmartWB as a guest on TV Vijesti's "Boje jutro" morning show.

Television "Vijesti" is one of the most popular televisions in Montenegro, and "Boje jutro" is one of the most watched shows.

The video from the dean is on the YouTube channel of the Television "Vijesti".

<https://www.youtube.com/watch?v=tWpfJjWYbjg>

The news was published on the website of the University of Montenegro

<https://www.ucg.ac.me/objava/blog/1287/objava/159802-boje-jutra-tv-vijesti-unapredenje-kvaliteta-nastave-u-oblasti-klimatski-pametne-urbanizacije>

Guest Appearance in a Television "Gradska RTV Podgorica" Program

The Faculty of the Civil Engineering University of Montenegro dean presented the Erasmus+ project SmartWB as a guest on "Lice Podgorice"- Gradska RTV Podgorica show.

Television "Gradska RTV Podgorica" is one of the newer ones in Montenegro, but it quickly became a prominent source of news, entertainment, and other television content in the country.

The video of dean's appearance on the show is available on the YouTube channel of the Television "Gradska RTV Podgorica"

<https://www.youtube.com/watch?v=VdUsDntuQ-s&t=1550s>

The news was published on the website of the University of Montenegro

<https://www.ucg.ac.me/objava/blog/1287/objava/159757-gostovanje-dekana-gradevinskog-fakulteta-gradska-rtv-podgorica>

Article for Environmental movement- Ozon web portal

Ozon is a prominent Montenegrin environmental movement dedicated to protecting and preserving the environment. They work towards raising awareness about environmental issues and advocating for sustainable practices. Through their efforts, Ozon aims to create a greener and more sustainable future for Montenegro.

That's why they contribute to SmartWB, and the main objectives and basic information of the project are published on their portal. (URL: <http://www.ozon.org.me/odrzan-pocetni-sastanak-erasmus-projekta-smartwb/>)

Article for University of Montenegro web portal

The University of Montenegro (UoM) is an intellectual development core of Montenegro - the center of scientific research, cultural, artistic and innovative creativity. It is the oldest and at the same time the only state university in Montenegro, having a key role and responsibility to create and disseminate knowledge through excellence in education, science and creativity and to promote international cooperation (as a member of prestigious international organizations and networks).

Web site of the UoM has an audience of 17,000.00 students and near to 2,000 staff. News promoting and communicating the SmartWB project will be published on regular basis:

1. Kick off meeting held in Podgorica
<https://www.ucg.ac.me/objava/blog/1287/objava/158050-span-class-cyrlatignore-kick-off-meeting-span-erasmus-projekta-span-class-cyrlatignore-smartwb-span>

2. SmartWB is presented to colleagues from Granada University at the International staff week in Podgorica
<https://www.ucg.ac.me/objava/blog/616807/objava/160616-predstavljanje-kancelarije-za-projekte-na-medunarodnoj-nedjelji-obuke>

Article published in “Pogled”, the journal of the Engineering Chamber of Montenegro

The dissemination objective is to make results and knowledge created in the project easily available to the stakeholders' groups. To ensure efficient and effective dissemination of knowledge generated in the project, we decided to use this specific magazine to reach the appropriate target audiences (engineers of Montenegro, both researchers and those in industry sector).

The article is critical overview of the main

Montenegrin issues related to sustainable development and climate smart urban development, and the role that high education system may have in these processes.

<http://www.ingkomora.me/cms/public/image/publikacije/4486.pdf>.

Presentation of Erasmus + SmartWB project by partners

Presentation of project in Smart Energy Campus

To inform about the project, main objectives and its interest for partners, companies, and researchers involved in the Smart Energy Campus at the URJC.

<https://www.campusenergiainteligente.es/actualidad/presentacion-del-proyecto-smartwb-innovacion-curricular-en-el-desarrollo-urbano-inteligente-desde-la-sostenibilidad-climatica-basado-en-la-eficiencia-ecologica-y-energetica-con-el-sector-no-academico/>

Notification on the public web page of Faculty of Civil Engineering: <https://fin.edu.al/dgj/erasmus-smartwb/>

Presentation of the SmartWB project at the “2nd International Conference of Civil Engineering – ICCE 2023”, held in Tirana, 18-20 May 2023: <https://www.icce2023.al/>

Notification on the public web page of University of Sarajevo – Faculty of Civil Engineering

Public Notice on the UNSA website about the project
<https://gf.unsa.ba/erasmus-smartwb-project/>

Oral Presentation of Erasmus + SmartWB project to UNSA students

Presentation of the SmartWB project and its importance for UNSA, both for teachers and students-conversation with students and answering questions

Impressum

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smartWB PARTNERS



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