

Demands for Green Jobs in Montenegro vs Capacity of Higher Education Institutions: A Case Study from a capacity building project

Milena Ostojic^{1*}, Olga Čalasan¹

¹University of Montenegro, Faculty of Civil Engineering, Džordža Vašingtona b.b. Podgorica, Montenegro

Abstract. In the world of increasing urbanisation in confluence with climate change, climate-smart urban planning and energy efficiency have become paramount, playing a crucial role in addressing environmental challenges, promoting sustainable development, and ensuring a resilient future for our cities. The role and significance of higher education institutions in climate-smart urban development lie in their capacity to equip students with the knowledge, skills, and innovative thinking required to address the complex challenges of sustainable urbanization, ensuring they meet the demands of the market for green jobs and contribute to a greener future. The paper provides an overview of an ongoing Erasmus+ capacity building project, SmartWB, which aims to enhance higher education in climate-smart urban development and strengthen its alignment with labor market and society in the Western Balkans. A special focus is given to the survey recently conducted in Montenegro, as part of the project, which evaluates industry sector needs for green jobs and climate-smart solutions. The survey structure, which took the form of a questionnaire (sent to the public or private companies and institutions, as well as industrial sector) is outlined, the survey results are discussed, and an assessment is made whether the current higher education system in Montenegro adequately meets the market demands or if adjustments are required, thus highlighting the value of SmartWB project in Montenegro's journey towards a green transition.

1 Introduction

Lately, climate change and its consequential negative impacts have sparked significant discussions within academic circles and among policymakers. A focal point of debate revolves around the most effective strategies to address this issue. The European Commission's report in 2019 highlighted the alarming trend of global warming, which can potentially drive the extinction of a substantial portion of Earth's species. This underscores the urgency of combatting climate change and environmental degradation, which are recognized as transformative global forces. A pivotal milestone in combating this phenomenon was achieved in 2019 with the introduction of the Green Deal, a novel growth

* Corresponding author: milena@ucg.ac.me

strategy designed to disentangle economic growth from resource consumption. The Green Deal sets ambitious targets, including halting net greenhouse gas emissions by 2050, safeguarding the natural assets of the EU, and shielding the well-being of its citizens from the adverse consequences of environmental deterioration [1]. These challenges have amplified the importance of sustainable development as a central theme within contemporary research and policymaking. Sustainable development, as a holistic approach, seeks to balance environmental, economic, and social considerations. The designated Sustainable Development Goals aim to address climate change, environmental conservation, cultural preservation and environmental footprint, while simultaneously fostering economic growth, social equity and global stability.

With these considerations in mind, and aligning with the sustainable development goals, the concept of "green jobs" has emerged as a beacon of hope and practicality. Even though in the literature, there is currently no universally accepted definition of "green job" [2,3], it may be regarded as any decent work that contributes to maintaining and restoring the quality of the environment, whether it is agriculture, industry, services, or administration [4]. Green jobs, at their core, encapsulate roles and professions that actively contribute to preserving and restoring the planet while fostering economic growth and social equity. These jobs span diverse industries, encompassing renewable energy generation, sustainable agriculture, green construction, environmental consulting, waste management, and more.

1.1 Montenegro's sustainable prosperity and the role of green jobs

Since gaining independence, accession to the European Union has stood as the central developmental pathway in Montenegro, significantly driving its journey toward prosperity, and aligning it with the principles of the Green Deal. [5] This trajectory takes on even greater significance considering that Montenegro is constitutionally declared as an ecological state. [6]

In this regard, Montenegro has forged a strategic framework that mirrors the EU's sustainability standards. The National Sustainable Development Strategy until 2030 guides urban growth [7], while the Energy Development Strategy until 2030 (SRE) prioritizes energy security, economic growth, and environmental conservation [8]. This strategic alignment emphasizes energy efficiency's role in securing power supply and curbing greenhouse gases. Moreover, the National Strategy in the Field of Climate Changes by 2030 underscores a holistic approach to tackling energy poverty and advancing climate resilience, demanding intersectoral policy coordination [9].

This dedication to sustainable development aligns with the country's aspiration to harmonize progress with environmental well-being, making fostering green jobs a potent catalyst for both economic growth and ecological harmony within Montenegro. Green jobs could, for example, help in achieving sustainable urban and territorial development, which is possible through planning compact and connected cities and regions and a planning system more aligned with decentralisation [10]. They have the potential to contribute to resolving different issues related to urban development in Montenegro, such as: unsustainable use of renewable natural resources; lack of awareness regarding sustainable urban development principles and practices; irrational and inefficient use of water; inadequate waste management, etc [10]. According to the UNEP/UNDP report [11], Montenegro could open 17,500 new jobs in the next few years by investing in the green economy, primarily in the tourism and related sectors. A total of 95 percent of new green jobs can be opened as a result of introducing energy efficiency measures in construction and transportation. From the standpoint of Montenegro's Directorate for Environment management, potentials for green jobs are in renewable energy sources, recycling, public

and railroad transportation, energy efficiency in buildings, organic agriculture and sustainable small farms, sustainable forestry management and jobs in tourism [12].

More recent projects in Montenegro, dedicated to promoting green jobs and sustainable development are emerging. For example, within “IPA cross-border cooperation programme Montenegro-Kosovo 2014-2020”, the project “Green jobs for better future of cross-border region of Montenegro and Kosovo” was expected to identify and support resources for employment in agriculture, upgrade technical capacities of the farmers and promote agricultural products from the cross border region to the public and businesses [13]. Moreover, UNDP coordinated the project “Growing green business in Montenegro”, which aimed to create a favorable business climate and conditions for private sector investment in low-carbon and other environmentally-friendly businesses in Montenegro, fulfilling the overall objective of stimulating low-emission economic growth and green job creation in Montenegro [14].

1.2 The role of higher education institutions in shaping the green workforce

The rise of green jobs is not solely an environmental imperative but also a strategic response to evolving market dynamics. As governments, businesses, and societies transition towards more sustainable practices, the demand for skilled professionals with expertise in environmental technologies, resource management, and climate adaptation is on the rise. The European Commission [15] defines a green job as being “one that directly deals with information, technologies, or materials that preserves or restores environmental quality. This requires specialized skills, knowledge, training, or experience (e.g., verifying compliance with environmental legislation, monitoring resource efficiency within the company, promoting and selling green products and services)” [3]. Furthermore, the matter of green jobs has highlighted the necessity for proper training of individuals capable of carrying out specialized tasks. For example, some studies point out the existence of significant differences between green and non-green jobs in terms of skills and human capital [3, 16]. Green jobs require higher levels of non-routine cognitive skills, and a greater dependence on formal education, work experience and training [17]. Architects, for example, are now subject to increased knowledge requirements relating to “energy efficient materials and construction, as well as skills associated with integrating green technology” into the design of buildings [18].

This is where higher education institutions assume a pivotal role. These institutions function as centers of learning, nurturing the skills and perspectives required to address the complexities of the modern era. They bridge the gap between theoretical concepts and practical implementation, equipping students to navigate the challenges of climate-smart urban development and excel in the expanding domain of green jobs. In a recent report on existing curricula related to climate smart urban development, a comparison between curricula of 6 EU Member States and third countries associated with the Erasmus + Programme universities (Group 1) and 7 Western Balkans universities, including Montenegro (Group 2), was carried out [19]. A key finding is that the bachelor programs in Group 1 have a higher concentration of “Spatial and Urban planning”, “Energy Efficiency” and “Governance and planning policies” related subjects. Meanwhile, in the bachelor programs of Group 2, there is less or no concentration of such subjects (Fig. 1). Given the significance of these subjects, and their relevance to the present and future demands of the green job market, it becomes evident that the programs in Group 2 require modernizing [19]. This highlights the importance of projects and programs which aim to update and reform the existing university curricula, to align education with the evolving demands of the green job market and foster a workforce that can effectively contribute to sustainable development.

Montenegro's participation in previously mentioned projects that deal with sustainable urban development is of extreme importance for the cooperation and exchange of knowledge and experience. One of the projects that can contribute to the improvement of existing situation in Montenegro is the recently started international project SmartWB, with the Faculty of Civil Engineering of the University of Montenegro at the head of the consortium [20]. The project is explored in the subsequent section.

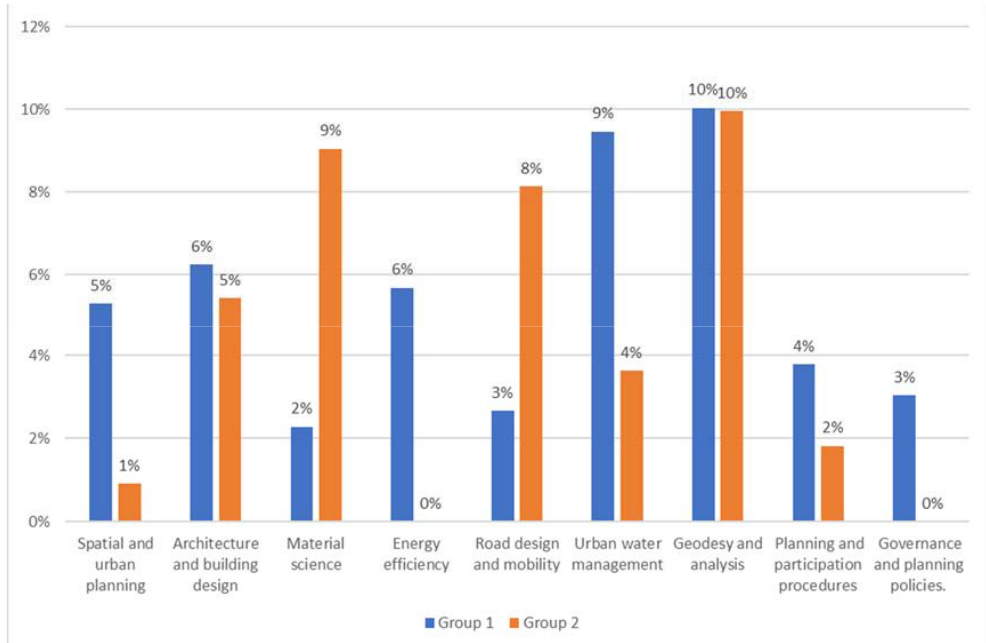


Fig. 1. Bachelor study program: Comparison of curricula from G-2 with curricula from G-1 universities [19]

2 Problem background – SmartWB Project in Montenegro

The 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)", with the runtime range from January 2023 until December 2025, is coordinated by the University of Montenegro. The Project Consortium consists of six higher education institutions (HEIs) from EU Member States and third countries associated with the Programme: Austria, Croatia, Germany, Norway, Spain and Serbia and seven HEIs from targeted countries (Albania, Bosnia and Herzegovina and Montenegro), supported by 5 non-academic partners from the West Balkans region [21].

2.1 Project objectives and expected results

The wider objective of the SmartWB project is to improve the quality of higher education in climate-smart urban development (CSUD) field, strengthen its relevance for the labour market and society, enhancing 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.

One of the most important results will be the interactive web-based platform focused on two aspects. The first covers technical areas such as urban planning systems, construction conditions for private developers, links between land use planning and infrastructure development, land management, and informal construction. The second focuses on the developed action plans. The platform will be adjusted to improve the connection with the local municipalities, focusing on assets, revenues, building permits, and regulatory frameworks for land development and investments. It will be used as an approach for creating a more business-friendly environment which is a key for the development of cities in the region.

2.2 Mapping green job demands in Montenegro through the project

As previously mentioned, the project aims to set up and implement an interactive web-based platform for sharing knowledge and know-how practical examples among project partners and stakeholders. In order to develop the platform, and facilitate work on local climate solutions that can help cities provide positions for green jobs, cross-sectoral collaboration and involvement of a range of stakeholders should be strengthened. One of the steps in this regard is to analyse the needs of the industry sector in the WB region (including Montenegro) and to prepare it to accept the creative potential of WB HEIs. This is why a survey of industry sector needs for green jobs and climate-smart solutions in Western Balkans was conducted. The survey was created based on a questionnaire analysing the present situation in Western Balkans that indicates the level of readiness to cooperate, the user needs and the lack of present cooperation.

Different partners from non-academic sector, as well as the associated partners in the field of CSUD took participation also in forming questionnaires. The feedback will be used to efficiently develop and implement the interactive web-based platform, but also will serve as an input for WB HEIs' courses modernization.

3 Methodology – Outline of the survey of industry sector needs for green jobs and climate-smart solutions

In order to establish permanent cooperation with the non-academic sector, an analysis of the current state of climate-smart urban development (CSUD) in the countries of the Western Balkans (Montenegro being one of them) was carried out in previous stages of the Smart WB project. The results of this analysis, which indicate the degree of readiness for cooperation, the needs of users, as well as the shortcomings of cooperation so far, were inputs for the creation of a questionnaire that was used to analyze the needs of the industrial sector for green workplaces and climate-smart solutions in WB.

Accordingly, a questionnaire was prepared and a survey was created.

3.1 The questionnaire structure

The online questionnaire carried out to reach stakeholders from the WB industry sector to identify needs for green jobs and climate-smart solutions in WB consists of 32 questions divided into five question groups [22]:

- I. **First group of questions** - *Demographics data: country, level of education, career level, employment sector, company, etc.*
- II. **Second group of questions** - *Info about the organizations, their needs and plans related to the green jobs: area of expertise; the area of the company's projects; the*

fields in which the company is hiring a green job specialist; implementing smart cities concept in projects, etc.

- III. **Third group of questions** - *WB country's needs and challenges related to green jobs: current and future main challenges in the country in the implementation of smart city projects; presence of public/private partnerships to promote green jobs; incentives, support mechanisms and government's role in promoting green jobs and CSUD in the country; types of green jobs related to CSUD, energy efficiency, green technologies, and low-carbon industries that should be prioritized, etc.*
- IV. **Fourth group of questions** - *Climate-smart urban development education: adequacy of the country's current education and training programs to meet the needs of the industry for green jobs in CSUD; which professional disciplines need to be studied in more detail to meet the needs of the green industry in CSUD and how; the most important competencies that experts need to perform green jobs; need of implementation of the principles of green engineering in the educational program to address the current and future needs of the community in the European environment, etc.*
- V. **Fifth group of questions** - *Climate-smart urban development future challenges: possibility of reorienting the employees from their primary profession to the field of green jobs; needs of starting a business oriented towards creating green jobs; readiness to adopt new methodologies and technologies to be competitive for future green jobs; familiarity with the European Union standards in CSUD; prioritizing certain green technologies and solutions for urban development in the country, etc.*

3.2 Survey implementation and participant engagement

After the questionnaire had been posted, all WB partners sent it to the public or private companies and institutions as well as industrial sector, where the survey was expected to be conducted. The survey was carried out up to 28th April 2023. A total of 369 respondents participated in the survey [22].

In Montenegro alone, 138 stakeholders engaged to provide feedback on their needs for green jobs and climate-smart solutions, representing 37% of all participants. The following chapter gives an overview of the most important survey results [22].

4 Results of the survey in Montenegro

After processing the received answers, the general overview of the most important survey results and statistics for Montenegro is given for each question group [22]:

I. First group of questions: Demographics data

- 1) Regarding the education level, almost 60% of respondents (57,97%) have Master's degree, followed by 13,04% with Ph.D.
- 2) When it comes to the career level, most of the respondents have a well-established career (70,29%); medium-long careers (6-10 years) have 18,12% of people, while 11,59% are in the early career stage.
- 3) More than 85% of the respondents are employed in public and private (business) sectors, with more or less even distribution between micro, small, medium and large companies.
- 4) Most of the respondents work in scientific, technical and engineering aspects (54,01%) followed by planning and scheduling (15,43%) and supervision (11,11%).

II. Second group of questions: Info about the organizations, their needs and plans related to the green jobs

1) Building design and construction companies are the most represented among the respondents (33,06%); electrical engineering companies are second, while roads engineering is third.

2) Only 12,20% of the companies do not work on projects related to CSUD or similar. Projects related to energy efficiency and sustainable building and construction are the most common, while other projects are much less present.

3) Despite the previous results, one-third of companies do not hire a green job specialist. From those who do, sustainable building and construction specialists and energy efficiency consultants are the most common green job experts. The presence of other specialists is very low.

4) According to the results, almost a quarter of companies have not implemented the concept of smart cities (24,53%). Energy efficiency, environmental protection, and traffic management are the most common projects related to this concept (42,45% combined).

III. *Third group of questions: WB country's needs and challenges related to green jobs*

1) Regarding current and future challenges in the implementation of smart city projects, respondents indicated all proposed options as almost equally important (lack of suitable infrastructure, implementation capacity, political will on smart city initiatives; lack of tech skills and their short-term mindsets, social inclusivity, etc).

2) Only 4,41% of the respondents think there is enough public-private partnership in promoting of green jobs.

3) The respondents think financial and regulatory incentives, public-private relationships and capacity building would encourage businesses to invest in green jobs the most.

4) Based on the answers, professionals in sustainable building design and waste management, and urban planners for low-carbon urban development and renewable energy should be prioritized the most in Montenegro. These jobs have a combined share of almost 60%.

5) Almost half of the respondents think the government's role in promoting green jobs is very high. Only 6,52% think this is not crucial in creating new green jobs.

IV. *Fourth group of questions: Climate-smart urban development education*

1) Current education programs are mostly inadequate to meet the needs of the industry for green jobs. Only 2,17% of the respondents think that existing education is sufficient for solving this problem.

2) In general, several green job disciplines should be studied in more detail in the future. The highest priority, though, is sustainable building and infrastructure design.

3) A multidisciplinary approach is of the highest importance in education when studying the problems of climate-smart urban development.

4) To perform green jobs, future experts need to have an analytical approach (11,02%), an understanding of climate change (9,51%), and be problem-solving oriented (8,12%). Other competencies have lower importance.

5) Similar to the previous point, almost all respondents think green engineering should be studied in the new education programs to meet the EU labor market needs. 7) In half of the cases, the employer recognizes the importance of investing in the education of employees. This is very encouraging regarding creating future green jobs.

6) The respondents think Master's (2-year study), Specialist (one-year study) and Workshops are the most appropriate education forms to meet green-job market needs.

V. *Fifth group of questions: Climate-smart urban development future challenges*

1) Almost 65% of respondents think employees will reorient to green jobs.

2) Based on the answers, there is a high need (85,51%) to start a green business in Montenegro.

- 3) Urban planning for sustainable, low-carbon development has the most chance to be the leading sector in creating new green jobs. Jobs related to sustainable design, green building engineers, and energy efficiency are also highly prioritized.
- 4) Most respondents (78,26%) are ready to adopt new methodologies and technologies to be competitive for future green jobs.
- 5) Only 10,14% of the respondents are familiar with the European Union standards in climate-smart urban development. This is also one of the indicators of the need to create new education programs.
- 6) Energy related and water related green technologies should be prioritized according to the results. A slightly lower priority is smart grids technology.

5 Conclusion and further work

In today's context, where environmental concerns take center stage and the need for sustainable practices is crucial, green jobs have become increasingly important. Green jobs are synonymous with progress and sustainability, moreover, green occupations exhibit significant differences from non-green ones in that they exhibit higher levels of non-routine (e.g. creative problem solving) analytical skills as well as the higher intensity of standard human capital indicators of formal education, work experience and on-the-job training [23]. This is why adequate modernized training and qualified employees are needed to perform these new tasks [24]. In this regard, higher education institutions have a critical role, ensuring that individuals are well-prepared to meet the rising needs of green industries. For example, curricula should incorporate specific, critical topics and discussion (such as thermal comfort, overheating protection, urban heat islands, and other challenges posed by climate change) when it comes to building design or retrofitting. These specialized themes are integral to fostering a comprehensive understanding of sustainable building practices, and their absence raises valid concerns regarding the preparedness of graduates to tackle real-world challenges in the field. Through initiatives like Smart WB, higher education institutions can effectively equip students with the competencies needed to embrace the challenges of climate-smart urban development and contribute meaningfully to the growing field of green jobs.

The comprehensive survey conducted within the framework of the SmartWB project in Montenegro aimed to gauge the industry sector's demands for green jobs and the corresponding state in higher education institution. In examining the survey results, a compelling contrast emerges between the demands for green jobs in Montenegro and the capacity of higher education institutions to meet these demands. The data underscores a significant surge in the need for skilled professionals in various sectors related to climate-smart urban development and green technologies. Notably, the respondents demonstrated a strong desire to transition toward green jobs, indicating a recognition of the economic and environmental benefits of such a shift. This heightened demand is met with a contrasting scenario within higher education institutions. While the survey highlighted the willingness of individuals to adapt to green job roles, it also exposed the inadequacies of current educational programs. The vast majority of respondents expressed dissatisfaction with the existing education system, perceiving it as insufficient to prepare young professionals for green careers.

The survey results also highlight the requirement for potentially advantageous activities that can have a positive social impact. For example, as a first step, competent green job specialists could conduct activities to estimate the capacity of existing buildings to tackle the challenges arising from climate change, such as heat waves and more intense storms. This initial assessment would identify buildings that may not meet the necessary resilience

standards. Then, as a second step, targeted activities could be implemented to improve the performance of these identified buildings. This could include retrofitting measures to install energy-efficient technologies, and implementing green building practices. These actions would result in several significant social benefits. Firstly, the improved overall building resilience would ensure better comfort of their inhabitants during extreme weather events. Additionally, enhanced energy efficiency would lead to lower energy bills for residents, reducing financial burdens and making housing more affordable. Moreover, the adoption of sustainable building practices would contribute to reduced greenhouse gas emissions and overall environmental sustainability, further benefiting society as a whole.

Therefore, as a way of moving forward, it is imperative to act on the survey findings. To bridge the gap between the rising demand for green jobs and the perceived limitations of higher education institutions effectively, a comprehensive reform of educational programs, curricula modernization, and targeted skill development within Montenegro's higher education sector becomes imperative. Initiatives to enhance educational programs, foster public-private partnerships, and create green job opportunities should be prioritized. Future work should focus on aligning education with industry demands, promoting the adoption of green technologies, and raising awareness of EU standards in climate-smart urban development.

By taking these steps, Montenegro can significantly contribute to achieving the Sustainable Development Goals and underscore the vital importance of sustainable development in shaping not only its own future but also the well-being of society at large. The effects of achieving these goals would reflect in creating a more equitable, prosperous and environmentally friendly world for all, leaving a lasting impact on the global pursuit of a sustainable and resilient world.

Acknowledgements

The presented research is a part of the Erasmus+ project: “Curricula innovation in climate-smart urban development based on green and energy efficiency with the non-academic sector (SmartWB)”, ref. no. 101081724 — SmartWB — ERASMUS-EDU-2022-CBHE..

References

- [1] A European Green Deal. Available online: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en (accessed on 20 July 2023).
- [2] A. Bowen; K. Kuralbayeva; E.L. Tipoe, “Characterising Green Employment: The Impacts of ‘Greening’ on Workforce Composition”. *Energy Economics* 2018, 72, pp. 263–275.
- [3] M. R. Stanef-Puică, L. Badea, G. L. Șerban-Oprescu, A. T. Șerban-Oprescu, L. G. Frâncu & A. Crețu (2022). “Green Jobs—A literature review”. *International Journal of Environmental Research and Public Health*, 19(13), 7998.
- [4] UNEP. *Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World; Full Report*; UNEP/ILO/IOE/ITUC: Washington, DC, USA, 2008
- [5] The European Union and Montenegro (no date) EEAS. Available at: https://www.eeas.europa.eu/montenegro/european-union-and-montenegro_en?s=225 (Accessed: 29 August 2023).

- [6] “Deklaracija o ekološkoj državi” (2018) Agencija za zaštitu životne sredine. Available at: <https://epa.org.me/deklaracija-o-ekoloskoj-drzavi/> (Accessed: 29 August 2023).
- [7] Ministry of Ecology, Spatial Planning and Urbanism, the Government of Montenegro (2015): National Sustainable Development Strategy (NSSD) until 2030
- [8] Ministry of Sustainable Development and Tourism, the Government of Montenegro (2015): The Energy Development Strategy (SRE) of Montenegro until 2030
- [9] Delegation of the European Union to Montenegro (2015): National Strategy in the Field of Climate Changes by 2030
- [10] M. Šahinagić-Isović et al. (2023): “Report on WB regional issues related to urban development”
- [11] A. M. Bassi (2012): “Assessing the impact of green economy investments in Montenegro: a sectoral study focused on energy (transport and buildings) and tourism”; Summary Report May 24, 2012; Study prepared for UNEP and UNDP.
- [12] Balkan Green Energy News (2018): “Montenegro can have 17,500 new jobs in green economy by 2020”, Balkan Green Energy News. Available at: <https://balkangreenenergynews.com/montenegro-can-17500-new-jobs-green-economy-2020/> (Accessed: 31 August 2023).
- [13] Green jobs for better future of cross-border region of Montenegro and Kosovo (2021) IPA Cross-Border Cooperation Programme Montenegro-Kosovo 2014-2020. Available at: <https://cbc-mne-kos.org/project-of-the-1st-cfp/green-jobs-for-better-future-of-cross-border-region-of-montenegro-and-kosovo/> (Accessed: 30 August 2023).
- [14] “Growing green business in Montenegro: United Nations Development Programme”, UNDP. Available at: <https://www.undp.org/montenegro/projects/growing-green-business-montenegro> (Accessed: 30 August 2023).
- [15] Flash Eurobarometer 456: SMEs, Resource Efficiency and Green Markets—Data Europa EU. Available online: https://data.europa.eu/data/datasets/s2151_456_eng?locale=en (accessed on 5 May 2022).
- [16] I. Unay-Gailhard; Š. Bojnec, (2019) “The Impact of Green Economy Measures on Rural Employment: Green Jobs in Farms”. *J. Clean. Prod.* 2019, 208, 541–551.
- [17] A. Iddagoda; E. Hysa, H. Bulinska-Stangrecka, O. Manta, (2021): “Green Work-Life Balance and Greenwashing the Construct of Work-Life Balance: Myth and Reality”. *Energies* 2021, 14, 4556.
- [18] N. Sofroniou & P. Anderson. (2021). “The green factor: Unpacking green job growth.” *International Labour Review*, 160(1), 21-41.
- [19] G. Qirjazi and M. Gocić (2023): “Report on existing curricula related to CSUD in EU Member States and third countries non or associated to the Programme”
- [20] I. Čipranić, N. Kopitović Vuković. “Klimatski pametna urbanizacija”, *Časopis Inženjerske komore Crne Gore* “Pogled“, maj 2023.
- [21] Curricula innovation in climate-smart urban development based on Green and energy efficiency with the non-academic sector WBC. Available at: <https://wbc-rti.info/object/project/24079> (Accessed: 30 August 2023).

- [22] E. Hadžić et al. (2023): “Survey of industry sector needs for green jobs and climate-smart solutions in WB” (Naslov i autori reporta)
- [23] D. Consoli, G. Marin, A. Marzucchi, & F. Vona. (2016). “Do green jobs differ from non-green jobs in terms of skills and human capital?” *Research Policy*, 45(5), 1046-1060.
- [24] L. Cardoso, N. Araujo, J.A. Brea, & J. Diéguez-Soto, (2019). “Benefits and risks of green jobs in the construction industry”



Milena Ostojic graduated at the Faculty of Civil Engineering, University of Montenegro, in the field of structural engineering (2018) and then in the field of hydrotechnical engineering (2019). Ms. Ostojic defended her Master's thesis in the field of hydrotechnical engineering in 2021, and is currently a PhD student. Ms. Ostojic has been awarded with “19 December” award of Municipality of Podgorica as the best student of the Faculty of Civil Engineering in 2017.

Ms. Ostojic obtained experience through her work as a civil engineer, developing main designs of hydraulic infrastructure and studies concerning various hydrotechnical engineering fields. Ms Ostojic has been employed at the Faculty of Civil Engineering as a teaching assistant since 2020. During this period, she was engaged in different projects, one of the most important being BORIS project – Cross Border Risk assessment for increased prevention and preparedness in Europe, whose main objective included development of a shared methodology for the management of transboundary seismic and flood risk for participating countries. Recently, she has been engaged in the project “Support to implementation and Monitoring of Water Management in Montenegro”, where she participated in flood risk assessment (for all delineated Areas of Potential Significant Flood Risk in Montenegro) and providing input data for preparation of flood risk maps.



Olga Calasan graduated at the Faculty of Civil Engineering, University of Montenegro, in the field of hydrotechnical engineering (2018) and currently is working on a Master's thesis. Ms. Calasan has more than 4 years of professional experience, which she has obtained through her work on the position of a civil engineer in the area of hydrotechnical engineering. During her career, she has worked on Main designs of hydraulic infrastructure and Studies concerning various hydrotechnical engineering fields. Ms. Calasan has been recently employed at the Faculty of Civil Engineering as a teaching assistant.

Ms. Calasan has obtained vast experience developing Main designs during the implementation of assignments in water management, design of wastewater network, storm water network, as well as water supply systems, project management, design, supervision, etc. Also she has extensive long-term involvement in local assignments related to hydro technical engineering: preparation of design documentation; consulting and engineering services. She has participated in many projects executed in accordance with KfW requirements focusing on water management. Additionally, she has also been engaged on the projects based on FIDIC contracts.