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VETERANS

STATE-OF-THE-ART REPORT

D2-WORK PACKAGE 2 DELIVERABLE

ΑΝΑΧ ΕΝΕΡΓΕΙΑΚΗ · EQUALINE · fifty-fifty Social Innovation & Cohesion Institute · Economic Intelligence Center · Universum International College Powered by Arizona State University

A VET Education Program for Energy and Environment Capacities development in the Western Balkans Entrepreneur Learners VETERANS

ERASMUS-EDU-2023-CB-VET

Project Number: 101129468

Work Package 2: State-of-the-art report on the current situation of VET education and VETERANS added value

Deliverable 2: D2.1 State-of-the-art report

Leading organisation: EQUALINE

Contents

ABSTRACT

The deliverable titled "State-of-the-Art Report on the Current Situation of VET Education and VETERANS Added Value" is a comprehensive analysis designed to map the existing landscape of vocational education and training (VET) within the context of green skills and energy efficiency practices, particularly among entrepreneur learners in the Western Balkan (WB) countries.

This deliverable plays a pivotal role in setting the foundation for future project activities by providing a detailed overview of the current state of VET education and identifying gaps that need to be addressed.

The primary objective of this report is to investigate the existing literature and carry out field research to collect data from VET trainers and entrepreneur learners in the WB countries. This dual approach of desk and field research ensures that the report is both grounded in existing knowledge and enriched by fresh insights gathered directly from key stakeholders in the region.

The findings from this research will be synthesized into a state-of-the-art report, which will critically map the project's focus areas and inform the development of subsequent training programs.

The process begins with the identification of relevant research resources, which includes academic literature, government documents, reports, and best practices related to VET education for entrepreneur learners.

This initial task, carried out in the first months of the project, is crucial as it sets the stage for the entire research process by ensuring that all necessary resources are identified and ready for use.

Following this, the data collection process involves an in-depth study of the identified literature and the execution of field research across the WB countries. This task is designed to provide a comprehensive understanding of the current VET training systems, particularly in relation to green skills and energy efficiency. By mapping the existing situation and identifying the specific needs of VET trainers and learners, this phase of the deliverable equips the project partners with the knowledge required to develop effective and relevant training programs.

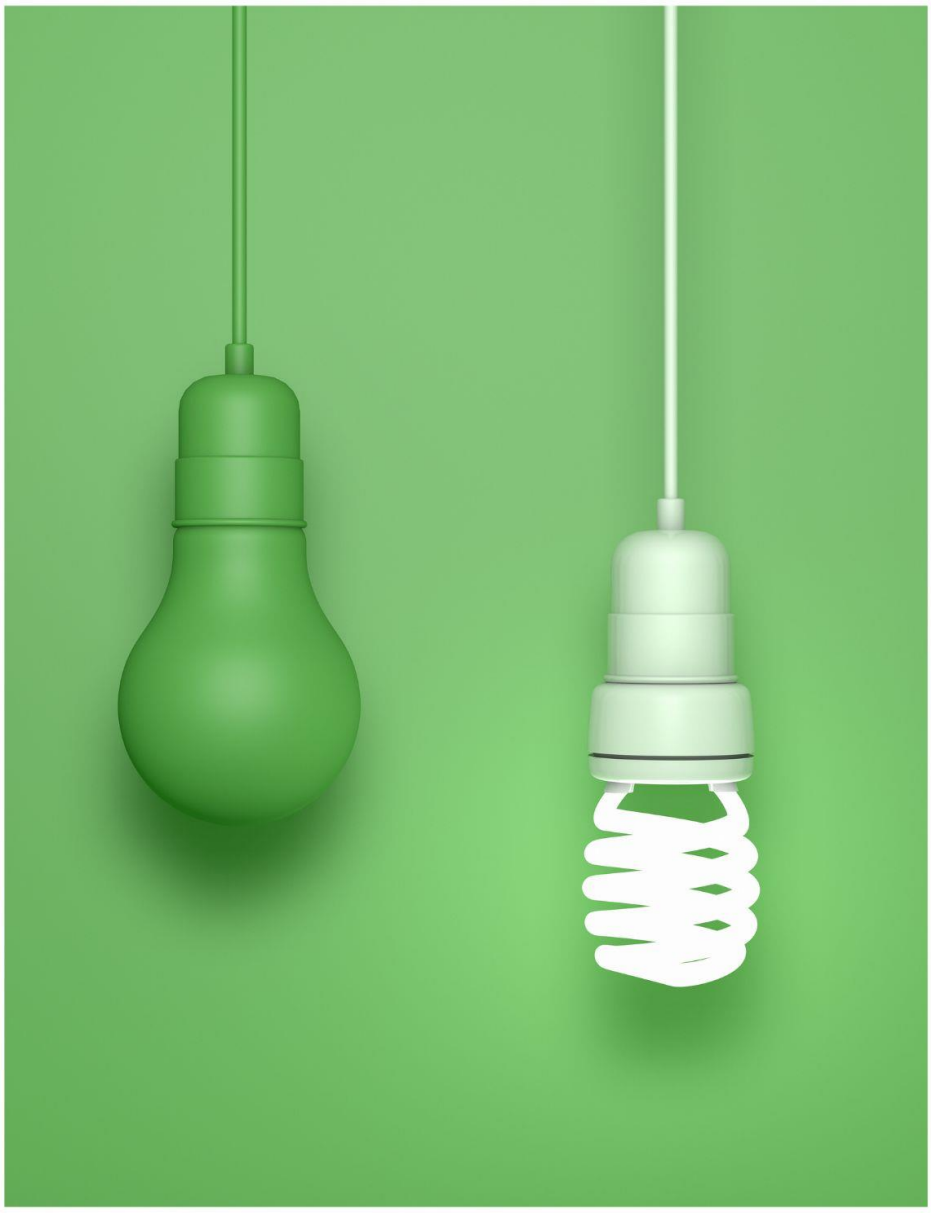
The finalization and evaluation of the research results are critical to the success of this deliverable. The data collected will undergo a thorough evaluation process, with the goal of extracting actionable insights and conclusions about the value of VET training for entrepreneur learners in the WB region. These insights will directly

inform the development of a training program in the next phase of the project, ensuring that the program is tailored to meet the actual needs of the target groups.

A key feature of this deliverable is its emphasis on dissemination. The State-of-the-Art Report is designed with transferability in mind, ensuring that its findings and recommendations can be applied beyond the immediate project partners. To facilitate this, the good practices guide has been translated into all partners' languages, including English, and made available in both electronic and printed formats.

The dissemination strategy includes making the report accessible on an e-Learning platform, ensuring that it reaches all interested parties.

The "State-of-the-Art Report on the Current Situation of VET Education and VETERANS Added Value" is a foundational deliverable that not only maps the current VET landscape in the WB region but also provides critical insights that will shape the development of future training programs. Through its comprehensive research approach and emphasis on dissemination, this deliverable ensures that the project's outcomes are both relevant and impactful, contributing to the broader goals of enhancing VET education and promoting sustainable practices in the green energy sector.



INTRODUCTION

Energy Situation in Europe

For over two decades, the European Union has been actively developing climate and renewable energy policies with the long-term goal of establishing a carbon-neutral economy by 2050. Achieving this vision requires the complete decarbonization of the energy sector and the widespread implementation of renewable energy technologies, including ocean energy. To accelerate the advancement of these technologies, the EU is implementing policies that support emerging industries, foster research and innovation, and promote low-carbon technologies. One of the cornerstone policies is the establishment of renewable energy targets across the EU. The Renewable Energy Directive mandates that by 2030, at least 32% of the energy consumed within the EU must come from renewable sources. The European Commission has proposed raising this target to 40%, which is currently under negotiation by the European Parliament and Council. (*Energy - European Commission*, no date)

In its pursuit of climate neutrality by 2050, the EU aims to cut greenhouse gas (GHG) emissions by at least 55% from 1990 levels by 2030, as stipulated in the EU Climate Law. Achieving this target will demand substantial efforts across all sectors of the economy, including industry, transport, energy, buildings, and agriculture. To support these efforts, the EU is making significant investments in the research and development of environmentally friendly technologies, such as renewable energy, energy storage, and carbon capture and storage. Additionally, the EU is enacting policies and regulations to facilitate the deployment of these technologies, as exemplified by the Renewable Energy Directive's goal to boost the share of renewable energy to at least 32% by 2030. (*Sustainable Development Goals | United Nations Development Programme*, no date a; *Sustainable Development Goals | United Nations Development Programme*, no date b)

On a global scale, the Paris Agreement has established a long-term objective of limiting global temperature rise to well below 2 degrees Celsius above pre-industrial levels, with a preferred target of capping the increase at 1.5 degrees Celsius. To achieve this, countries are required to regularly report on their GHG emissions and progress toward their climate goals. Furthermore, the United Nations' Sustainable Development Goals (SDGs), a set of 17 goals adopted in 2015, aim to eradicate poverty, protect the planet, and ensure prosperity for all. The SDGs are closely aligned with climate action, with Goal 13 specifically dedicated to urgent action to combat climate change and its impacts. (*Sustainable Development Goals | United Nations Development Programme*, no date a), (*The Paris Agreement | UNFCCC*, no date)

Technological frameworks such as eco-design and eco-innovation are crucial for reducing environmental pollution and enhancing resource efficiency. The United Nations Industrial Development Organization (UNIDO) plays a key role in supporting the development and adoption of these frameworks to promote sustainable industrial development. (Lacrosse *et al.*, 2021)

Energy is a critical resource in modern society, essential for economic growth, environmental sustainability, and social progress. Europe's heavy reliance on imported fossil fuels like oil and gas makes it vulnerable to price fluctuations and geopolitical instability in the regions where these fuels originate. Moreover, the use of fossil fuels significantly contributes to GHG emissions and climate change, posing serious risks to the economy and society. The European Union recognizes the importance of energy and has set ambitious goals for energy efficiency and the adoption of renewable energy sources to ensure a more sustainable and secure energy future.

Despite these efforts, the EU continues to face substantial challenges in meeting these targets and ensuring that energy is used efficiently and sustainably.

The risks associated with unsustainable energy practices in Europe include climate change, environmental degradation, and air pollution, among others. These issues not only harm the environment but also have serious consequences for public health, economic development, and social equity.

As such, it is critical to promote sustainable energy practices and raise awareness about energy efficiency education within the VET sector. The needs for energy efficiency education in Europe's VET sector are varied and complex, differing from one country to another. Key areas of focus include enhancing the skills and knowledge of students and workers, promoting the use of renewable energy, and integrating sustainability into educational curricula. To address these needs, the EU has established ambitious targets for energy efficiency and renewable energy. These goals aim to reduce GHG emissions, increase energy efficiency, and expand the use of renewable energy sources. Additionally, the EU has launched several initiatives, including the European Skills Agenda, to ensure that the VET sector provides the necessary skills and knowledge for the green transition. (Eprs, no date; EU Parliament and EU Council, 2013)

Energy efficiency education within the VET sector is vital for advancing a sustainable energy future in Europe. By examining the energy landscape, identifying the challenges and needs for energy efficiency education, and exploring the EU's targets for energy efficiency and renewable energy, we can better understand the challenges and opportunities in this area. Continued investment in energy efficiency education and the promotion of green skills development are essential to building a skilled and sustainable workforce for the future.

Energy Situation in the Western Balkans

The Western Balkans, a region comprising six countries—Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia—faces significant challenges and opportunities in the energy sector. As the region strives to align with European Union (EU) energy policies and targets, it must address its unique circumstances, including its reliance on fossil fuels, aging infrastructure, and varying levels of economic development. The energy transition in the Western Balkans is critical not only for the region's environmental sustainability but also for its economic stability and integration with the broader European energy market. (*Serbia Strengthens Resilience to Climate Change Through Adaptation and 'Green' Innovations | United Nations in Serbia*, no date; *The representatives of the Western Balkans countries reiterated their commitment to the Green Agenda | United Nations Development Programme*, no date; International Renewable Energy Agency (IRENA), 2020)

- **Energy Landscape and Challenges**

The energy systems in the Western Balkans are heavily dependent on fossil fuels, particularly coal, which accounts for a substantial share of electricity generation in several countries. For instance, in Serbia and Bosnia and Herzegovina, coal-fired power plants produce more than 70% of the electricity consumed. This reliance on coal is a significant challenge, as it contributes to high greenhouse gas (GHG) emissions, air pollution, and environmental degradation. Additionally, the region's energy infrastructure is often outdated and inefficient, leading to substantial energy losses and making the energy transition even more challenging.

The Western Balkans also faces issues related to energy security and supply. The region is highly dependent on energy imports, particularly for oil and gas, which makes it vulnerable to external price shocks and geopolitical tensions. For example, Albania imports nearly 60% of its energy needs, primarily in the form of oil and natural gas. This dependency underscores the need for the Western Balkans to diversify its energy sources and increase domestic renewable energy production to enhance energy security and reduce the economic impact of energy imports. (*IRENA – International Renewable Energy Agency*, no date; *EBRD approves new Energy Sector Strategy 2024-28*, no date; *Implementation Report - Energy Community Homepage*, no date)

- **Renewable Energy Potential and Progress**

Despite these challenges, the Western Balkans region has significant potential for renewable energy development, particularly in hydropower, solar, and wind energy. Albania, for instance, generates more than 90% of its electricity from hydropower, making it one of the most hydro-dependent countries in the world.

However, this dependency also makes Albania vulnerable to climate variability, as droughts can significantly reduce electricity production.

Solar and wind energy represent untapped opportunities for the Western Balkans. North Macedonia and Kosovo, for example, have made strides in increasing their solar power capacity, while Montenegro has begun exploring its wind energy potential. However, the overall contribution of solar and wind energy to the region's energy mix remains relatively low compared to the EU average, indicating significant room for growth.

To capitalize on this potential, the Western Balkans must overcome several barriers, including regulatory challenges, lack of financing, and the need for technological upgrades. The region's governments have begun to take steps in this direction by adopting renewable energy targets and aligning their policies with EU directives, such as the Renewable Energy Directive, which aims to increase the share of renewable energy in the energy mix. For example, Serbia has set a target to achieve 27% of its energy from renewable sources by 2030. ('Western Balkans: Directions for the Energy Sector Final Report', 2018; *Serbia Strengthens Resilience to Climate Change Through Adaptation and 'Green' Innovations | United Nations in Serbia*, no date; *EUR-Lex - 52020SC0223 - EN - EUR-Lex*, no date; *Guidelines for the Implementation of the Green Agenda for the Western Balkans - European Commission*, no date)

- **Integration with European Energy Policies**

The Western Balkans' integration into the European energy market is a key component of its energy transition. As part of the EU's Energy Community, the Western Balkans countries are committed to aligning their energy policies with EU standards and regulations. This includes adopting the EU's Third Energy Package, which focuses on liberalizing energy markets, enhancing competition, and promoting renewable energy sources.

One of the major initiatives driving this integration is the EU's Green Agenda for the Western Balkans, launched in 2020. This agenda aims to support the region's transition to a sustainable, low-carbon economy by promoting energy efficiency, decarbonization, and the development of renewable energy. The Green Agenda is aligned with the broader European Green Deal and sets ambitious goals for the Western Balkans, including the reduction of GHG emissions, improvement of air quality, and phasing out of coal.

The EU has also provided financial and technical assistance to support the Western Balkans in achieving these goals. Through instruments such as the Instrument for Pre-accession Assistance (IPA) and the Western Balkans Investment Framework (WBIF), the EU has funded numerous energy projects in the region, including the development of renewable energy infrastructure, energy efficiency improvements, and the modernization of energy grids. (*Status of energy*

efficiency in the Western Balkans : a stocktaking report, no date; *IEA welcomes steps toward reform and integration in the Western Balkans and calls for strengthened institutions, policies and implementation - News - IEA*, no date)

- **Sustainable Development and Energy Efficiency**

Energy efficiency is another critical area for the Western Balkans, as the region's energy intensity remains higher than the EU average. This is largely due to outdated infrastructure, inefficient energy use in buildings and industry, and a lack of public awareness about energy-saving practices. Improving energy efficiency is essential for reducing GHG emissions, lowering energy costs, and enhancing the region's competitiveness.

To address these challenges, the Western Balkans countries have begun to implement energy efficiency measures, such as retrofitting public buildings, promoting energy-efficient appliances, and encouraging industrial energy savings. North Macedonia, for example, has launched a national energy efficiency program that targets the residential sector, aiming to reduce energy consumption by 20% by 2030. Similarly, Montenegro has introduced regulations requiring new buildings to meet higher energy efficiency standards, reflecting the region's growing commitment to sustainable development. (*Energy in the Western Balkans – Analysis - IEA*, no date)

Education and training are also vital components of the energy transition in the Western Balkans. The region needs to build a skilled workforce capable of supporting the development and deployment of renewable energy technologies and energy efficiency measures. Vocational education and training (VET) systems must be updated to include green skills and sustainability principles, ensuring that workers are prepared for the demands of a low-carbon economy.

- **The Role of International Cooperation**

International cooperation is crucial for the Western Balkans as it navigates its energy transition. The region benefits from partnerships with international organizations, financial institutions, and neighboring EU countries, which provide funding, technical expertise, and policy guidance. The Western Balkans also participates in various regional initiatives, such as the Berlin Process, which promotes economic integration and cooperation on energy and infrastructure development.

Moreover, the Western Balkans' participation in global climate agreements, such as the Paris Agreement, underscores its commitment to contributing to global efforts to combat climate change. By aligning its energy policies with international standards and working closely with global partners, the Western Balkans can accelerate its transition to a sustainable and resilient energy system.

The energy situation in the Western Balkans is characterized by significant challenges, including a heavy reliance on fossil fuels, outdated infrastructure, and high energy intensity. However, the region also has considerable potential for renewable energy development, particularly in hydropower, solar, and wind energy. As the Western Balkans seeks to integrate with the European energy market and align its policies with EU standards, it must overcome regulatory, financial, and technological barriers.

The region's transition to a sustainable energy future will require a concerted effort from governments, industry, and the public, supported by international cooperation and investment. By focusing on energy efficiency, renewable energy development, and the integration of green skills into education and training, the Western Balkans can reduce its environmental impact, enhance energy security, and build a more resilient and sustainable economy. As the region moves towards greater alignment with EU energy policies and the goals of the European Green Deal, it is poised to make significant strides in its energy transition, contributing to both regional and global efforts to combat climate change.

METHODOLOGY

The methodology employed for this deliverable was designed to provide a comprehensive understanding of the current state of Vocational Education and Training (VET) systems across the Western Balkans, Greece, and Romania, with a specific focus on the integration of green skills into VET curricula. The approach combined both desk research and field research, ensuring a robust analysis that captures the complexities and nuances of each country's VET landscape. The following sections outline the steps taken, the data collection methods used, and the analytical frameworks applied throughout the research process.

1. Desk Research

- **Objective**: The primary objective of the desk research was to gather and synthesize existing literature, reports, and data on the state of VET systems, the integration of green skills, and the broader context of energy transition in the target countries. This phase aimed to establish a baseline understanding of the challenges, opportunities, and gaps in VET systems related to the green economy.

- **Data Sources**: The desk research involved the collection and review of various sources, including:

- **Academic Literature**: Scholarly articles and papers that provided theoretical insights and empirical data on VET systems, green skills integration, and the energy transition.

- **Government and Institutional Reports**: National reports, strategies, and policy documents from ministries of education, energy, and labor, as well as relevant VET agencies.

- **International and Regional Organizations**: Reports and data from organizations such as the European Union, the International Labour Organization (ILO), the United Nations, and the European Training Foundation (ETF).

- **Case Studies and Best Practices**: Examples of successful integration of green skills into VET programs from other countries and regions, which served as benchmarks for the analysis.

- **Analysis**: The desk research involved a thorough review and analysis of the collected data, with a focus on identifying key trends, challenges, and opportunities related to VET systems and green skills integration. The analysis also sought to contextualize the findings within the broader socio-economic and energy landscapes of the Western Balkans, Greece, and Romania.

2. Field Research

- **Objective**: The field research component aimed to complement the desk research by gathering first-hand insights from key stakeholders involved in VET systems, including trainers, industry experts, decision-makers, and policy makers. This phase focused on understanding the practical challenges and needs related to the integration of green skills into VET curricula.

- **Focus Groups**: The primary data collection method for the field research was the use of focus groups. These group discussions were designed to elicit in-depth insights from participants on specific topics related to VET systems and green skills.

- **Selection of Participants**: Participants for the focus groups were carefully selected to represent a diverse range of perspectives, including:

    - **VET Trainers**: Educators and trainers directly involved in delivering vocational education and training programs, with a focus on those teaching energy-related subjects.
    - **Industry Experts**: Representatives from the green energy sector, including renewable energy companies, industry associations, and technical experts.
    - **Decision-Makers and Policy Makers**: Government officials and policy makers involved in education, energy, and labor sectors, responsible for shaping VET policies and strategies.
    - **Other Stakeholders**: Representatives from NGOs, international organizations, and educational institutions with expertise in VET and green skills.

- **Focus Group Structure**: Each focus group was structured to facilitate open and interactive discussions, guided by a set of predefined questions that covered key areas such as:

    - The current state of VET curricula and the inclusion of green skills.
    - Challenges and barriers to integrating green skills into VET programs.

- The adequacy of existing infrastructure and resources for delivering green skills education.
- The role of industry collaboration and public-private partnerships in enhancing VET programs.
- Policy support and strategic alignment with national and EU-level goals.

- **Data Collection and Recording**: Focus group discussions were recorded (with participants' consent) and transcribed for detailed analysis. Notes were also taken during the sessions to capture non-verbal cues and group dynamics.

➢ **Analysis**: The qualitative data gathered from the focus groups were analyzed using thematic analysis. This involved coding the data to identify recurring themes, patterns, and insights that were relevant to the research objectives. The analysis focused on understanding the common challenges faced by VET systems in the region, as well as identifying potential solutions and best practices that could inform the development of the training program under Work Package 3 (WP3).

3. Synthesis and Reporting

➢ **Objective**: The final phase of the methodology involved synthesizing the findings from both the desk research and field research to develop a comprehensive understanding of the VET landscape in the Western Balkans, Greece, and Romania. The goal was to produce a report that not only documents the current state of VET systems but also provides actionable recommendations for curriculum modernization and the integration of green skills.

➢ **Integration of Findings**: The synthesis process involved integrating the qualitative insights from the focus groups with the quantitative and qualitative data obtained from the desk research. This allowed for a holistic analysis that accounted for both the practical realities on the ground and the broader policy and theoretical frameworks.

➢ **Development of Recommendations**: Based on the synthesized findings, strategic recommendations were developed to address the identified gaps and challenges in VET systems. These recommendations were tailored to the specific needs of each country while also considering regional and EU-level goals for the green economy.

➢ **Validation and Review**: The draft report was reviewed by subject matter experts, including members of the research team and external reviewers with expertise in VET systems and green skills. Feedback from these

reviewers was incorporated into the final report to ensure its accuracy, relevance, and practical utility.

- **Final Report**: The final report was structured to provide a clear and comprehensive narrative that guides stakeholders through the current state of VET systems, the challenges and opportunities related to green skills integration, and the strategic recommendations for future actions. The report was designed to be accessible to a wide audience, including policy makers, educators, industry leaders, and international organizations.

The methodology employed in this deliverable was designed to provide a rigorous and comprehensive analysis of the VET systems across the Western Balkans, Greece, and Romania. By combining desk research with in-depth field research through focus groups, the methodology ensured that the findings and recommendations were grounded in both empirical data and the lived experiences of key stakeholders. This approach not only enhanced the validity and reliability of the research but also ensured that the final report is both actionable and relevant to the needs of the region as it transitions towards a sustainable, green economy.

LITERATURE REVIEW

In this section, data where compiled and summarized from key reports related to the energy sectors of several Western Balkan countries and EU countries. For each country—Albania, Greece, Kosovo, Montenegro, and Romania and Bosnia and Herzegovina —it was created detailed tables that include the title of the report, its type, and the main findings. These summaries provide an overview of each country's progress and challenges in areas such as renewable energy integration, energy efficiency, and the development of green skills through vocational education. This approach offers a consistent and comparative understanding of the energy landscapes across these nations.

Table 1 Table of Research Sources for Albania:(Foundation, no date; Framework and Energy, no date; Turap et al., no date; Conference and Balkans, no date; Channel, 2003; Mertineit, 2013; Kolega et al., 2014; Arizona State University, 2015; Ministry of E

Title of Report	***Type***	***Main Findings***
"Green Schools Final Report"	Research Report	Focuses on the implementation of green initiatives in schools across Albania. Highlights the importance of integrating sustainable practices in educational institutions and the impact on student awareness and behavior. Emphasizes the need for more comprehensive environmental education programs in Albania.
"Balkan Energy Overview"	Energy Sector Overview	Discusses the energy landscape in the Western Balkans, including Albania. Highlights the region's reliance on fossil fuels, particularly coal, and the potential for renewable energy sources like hydropower, solar, and wind.

		The report stresses the importance of aligning with EU energy regulations and improving energy efficiency to reduce GHG emissions and energy losses.
"Balkan Green Foundation Report"	Conference Report	Provides insights from a regional conference on sustainable policies towards EU integration. Discusses energy efficiency, renewable energy, and the challenges of transitioning from coal to renewables in the Western Balkans, including Albania. Highlights the need for regional collaboration and investment in renewable energy projects.
"Broshura Energjite e Rinovueshme"	Informational Brochure	An informational guide on renewable energy sources in Albania, focusing on educating the public about the benefits of renewable energy and practical steps for energy conservation. Emphasizes Albania's potential in hydropower and the need to expand into other renewable sources like solar and wind.
"Eficenca e Energjise"	Energy Efficiency Guidelines	Provides guidelines and recommendations for improving energy efficiency in Albania. Highlights the role of energy-saving practices in reducing electricity consumption and CO2 emissions. The report outlines specific actions for households and public buildings to enhance energy efficiency and reduce energy costs.
"Energy Crisis in the Western Balkans"	Analytical Report	Analyzes the energy crisis in the Western Balkans with a focus on Albania's energy security issues. Discusses the

		impact of outdated infrastructure, high energy losses, and the challenges of diversifying the energy mix. The report calls for urgent reforms and investments in renewable energy and energy efficiency measures.
"Engineering Curricula Modernization"	Educational Report	Discusses the modernization of engineering curricula in Albania to include more focus on green skills and sustainability. The report highlights the need for updated educational programs that align with the demands of a green economy and prepare students for careers in the renewable energy sector.
"EUCENA CEC Study"	Study Report	Investigates the current state of energy education in Albania and the need for curriculum updates to integrate renewable energy and energy efficiency topics. The study emphasizes the importance of building capacity among educators to effectively teach these subjects and meet the future needs of the energy sector.
"Expertise France - Albania Gender and Energy Diagnosis"	Gender and Energy Diagnosis	Examines the intersection of gender and energy issues in Albania. Highlights the disparities in energy access and usage between men and women and the need for gender-sensitive energy policies. The report calls for the inclusion of women in energy decision-making processes and the promotion of gender equity in the energy sector.

"Recommendations for Policy Makers About the Inadequacies of Vocational Education for Construction Workers from the Perspective of Green Skills Concept"	Policy Recommendations Report	Provides policy recommendations to improve vocational education for construction workers in Albania with a focus on green skills. The report identifies gaps in current training programs and suggests integrating sustainability concepts to better prepare workers for the demands of the green construction industry.
"NREAP 2016 Albania"	National Energy Action Plan	Outlines Albania's National Renewable Energy Action Plan, setting a target of 38% renewable energy in gross final energy consumption by 2020. Emphasizes the country's reliance on hydropower and the need to diversify into solar and wind energy. Identifies regulatory and infrastructural challenges that need to be addressed to meet these targets.
"Renewable Energy Policies"	Policy Report	Reviews Albania's renewable energy policies, focusing on the legal and regulatory frameworks that support renewable energy development. Highlights Albania's progress in aligning its energy policies with EU directives and the challenges in implementing these policies effectively, particularly in terms of regulatory enforcement and market integration.
"Report on Future Skills in the Albanian Energy Sector"	Skills Development Report	Analyzes the future skill needs in Albania's energy sector, particularly in the context of the transition to renewable energy. Identifies gaps in current training and education programs and recommends

		updating curricula to include green skills. Emphasizes the importance of vocational training in preparing the workforce for emerging energy technologies.
"RES Progress Report 2020-2021 Albania"	Progress Report	Details Albania's progress towards its renewable energy targets, particularly the integration of solar and wind energy into the national grid. The report notes significant progress in hydropower but highlights the need for further diversification into other renewable sources. It also discusses the regulatory changes necessary to support this diversification.
"Roadmap of Green Entrepreneurship Ecosystem in the Western Balkans"	Strategic Roadmap	Provides a strategic overview of the green entrepreneurship ecosystem in the Western Balkans, including Albania. Identifies key opportunities and challenges for green startups, focusing on the need for supportive policies, access to finance, and capacity building. The roadmap also highlights the importance of regional cooperation in fostering a green economy.
"SEAP-Tirana Final"	Sustainable Energy Action Plan	Presents Tirana's Sustainable Energy Action Plan (SEAP), outlining the city's strategy to reduce CO2 emissions by 20% by 2020. Focuses on energy efficiency measures, renewable energy projects, and sustainable urban planning. The plan emphasizes the role of local governance in achieving national and international climate goals.

"The Fourth National Communication of Albania on Climate Change"	National Communication Report	Reports on Albania's climate change actions and commitments under international agreements. Highlights the country's vulnerabilities to climate change, particularly in the energy sector, and outlines adaptation and mitigation strategies. The report stresses the importance of renewable energy and energy efficiency in Albania's climate strategy.
"Tirana Green City Action Plan (GCAP)"	Urban Sustainability Plan	Outlines Tirana's Green City Action Plan, focusing on sustainable urban development. The plan includes initiatives for improving energy efficiency in buildings, expanding green spaces, and promoting renewable energy. The GCAP emphasizes the need for integrated urban planning to achieve sustainability goals.
"TVET Green Economy"	Vocational Education Report	Discusses the integration of green skills into Technical and Vocational Education and Training (TVET) in Albania. The report identifies gaps in the current TVET system and provides recommendations for incorporating sustainability and green economy principles into vocational training programs to better prepare students for the green job market.
"UNECE Renewable Energy Uptake Factsheet: Albania"	Factsheet	Provides an overview of renewable energy deployment in Albania, highlighting the country's significant reliance on hydropower and the untapped potential for solar and wind energy. The factsheet outlines the current

		policy landscape, renewable energy targets, and the challenges of integrating more renewable energy into Albania's energy mix.

Table 2 Table of Research Sources for Bosnia and Herzegovina: (*Bosnia and Herzegovina - Countries & Regions - IEA*, no date; *FACT SHEET: Energy Policy Activity in Bosnia and Herzegovina | Bosnia and Herzegovina | Fact Sheet | U.S. Agency for International Development*, no date; 'BOSNIA AND HERZEGOVINA ENERGY POLICY ACTIVITY ROADMAP FOR SYSTEMATIC ENERGY EFFICIENCY APPROACHES IN BIH PHOTO CREDIT: USAID ENERGY POLICY ACTIVITY', no date; *Renewables Readiness Assessment: Bosnia and Herzegovina - ERRA*, no date; Balkan Green Foundation, no date; Enerdata, 2022; Aleksić *et al.*, 2023)

Title of Report	***Type***	***Main Findings***
"Renewables Readiness Assessment: Bosnia and Herzegovina"	Assessment Report	This report assesses the potential of renewable energy in Bosnia and Herzegovina and provides a roadmap for integrating more renewable sources into the energy mix. It highlights the need for improved legislative and regulatory frameworks, investment in infrastructure, and strategies for decarbonizing the energy sector to align with EU energy and climate goals.
"Integrated Renewables Strategy for Energy Security"	Strategic Report	The strategy outlines how Bosnia and Herzegovina can achieve energy security and economic prosperity through an integrated approach to increasing renewable energy usage. The report sets a target of 43.6% renewables in gross final consumption by 2030 and emphasizes the importance of preparing the National Energy and Climate Plan (NECP) to meet these goals (IRENA).

"Energy System of Bosnia and Herzegovina"	Country Profile	Provides an overview of Bosnia and Herzegovina's energy system, focusing on the National Environmental Action Plan which aims to increase energy efficiency and the use of renewable energy sources such as hydro, solar, wind, and geothermal. The report stresses the importance of aligning with EU energy standards and enhancing the resilience of the energy sector.
"Energy Policy Activity in Bosnia and Herzegovina"	Fact Sheet	This fact sheet by USAID highlights ongoing efforts to attract investment in Bosnia's energy sector and integrate it into the EU market. It discusses the importance of developing competitive energy markets and reducing dependency on a single source of natural gas. The report also emphasizes the role of the energy sector as a driver of economic growth (USAID).
"Prospects of Renewable Energy Potentials and Development"	Review Article	Reviews the current and future plans for renewable energy development in Bosnia and Herzegovina. The report identifies significant potential in solar PV and wind energy, alongside existing hydroelectric resources, but also notes the challenges posed by the country’s reliance on fossil fuels and the need for more supportive policies and investment.
"National Energy and Climate Plan (NECP) Draft"	Policy Document (Draft)	The draft NECP outlines Bosnia and Herzegovina's strategy for reducing carbon emissions and increasing the share of renewable energy by 2030. It includes specific measures for improving energy efficiency and integrating more renewable energy into the national grid. The

		plan is a key document for aligning with EU climate goals and the Energy Community Acquis.
"Decarbonization of Bosnia and Herzegovina's Energy Sector"	Policy Report	Discusses the steps necessary for the decarbonization of Bosnia and Herzegovina's energy sector by 2050. The report recommends clear targets, incentives, and measures to transition from fossil fuels to renewable energy, particularly in the power sector. It highlights the socio-economic benefits of a diversified energy mix.
"Renewable Energy Legislation and Implementation Challenges"	Legal Analysis	Analyzes the legal and regulatory challenges faced by Bosnia and Herzegovina in implementing renewable energy projects. The report emphasizes the need for streamlined administrative procedures, improved incentives for renewable energy investments, and alignment with EU directives .
"Economic Impacts of the Energy Transition in Bosnia and Herzegovina"	Economic Analysis	This report assesses the potential economic impacts of Bosnia and Herzegovina's transition to renewable energy. It discusses the potential for job creation, economic diversification, and the risks of delayed action on climate change. The analysis underscores the need for proactive investment in renewable energy infrastructure.
"National Renewable Energy Action Plan (NREAP) 2020"	National Action Plan	Outlines Bosnia and Herzegovina's renewable energy targets and strategies for achieving them by 2020. The plan focuses on increasing the share of renewables in the energy mix, particularly through hydropower, wind, and solar

		energy projects. It also identifies key barriers to achieving these targets, including financial constraints and regulatory challenges.
"Energy Efficiency in Bosnia and Herzegovina"	Policy Brief	Discusses the current state of energy efficiency in Bosnia and Herzegovina, highlighting the potential for improvements in residential, commercial, and industrial sectors. The brief outlines policy recommendations for enhancing energy efficiency through technology upgrades, better regulatory frameworks, and public awareness campaigns.
"Bosnia and Herzegovina's Energy Market Integration with the EU"	Integration Strategy Report	This report examines Bosnia and Herzegovina's efforts to integrate its energy market with the European Union. It highlights the importance of aligning with EU market regulations, improving infrastructure, and fostering cross-border energy trade to enhance energy security and market competitiveness.
"Climate and Energy Reforms in Bosnia and Herzegovina"	Reform Progress Report	Provides an overview of the progress made in climate and energy reforms in Bosnia and Herzegovina. The report discusses the challenges of implementing these reforms, particularly in the context of political and economic constraints, and the need for continued international support to achieve climate goals.
"Impact of the EU Green Deal on Bosnia and Herzegovina"	Impact Assessment	Assesses the implications of the EU Green Deal for Bosnia and Herzegovina's energy sector. The report examines how the Green Deal's targets and regulations will affect Bosnia and Herzegovina's energy policies, market structure, and investment

		climate, and provides recommendations for aligning national strategies with EU objectives.
"Renewable Energy Investments in Bosnia and Herzegovina"	Investment Report	Reviews the current state of renewable energy investments in Bosnia and Herzegovina, focusing on the opportunities and challenges for both domestic and foreign investors. The report emphasizes the need for clearer policies, better financial incentives, and reduced bureaucratic hurdles to attract more investments in the renewable energy sector.

Table 3 Table of Research Sources for Greece: (Economic *et al.*, no date; European *et al.*, 2010; Dyer, 2013; European Commission, 2013; Ελληνική Δημοκρατία, 2020; Neofytou *et al.*, 2020; '" Energy Transition and Green Skills " International Online Conference of SMEs Vocational Education Training Providers (VET) A Presentation by Irene Terzidou , Research Fellow', 2021; Trends, 2021; International and Agency, 2023; Leidecker *et al.*, 2023; Maniatis, Doukas and Karagiannis, 2023)

Title of Report	***Type***	***Main Findings***
"Recovery and Resilience Plan Greece"	National Recovery Plan	Outlines Greece's strategy to recover from the COVID-19 pandemic with a focus on green and digital transitions. It includes significant investments in renewable energy, energy efficiency, and green infrastructure. The plan aims to enhance energy security, reduce carbon emissions, and create jobs in the green economy.
"Environmental – Energy - Greece"	Environmental Energy Report	Discusses the environmental and energy challenges facing Greece, including climate change, air pollution, and energy dependency. The report highlights the importance of transitioning to

		renewable energy sources and improving energy efficiency to meet EU climate targets.
"Energy Transition and Green Skills"	Skills Development Report	Examines the impact of Greece's energy transition on the workforce and identifies the need for green skills development. The report emphasizes the importance of updating educational curricula and vocational training programs to prepare workers for jobs in the renewable energy and energy efficiency sectors.
"Energy Efficiency Trends and Policies in Greece"	Policy Analysis Report	Analyzes trends in energy efficiency across various sectors in Greece, including residential, commercial, and industrial. The report reviews existing policies and identifies areas where further improvements can be made to enhance energy efficiency and reduce overall energy consumption.
"A Greek Green Deal"	Strategic Policy Report	This report outlines Greece's version of the European Green Deal, focusing on decarbonizing the economy, increasing renewable energy production, and achieving climate neutrality by 2050. It discusses key policy measures, investment needs, and potential economic impacts of the green transition in Greece.
"Transitioning to a Green Economy in Greece"	Economic Transition Report	Provides an in-depth analysis of Greece's transition to a green economy, focusing on the economic, social, and environmental benefits. The report highlights the challenges of this transition,

		including the need for substantial investment in green technologies and infrastructure, as well as the importance of ensuring a just transition for all stakeholders.
"Build Up Skills-Greece"	Vocational Training Report	Focuses on the development of skills and qualifications in the building sector to support energy efficiency and renewable energy projects. The report identifies key areas where additional training is needed and provides recommendations for improving vocational education and training programs to meet the demands of the green economy.
"Energy Efficiency Contribution to Sustainable Development - A Multi-Criteria Approach in Greece"	Academic Study	This academic study uses a multi-criteria approach to evaluate the contribution of energy efficiency measures to sustainable development in Greece. It highlights the significant role of energy efficiency in achieving sustainability goals and provides a framework for assessing the impact of different energy efficiency initiatives.
"Greece 2023 Energy Policy Review"	Policy Review	Reviews Greece's energy policies as of 2023, focusing on progress towards renewable energy targets, energy efficiency improvements, and alignment with EU climate goals. The report provides an assessment of current policy effectiveness and offers recommendations for future policy development to ensure

		Greece meets its energy and climate objectives.
"Next Generation Plan Greece"	National Investment Plan	Details Greece's Next Generation EU-funded investment plan, which includes significant allocations for renewable energy projects, energy efficiency measures, and green infrastructure development. The plan aims to accelerate Greece's transition to a sustainable economy and ensure long-term energy security and environmental protection.

Table 4 Table of Research Sources for Kosovo: (Sector, no date; Started, no date; Ogulata and Ogulata, 2002; Programme, 2008; Alkalah, 2016; 'PROFILE of School-Based Career Center for VET Schools in Kosovo Prepared by Business Foundation for Education Responsibilities of the career guidance professionals', 2018; 'As per the Danida AMG template, the three points marked with an asterisk * should be presented in the form of bullet points (not more than 3 bullets under each point). 1', 2022; 'Increasing opportunities for VET students and graduates in the labour market', no date; KEEN, 2019; SUYUTI, 2019; World Bank Group, 2019; Rexha and Dragusha, 2020; Economy, Facility and Transition, 2020; Reader, 2021; Balkans *et al.*, 2021; Does and Stand, 2021; Hashi and Education, 2022; Sava Mitrovic, 2022; Beka and Stublla, 2022; Doroci, 2022; Energy, 2023; ETF, 2023; Gap, 2023; Majidova, 2023; MMPHI, 2023; Republic of Kosovo, 2023; Sertolli *et al.*, 2023; WORKS, 2023; Gjukaj *et al.*, 2024; Bruri Triyono and Hariyanto, 2024)

Title of Report	Type	Main Findings
"Linking VET Institutions to Businesses in Kosovo"	Vocational Education Report	Discusses the integration of vocational education and training (VET) institutions with businesses in Kosovo to enhance skill development and employment opportunities. Emphasizes the need for closer cooperation between VET institutions and the private sector to align educational programs with labor market needs, particularly in green energy sectors.

"Kosovo-Denmark Partnership for Green and Just Energy Transition"	Partnership Report	Outlines the partnership between Kosovo and Denmark aimed at supporting Kosovo's transition to a green and just energy system. The report highlights joint projects focused on renewable energy, energy efficiency, and capacity building. It also emphasizes the importance of knowledge transfer and the implementation of sustainable energy policies.
"Economic Payoffs of Energy Efficiency"	Economic Analysis Report	Analyzes the economic benefits of improving energy efficiency in Kosovo, particularly in the industrial and residential sectors. The report provides data on potential cost savings, reduced energy consumption, and the broader economic impact of adopting energy-efficient practices. It underscores the need for supportive policies to encourage energy efficiency investments.
"Green Agenda for the Western Balkans 2023"	Regional Strategic Report	Discusses Kosovo's role in the Green Agenda for the Western Balkans, focusing on aligning with EU climate targets and transitioning to a green economy. The report highlights key priorities, including renewable energy development, energy efficiency, and the circular economy. It also addresses the challenges of implementation in the context of Kosovo's economic and political landscape.
"Solar Energy in Kosovo"	Renewable Energy Report	Explores the potential for solar energy development in Kosovo, identifying key opportunities and challenges. The report

		highlights the current state of solar energy infrastructure, regulatory environment, and investment needs. It provides recommendations for scaling up solar energy projects to contribute to Kosovo's energy transition and reduce reliance on fossil fuels.
"Increasing Opportunities for VET Students in Kosovo"	Skills Development Report	Examines the initiatives aimed at increasing opportunities for VET students in Kosovo, particularly in the renewable energy sector. The report identifies gaps in current VET programs and offers recommendations for enhancing training to better prepare students for jobs in the green economy. It emphasizes the importance of public-private partnerships in achieving these goals.
"Green Economy Transition in Kosovo"	Economic Transition Report	Provides an analysis of Kosovo's transition to a green economy, focusing on the economic, social, and environmental benefits. The report highlights the need for substantial investment in green technologies, renewable energy, and sustainable practices. It also discusses the challenges and opportunities associated with this transition in the context of Kosovo's development goals.
"Renewable Energy Integration and Distributed Generation in Kosovo"	Integration Strategy Report	Discusses the integration of renewable energy sources and distributed generation into Kosovo's energy grid. The report highlights the potential for solar, wind, and biomass energy, as well as the regulatory and technical challenges that need to be

		addressed to facilitate integration. It provides strategic recommendations for improving grid infrastructure and enabling distributed generation.
"Energy Transition Between Privatisation and Market Liberalisation in Kosovo"	Policy Analysis Report	Analyzes Kosovo's energy transition in the context of privatization and market liberalization. The report examines the impact of these processes on energy security, pricing, and investment in renewable energy. It provides policy recommendations to ensure that market reforms support the development of a sustainable and resilient energy system.
"National Energy and Climate Plan of the Republic of Kosovo 2025-2030"	National Policy Document	Outlines Kosovo's strategic goals for energy and climate action from 2025 to 2030. The plan includes specific targets for renewable energy adoption, energy efficiency improvements, and GHG emissions reduction. It also details the policy measures, investments, and regulatory changes needed to achieve these targets in alignment with EU climate policies.
"Energy Strategy of the Republic of Kosovo 2022-2031"	Long-term Strategic Plan	Provides a comprehensive overview of Kosovo's energy strategy for the period 2022-2031. The strategy focuses on diversifying the energy mix, increasing renewable energy capacity, enhancing energy security, and reducing environmental impacts. It includes an action plan with specific projects and initiatives to be implemented over the next decade.

"Skills for the Green Transition in Kosovo"	Skills Development Report	Focuses on the need to develop green skills among the workforce in Kosovo to support the country's transition to a sustainable economy. The report identifies key sectors where green skills are needed, such as renewable energy, energy efficiency, and sustainable agriculture. It also provides recommendations for updating educational curricula and vocational training programs.
"Renewable Energy Integration and Distributed Generation in Kosovo"	Technical Report	This report discusses the challenges and opportunities of integrating renewable energy and distributed generation into Kosovo's energy grid. The focus is on solar, wind, and biomass energy, with recommendations for improving grid infrastructure and regulatory frameworks to support these technologies.
"A Comprehensive Review of Kosovo Energy Efficiency Policy"	Policy Review	Provides a detailed review of Kosovo's energy efficiency policies, focusing on the effectiveness of current measures and identifying areas for improvement. The report highlights the need for stronger enforcement of regulations, better incentives for energy efficiency investments, and increased public awareness of energy-saving practices.
"Circular Economy in Kosovo"	Environmental Strategy Report	Explores the concept of the circular economy in Kosovo and its potential to contribute to sustainable development. The report discusses current practices, challenges, and opportunities for implementing circular economy principles in various sectors, including

		waste management, manufacturing, and energy production. It provides recommendations for fostering a circular economy in Kosovo.
"Kosovo-Country-Report: Findings from the Skills Towards Employment and Productivity Survey"	Survey Report	Presents the findings of a survey conducted to assess the skill levels and training needs of the workforce in Kosovo. The report highlights the importance of aligning educational programs with market demands, particularly in the green economy. It provides data on employment trends, skill gaps, and recommendations for improving vocational education and training in Kosovo.

Table 5 Table of Research Sources for Montenegro: (Janssen, Lee and Berkeley, no date; Landscape, no date; Rivki *et al.*, no date a, no date b; Uvod, no date; 'Re p u b l i k a C r n a G o r a V l a d a R e p u b l i k e C r n e Go r e Akcioni plan Integracija odr ivog razvoja u obrazovni sistem za period 2007-2009 . godine', 2009; 'GORE DO 2030 . GODINE (Bijela knjiga) Predgovor', 2014; 'Crna gora | 20.', 2020; 'KOMUNIKACIONA STRATEGIJA FONDA ZA', 2024; 'O PROBLEMIMA ZAŠTITE', no date; *Vrednovanje i planiranje prostora - održivi gradovi i naselja*, no date; 'Strategija+razvoja+strucnog+obrazovanja+u+Crnoj+Gori+ (1)', no date; 'Report on Quality of EIA / SEA for the Hydropower Projects in the Western Balkans Country report : Montenegro', no date; 'ECO SCHOOLS IN MONTENEGRO', no date; 'Ja znam ja osjećam ja činim', no date; Kalea, 2014; Patel, 2014; ECPAT Brasil, 2015; Gora, 2015, 2023; Implementaciju, 2015; Vujadinovic and Karadzic, 2016; Council of the European Union, 2018; With and Recommendations, 2019; (Italy) and (Switzerland), 2020; Co-PLAN, 2020; Djurisic *et al.*, 2020; Licastro and Sergi, 2021; Vukić, Jovanović and Todorović, 2021; Yildirim, 2021; Eurydice, 2023; Ignjatović, Filipović and Radovanović, 2024)

Title of Report	***Type***	***Main Findings***
"SELFIE WBL Montenegro"	Vocational Training Report	Examines the implementation of the SELFIE WBL (Work-Based Learning) tool in Montenegro's vocational education and training (VET) system. Highlights the benefits of aligning VET curricula with industry needs, particularly in sectors related to renewable

		energy and green technologies. Emphasizes the importance of industry partnerships in enhancing student outcomes.
"Action Plan for the Integration of Sustainable Development in the Education System 2007-2009"	Educational Action Plan	Provides a comprehensive plan for integrating sustainable development principles into Montenegro's education system, including the promotion of energy efficiency and renewable energy education. The action plan outlines specific measures to incorporate sustainability into school curricula and training programs across various educational levels.
"Analysis of Public Attitudes and Perceptions Towards Renewable Energy"	Public Opinion Analysis	Analyzes public attitudes and perceptions towards renewable energy in Montenegro. The report highlights a general awareness and support for renewable energy, but also identifies barriers such as limited knowledge and misconceptions. It recommends public awareness campaigns and educational programs to improve understanding and acceptance of renewable energy technologies.
"Analysis on Household Pollution in Montenegro 2020"	Environmental Analysis	This report examines the sources and impacts of household pollution in Montenegro, with a focus on energy consumption practices. It highlights the significant contribution of inefficient energy use to air pollution and greenhouse gas emissions. The report recommends enhancing energy efficiency in homes through better insulation, modern heating systems, and public awareness.
"Brošura - Obnovljivi Izvori Energije"	Informational Brochure	Provides an overview of renewable energy sources in Montenegro, including hydro, wind, solar, and biomass energy. The brochure educates the public about the benefits of renewable energy and the potential for Montenegro to

		harness these resources. It also discusses the environmental impact of fossil fuels and the importance of transitioning to clean energy (Brosura___Obnovljivi_iz…).
"Challenges of the Green Transition"	Strategic Report	Discusses the challenges Montenegro faces in transitioning to a green economy, particularly in the energy sector. The report highlights the need for substantial investment in renewable energy infrastructure, regulatory reforms, and capacity building. It also emphasizes the importance of regional cooperation and alignment with EU climate policies to achieve a successful green transition.
"Contribution Report Montenegro 2020"	National Contribution Report	This report details Montenegro's contributions to international climate agreements and its progress towards meeting its national renewable energy and energy efficiency targets. It highlights key achievements in renewable energy deployment and the challenges that remain, particularly in terms of financing and regulatory support.
"Guide for Implementing the Eco-Schools Program"	Educational Guide	Provides guidelines for implementing the Eco-Schools program in Montenegro. The guide focuses on integrating environmental education into school activities, promoting energy efficiency, waste reduction, and sustainable practices. It offers practical steps for schools to become more environmentally friendly and engage students in sustainability initiatives.
"Written Contribution to EU Country Report on Montenegro"	Policy Contribution Report	A report that contributes to the EU's assessment of Montenegro's progress in aligning with EU environmental and energy policies. The report highlights areas where

		Montenegro has made significant strides, such as renewable energy adoption, while also identifying challenges, including regulatory barriers and the need for further capacity building in the energy sector.
"Energy Efficiency Contribution to Sustainable Development in Montenegro"	Policy Brief	Discusses how energy efficiency contributes to sustainable development in Montenegro. The brief emphasizes the need for stronger enforcement of energy efficiency regulations and the integration of energy-saving practices into both the public and private sectors. It also calls for increased investment in modernizing energy infrastructure to reduce energy consumption and emissions.
"Renewable Energy Integration and Distributed Generation in Montenegro"	Integration Strategy Report	Examines the integration of renewable energy sources and distributed generation into Montenegro's energy grid. The report highlights the potential for solar and wind energy, as well as the challenges of connecting these sources to the grid. It provides strategic recommendations for improving grid infrastructure and supporting the growth of distributed renewable energy projects.
"National Energy and Climate Plan (NECP) of Montenegro"	National Policy Document	Outlines Montenegro's National Energy and Climate Plan, which includes targets for renewable energy adoption, energy efficiency, and greenhouse gas emission reductions. The plan details the policies and measures Montenegro will implement to meet these targets by 2030, in line with EU climate objectives. It also addresses the challenges of financing and regulatory alignment.
"Circular Economy in Montenegro"	Environmental Strategy Report	Explores the potential for developing a circular economy in

		Montenegro, focusing on reducing waste and promoting the efficient use of resources. The report highlights current practices, challenges, and opportunities for implementing circular economy principles in various sectors, including energy, manufacturing, and waste management. It provides recommendations for policy and practice improvements.
"Renewable Energy Sources in Montenegro: Potential and Challenges"	Research Report	Provides an in-depth analysis of the potential for renewable energy development in Montenegro, including hydro, solar, wind, and biomass. The report identifies key challenges, such as regulatory barriers, financing, and grid infrastructure, and offers recommendations for overcoming these obstacles to fully exploit Montenegro's renewable energy potential.
"Energy Strategy of Montenegro 2022-2031"	Long-term Strategic Plan	Outlines Montenegro's energy strategy for the period 2022-2031, focusing on diversifying the energy mix, increasing renewable energy capacity, and enhancing energy security. The strategy includes specific projects and initiatives aimed at achieving these goals and aligns with broader EU climate and energy policies.

Table 6 Table of Research Sources for Romania: (‘Sustainable day in Romania.pdf’, no date; *GreenComp in Vocational Education and Training : State of Art and Best Practices in Romania*, no date; Turap *et al.*, no date; Sima and Georgiana, 2014; Rumanía, 2020; Calu *et al.*, 2023; MELELO, 2023; Ni, 2023; For and Buildings, 2024)

Title of Report	***Type***	***Main Findings***
"Coal in Romania - A Review of Coal-Based Assets and Their Environmental Impact"	Environmental Impact Report	Reviews the coal-based energy assets in Romania and their environmental impacts. The report highlights the significant pollution caused by

		coal power plants, the need for a coal phase-out by 2032, and the challenges posed by outdated infrastructure. It emphasizes the urgent need for transitioning to renewable energy sources to meet EU climate targets (2021_08_Report-Coal-in-…).
"Can We Speak About Transition to Green Economy in Romania?"	Economic Analysis Report	Discusses Romania's transition to a green economy, focusing on the challenges and opportunities in achieving sustainable development. The report highlights the need for green jobs, eco-innovation, and the adoption of green technologies. It also reviews Romania's strategies and policies aimed at promoting a low-carbon economy and sustainable economic growth (CAN WE SPEAK ABOUT TRAN…).
"GreenComp in Vocational Education and Training: State-of-Art and Best Practices in Romania"	Vocational Training Report	Examines the integration of green competencies into Romania's vocational education and training (VET) system. The report identifies best practices and provides recommendations for enhancing the VET system to better prepare students for the green economy. It emphasizes the importance of aligning VET curricula with market demands for green skills.
"Implementation of Energy Efficiency Improvement Measures in Romania and the Role of Professional Accountants"	Policy Analysis Report	Analyzes the role of professional accountants in implementing energy efficiency measures in Romania. The report discusses the importance of energy audits, financial planning, and compliance with energy efficiency regulations. It

		highlights the potential cost savings and environmental benefits of adopting energy-efficient practices in businesses.
"Labour Market Trends in Romania in the Context of Green Economy"	Labour Market Analysis Report	Provides an analysis of labor market trends in Romania as the country transitions to a green economy. The report discusses the demand for green skills, the impact of green jobs on employment, and the need for updating educational programs to meet the evolving needs of the green economy. It also highlights the role of public policy in supporting green job creation.
"Policy Paper: Revised Effort Sharing Regulation Target in Romania"	Policy Recommendation Report	Discusses Romania's revised targets under the Effort Sharing Regulation (ESR) and the implications for the country's energy and climate policies. The report provides policy recommendations for achieving the new targets, including the need for increased investment in renewable energy and energy efficiency. It also addresses the challenges of meeting the revised ESR targets.
"The 2021-2030 Integrated National Energy and Climate Plan"	National Policy Document	Outlines Romania's strategic goals for energy and climate action from 2021 to 2030. The plan includes specific targets for renewable energy adoption, energy efficiency improvements, and greenhouse gas emission reductions. It details the policy measures, investments, and regulatory changes needed to achieve these targets in alignment with EU climate policies.

"11 Links to Articles about VET and Green Energy in Romania"	Resource Compilation	A compilation of articles and resources related to vocational education and training (VET) and green energy in Romania. The document provides links to various studies, reports, and articles that discuss the integration of green skills into the VET system, the role of green investments, and the future of work in the green economy in Romania

BASIC CONCLUSIONS BASED ON THE LITERATURE REVIEW

The "Balkan Energy Overview" (June 2017) provides an analysis of the energy sectors within the Western Balkan countries (Albania, Bosnia and Herzegovina, Kosovo, Republic of North Macedonia, Montenegro, and Serbia). These countries are on a path to align their energy policies with EU regulations as they aspire to join the European Union. However, progress has been slow, with many nations struggling to meet the criteria set by the Energy Community Treaty. The report highlights significant challenges, including the legacy of conflict in the region, outdated energy infrastructure, and high electricity losses, particularly in Kosovo and Albania, where distribution losses are around 32%.

Renewable energy, especially hydropower, plays a significant role in the energy mix of these countries, with Albania relying almost exclusively on hydropower. However, despite the recognized potential for other renewables like wind and solar, these resources remain underutilized. The report points to a lack of incentives and regulatory frameworks as major barriers to renewable energy development.

Energy efficiency is also a major concern in the Western Balkans, with the region's energy intensity being three times higher than the EU average. Poor insulation, outdated infrastructure, and inefficient energy use contribute to high demand fluctuations, often leading to blackouts and impacting economic development.

ALBANIA

- **General Overview**

Climate change aspects in Albania Albania's total greenhouse emissions are relatively low (8,4 M tons in 2009, of which roughly 60% is of the CO2 emissions) it is aiming to take its fair share from the efforts to avoid dangerous climate change. The country has unique emission profile as its electricity generation is based on renewable source generation at currently, with hydro power providing dominant part of it. Unfortunately, this hydro power capacity is vulnerable to climate change impacts. The unique electricity mix of Albania is positive in the sense that electricity system is on a level of decarbonization what other countries aim for only on the long term, but it also means that there is limited opportunity for further policies and measures in this sector to reduce emissions. Maintaining the low greenhouse gas emission content of the electricity generation and decoupling growth from increase of greenhouse gas emissions in other sectors are the primary drivers of the country regarding mitigation contribution as its Intended Nationally Determined Contribution (INDC). Having high uncertainty of data regarding non-CO2 greenhouse gases results that Albania is to provide its INDC regarding CO2. If data quality of non-CO2 greenhouse gases improves, Albania intends to expand its INDC to other greenhouse gases as well.

The EUCENA CEC Study[1] outlines the regulatory framework and potential for Citizens Energy Communities (CECs) in Albania. It is part of the European Climate Initiative (EUKI) and highlights Albania's efforts in aligning with EU standards on energy efficiency and renewable energy (RE). Key Concepts Energy Communities: Defined under EU directives, these communities involve voluntary and open participation, focusing on environmental, economic, or social benefits rather than financial profits. They engage in various activities such as renewable energy generation, distribution, and energy efficiency services. Prosumer and Energy Citizenship: Concepts emphasizing that citizens are not just energy consumers but also producers. Energy citizenship involves a broader participation in energy schemes, including owning or operating distribution grids and supplying energy.

Albania is striving for a reliable and sustainable energy sector that meets its energy demands while adding value for its citizens. This development is aligned with environmental, economic, and social responsibilities. The Albanian government plays a crucial role in creating an investment-friendly environment and reducing risks for investors through a transparent strategic energy policy framework. Key objectives include competitiveness, security of supply, and sustainability, with policies promoting renewable energy sources and energy efficiency.

- **Renewable Energy Potential**

Hydropower: Albania currently relies heavily on hydropower for its electricity. However, this dependency poses challenges during periods of low water flow. To address this, Albania is liberalizing its electricity market and introducing incentives, such as feed-in tariffs for small hydropower plants, to attract investments in renewable energy technologies.

Solar Energy: Albania has significant solar energy potential due to its geographical position, offering more than 1500 kWh/m² per year in most areas. Active solar energy exploitation is mainly through systems that use flat collectors for hot water, space heating, and potentially electricity generation via photovoltaic systems. Several studies and pilot projects are underway to enhance solar energy use, supported by grants and awareness campaigns.
Wind Energy: Albania has ambitious plans to develop wind energy, aiming for 2000MW of new generation capacity. The best locations for wind farms are in coastal lowlands, northern hills, and southern and eastern mountains. Several wind farm projects are licensed, and feasibility studies are being conducted to assess their potential.
Geothermal Energy: Albania has geothermal resources in the form of warm water sources and deep wells, which can be used for heating purposes. Notable geothermal sites include Ardenica, Kruja, and Peshkopi. However, the utilization of geothermal energy is still under study, and no significant projects have been implemented yet.
Biomass Energy: Albania's forests, covering 36% of its land, provide a substantial biomass energy potential. Sources include forest residues, industrial wood residues, and short-rotation plantations. The sustainable annual harvesting possibility is estimated at 1,152,000 m³, with significant potential for bio-energy production from firewood, branches, and residues.

- **National Energy Efficiency Action Plan (NEEAP)**

The NEEAP aims to improve energy efficiency in Albania, targeting a 9% reduction in energy consumption by 2018. It includes measures across residential, service, industry, transport, and agriculture sectors. Key actions include legal framework adoption, enforcement of building codes, financial incentives for energy efficiency investments, ESCO market development, and awareness campaigns. Legal Framework and Policies Albania is developing new legislation to promote renewable energy and energy efficiency. Key laws and regulations include: Law on Heat Saving: Mandates technical parameters for energy-efficient building construction. Building Codes: Establish requirements for heat conservation in buildings. Law on Energy Efficiency: Creates a framework for promoting energy efficiency across all sectors. Law on Renewable Energy: Supports the use of renewable energy sources and establishes a renewable energy fund. Certification of Electricity Generation: Procedures for certifying and issuing guarantees of origin and green certificates for renewable energy producers. Support Mechanisms The Albanian government is working on support mechanisms such as feed-in tariffs and green certificates to encourage investments in renewable energy. These mechanisms aim to facilitate the trading of renewable energy certificates with other European countries. Conclusion Albania is actively working to diversify its energy mix and enhance energy efficiency through substantial investments and supportive legal frameworks. The focus on renewable energy sources, such as hydropower, solar, wind, geothermal, and biomass, combined with strategic energy policies and action plans, aims to create a sustainable and secure energy future for the country.

The Albanian Government has approved the 1st and the 2nd NREAP and they are defining the RES targets for all electricity, transport and heat sectors. The NREAP is based on Albania's obligations as a Contracting Party to the Energy Community Treaty to comply with EU Directives on the promotion of renewable energy sources. Albania is obliged to increase the portion of renewables to 38% of the total final energy consumption by 2020, which should be further increased up to 42.5% by 2030.

The "Balkan Energy Overview" aligns closely with the findings and recommendations of the "Green Energy-Efficient Schools for Albania" report. Both reports highlight the critical need for improved energy efficiency and the potential for renewable energy in Albania and the broader Balkan region. The challenges identified in the regional energy overview, such as high electricity losses, poor infrastructure, and the underutilization of renewable resources, are directly relevant to the context of Albanian schools.

Several projects and initiatives have been implemented to promote energy efficiency and renewable energy in Albania:

- **BLUE DEAL Project**

The BLUE DEAL Project is a European initiative co-financed by the European Regional Development Fund and the Instrument for Pre-Accession Assistance Fund. It aims to increase transnational activity of innovative clusters and networks in the blue energy (BE) sector. The project focuses on the development and implementation of blue energy technologies, such as offshore wind and wave energy, in the Port of Durrës. It involves a series of Blue Deal Labs designed to develop solutions for exploiting marine energies and engaging SMEs and other companies through open innovation sessions.

Buildings' Refurbishment in Dropulli Municipality

This initiative targets the refurbishment of buildings in Dropulli Municipality to enhance energy efficiency. Energy audits are performed by certified experts to measure building envelopes, estimate current U-values, and analyze energy bills. The audits lead to recommendations for energy efficiency measures, including the installation of solar lighting systems to reduce power and fuel consumption.

- **TARGET Project**

The TARGET Project aims to promote and implement energy efficiency and renewable energy sources (RES) in public buildings in Gjirokastra. The project fosters cross-border cooperation and knowledge exchange between Greece and Albania. It focuses on achieving energy savings, improving energy efficiency in the construction sector, and using smart Information and Communication Technology (ICT) to demonstrate sustainable energy applications in public schools.

- **LED Project**

The LED Project aims to enhance energy efficiency in public schools and promote the use of renewable energy sources. It focuses on improving end-user behavior towards energy efficiency, reducing energy consumption, and raising social

awareness about energy saving. The project includes the creation of experiential laboratories powered by solar energy in selected schools, where students can learn about the benefits of energy efficiency and renewable energy in practice.

- **Cross-Border Cooperation for Energy Efficiency Using Solar Energy**

This project, developed by the municipalities of Preveza (Greece) and Finiq (Albania) in collaboration with the University of Ioannina, aims to address climate change impacts and promote sustainable regional development. It involves the installation of photovoltaic cells in the wastewater treatment plant of Louros, Preveza, and energy efficiency investments in the Municipality of Finiq. The project also includes an energy efficiency awareness platform for the general public.

- **Alterenergy Project**

The Alterenergy Project focuses on energy sustainability for small communities in the Adriatic area. It was the first strategic project funded within the cross-border Cooperation Program IPA-Adriatic 2007-2013, involving 18 organizations from countries such as Italy, Albania, Bosnia and Herzegovina, Croatia, Greece, Montenegro, Serbia, and Slovenia. The project aimed to promote sustainable energy practices and improve energy efficiency in small communities.

- **Energy Audit Report at Kindergarten No. 43 in Tirana**

The concept of energy auditing is relatively new in Albania. This project, supported by the Swedish Embassy and the Regional Environmental Center, involved conducting an energy audit at Kindergarten No. 43 in Tirana. The project aimed to develop a guide on energy auditing for municipal experts, providing them with the knowledge and tools to manage energy consumption in municipal buildings.

- **Developing a Smart Energy Community**

Part of the Interreg IPA CBC Italy-Albania-Montenegro Programme, this project focuses on adopting European standards in renewable energy sources (RES), rational use of energy (RUE), and energy systems (ES) for the public and private sectors. Led by the University "Ismail Qemali" Vlore in partnership with Unimediteran University from Montenegro and CNA Lecce Italy, the project aims to create local expertise for smart energy implementation and promote a culture of energy efficiency.

- **PASSAGE Project**

The PASSAGE Project is a cross-border initiative to develop a low-carbon economy in European maritime border regions, including the Straits of Otranto and Corfu. Partners include the Province of Lecce (Italy), Region of Ionian Islands and InnoPolis (Greece), and the Regional Council of Vlora (Albania). The project

focuses on producing clean and affordable energy through Energy Communities, promoting social and solidarity-based economy, tackling energy poverty, and enhancing local acceptance of renewable energy sources and energy efficiency. Actions include creating a reference website, raising awareness through social media campaigns and roadshows, and promoting energy communities at local and regional levels.

Albania is actively working towards fostering green entrepreneurship through various programs, supported by international and local organizations, government initiatives, and innovative projects. The ecosystem for green entrepreneurship is growing, though it still faces challenges such as the lack of a common definition and understanding, and the absence of a dedicated national network.

- **VET Landscape**

Albanian universities offer various programs related to renewable energy, including bachelor's, master's, and professional studies in electric engineering, energy management, and energy auditing. These programs aim to equip students with technical knowledge and practical skills relevant to the energy sector. The current programs need updates to include more information on renewable energy, smart grids, energy efficiency management, and sustainability.

The ENGINE project[2] focuses on modernizing engineering curricula in renewable energy at Albanian universities. It aims to align education with market needs, enhance vocational education and training (VET), and integrate modern technologies into engineering education. Recommendations include:

- Incorporating courses on the latest renewable energy technologies.
- Enhancing practical training through simulation programs and laboratory equipment. Aligning curricula with technological advancements and market demands.
- Market Alignment

Incorporating Courses on the Latest Renewable Energy Technologies
Need for Modernization

- Emerging Technologies: Courses should cover emerging renewable energy technologies like advanced solar photovoltaics, wind turbine innovations, bioenergy advancements, and the latest in energy storage solutions.
- Interdisciplinary Approach: Integration of courses that combine engineering with environmental science, economics, and policy studies to provide a holistic understanding of renewable energy.

- Industry Standards: Curricula should be updated to reflect current industry standards and practices, ensuring that students are equipped with relevant knowledge and skills.

Implementation Strategies

- Curriculum Development: Universities should collaborate with industry experts and international educational bodies to develop and update course content.
- Workshops and Seminars: Regular workshops, seminars, and guest lectures by industry professionals can help keep students and faculty abreast of the latest developments.

- **Enhancing Practical Training Through Simulation Programs and Laboratory Equipment**

Current State: Practical training in Albanian renewable energy programs is often limited due to outdated laboratory equipment and a lack of modern simulation tools.

Need for Modernization

- Hands-On Experience: Practical training is crucial for understanding complex renewable energy systems and technologies.
- Simulation Software: Using advanced simulation software can help students model and analyze renewable energy systems, conduct virtual experiments, and solve real-world problems.

Implementation Strategies

- Investment in Laboratories: Universities should invest in modern laboratory equipment that aligns with the latest technological advancements.
- Partnerships with Industry: Establishing partnerships with renewable energy companies can facilitate the donation of equipment and provide opportunities for internships and hands-on training.
- Simulation Tools: Integration of simulation tools such as MATLAB, Simulink, PVsyst, WindSim, and other industry-standard software into the curriculum.

- **Aligning Curricula with Technological Advancements and Market Demands**

Current State: There is a gap between the skills taught in current renewable energy programs and the needs of the rapidly evolving job market.

Need for Modernization

- Market-Relevant Skills: Graduates need skills that are directly applicable to current and future job markets, including expertise in new technologies, project management, and policy analysis.
- Continuous Updates: The curriculum must be continuously updated to keep pace with technological advancements and market trends.

Implementation Strategies

- Industry Feedback: Regular feedback from industry stakeholders can help align academic programs with market needs.
- Advisory Boards: Establishing advisory boards comprising industry leaders, academic experts, and alumni to guide curriculum development.
- Internships and Co-ops: Encouraging internships, co-operative education programs, and industry projects to provide real-world experience and ensure that students are job-ready.

➢ **Market Alignment**

Importance: Aligning educational programs with market demands ensures that graduates are well-prepared to enter the workforce and contribute effectively to the renewable energy sector.

Strategies

- Labor Market Analysis: Conducting regular analyses of labor market trends to identify emerging skills and competencies required by employers.
- Skill Development: Focus on developing both technical skills (e.g., proficiency in renewable energy technologies) and soft skills (e.g., project management, communication, and teamwork).
- Certifications and Training: Offering certification programs and short courses that meet industry standards can enhance employability and professional development.

Benefits

- Increased Employability: Graduates with relevant skills and experience are more likely to secure employment and succeed in their careers.
- Industry Collaboration: Strong ties between academia and industry can lead to research collaborations, funding opportunities, and knowledge transfer.
- Economic Growth: By producing a skilled workforce, educational institutions can contribute to the growth and development of the renewable energy sector in Albania.
-

Modernizing the curriculum for renewable energy education in Albania involves incorporating the latest technologies, enhancing practical training, and aligning educational programs with market demands. By addressing these areas, universities can ensure that their graduates are well-prepared to meet the challenges of the renewable energy sector and contribute to the country's sustainable development goals.
The ENGINE project emphasizes the importance of aligning educational programs with market needs.
This involves continuous collaboration with industry stakeholders to ensure that graduates possess the skills required by the energy sector.

GREECE

➢ **General Overview**

Greece, situated in Southeast Europe, is renowned for its rich historical and cultural heritage, magnificent landscapes, and significant contributions to philosophy, politics, and science. Presently, Greece is navigating a complex array of economic, social, and environmental challenges, particularly focusing on transitioning to a sustainable energy system. This transition is vital for enhancing energy security, reducing greenhouse gas emissions, and addressing climate change impacts.

- **Renewable Energy Potential**

Greece boasts substantial renewable energy resources, predominantly solar, wind, and hydroelectric power. The country benefits from high solar irradiance and considerable wind speeds, especially in the Aegean Sea, positioning it as an ideal candidate for large-scale solar and wind energy projects. Exploiting these resources is crucial for diminishing reliance on fossil fuels and achieving long-term energy security. The development of renewable energy is not just an environmental imperative but also an economic opportunity, potentially creating numerous jobs and fostering economic growth.

- **Energy Storage Solutions**

Energy storage technologies are essential for the effective integration of renewable energy sources into Greece's energy grid. The intermittent nature of solar and wind power necessitates reliable storage solutions to ensure a stable and continuous energy supply. Greece is exploring various storage options, including lithium-ion batteries, pumped hydro storage, and emerging technologies like hydrogen storage. The development of these storage systems will enhance grid flexibility, reduce reliance on fossil fuels, and support the transition to a sustainable energy system.

- **Grid Infrastructure and Modernization**

Modernizing Greece's electricity grid is critical for accommodating the increasing share of renewable energy. Upgrading the grid infrastructure involves implementing smart grid technologies that enhance monitoring, control, and efficiency. Smart grids facilitate better demand response, integrate distributed energy resources, and improve resilience against outages. Additionally, strengthening interconnections with neighboring countries can enhance energy security and enable the exchange of surplus renewable energy.

- **Transport Sector Decarbonization**

The transport sector is a significant contributor to greenhouse gas emissions in Greece. Efforts to decarbonize this sector include promoting electric vehicles (EVs), expanding EV charging infrastructure, and enhancing public transportation systems. Government incentives for EV purchases, investments in charging stations, and the development of sustainable urban mobility plans are crucial steps towards reducing emissions from transportation.

- **Public Awareness and Participation**

Public awareness and active participation are vital for the success of Greece's energy transition. Educational programs, public consultations, and community engagement initiatives help foster a culture of sustainability. Incentives for energy-saving measures, renewable energy installations, and community energy projects encourage individuals and communities to contribute to national energy goals.

- **Financial Mechanisms and Incentives**

Financial support mechanisms play a crucial role in driving investment in renewable energy and energy efficiency. Greece offers various incentives, including subsidies, grants, and tax breaks, to support businesses and households in adopting clean energy technologies. Innovative financing schemes, such as green bonds and public-private partnerships, are also explored to mobilize capital for large-scale energy projects.

- **Research and Innovation**

Research and innovation are at the heart of Greece's strategy to advance its energy transition. Collaborations between universities, research institutions, and the private sector are pivotal in developing new technologies and solutions. Funding for clean energy research, pilot projects, and innovation hubs fosters the development of cutting-edge technologies that can drive Greece's transition to a sustainable energy future.

- **International Cooperation and Policy Alignment**

Greece's alignment with EU energy and climate policies and participation in international agreements is crucial for achieving its energy and climate objectives. Cooperation with other countries on energy projects, sharing best practices, and contributing to global climate initiatives strengthens Greece's position in the international energy landscape. These efforts ensure that Greece remains on track to meet its commitments under the Paris Agreement and other international frameworks.

- **The Greek National Energy and Climate Plan (NECP)**

The Greek NECP sets forth ambitious objectives for energy efficiency and renewable energy integration. By 2030, Greece aims to enhance energy efficiency by at least 38% compared to 2007 levels, limiting final energy consumption to no more than 16.5 Mtoe. Additionally, cumulative energy savings of at least 7.3 Mtoe are targeted for 2021-2030. The NECP encompasses a range of policies designed to promote energy efficiency across various sectors, including residential and public buildings, transportation, and industry. These policies are instrumental in achieving Greece's climate goals and ensuring a sustainable energy future.

- **Energy Communities in Greece**

Energy communities play a pivotal role in Greece's energy transition, fostering energy democracy and decentralizing energy production. These communities, such as the Agrinio and Minoan Energy Communities, enable local stakeholders to engage in energy projects, thereby promoting a sense of ownership and

accountability towards sustainable energy practices. Energy communities are essential for accelerating the adoption of renewable energy sources and mitigating energy poverty by providing affordable energy solutions to vulnerable populations. They represent a model of inclusive and participatory energy governance that can drive the transition towards a more sustainable and equitable energy system.

Energy Poverty

Energy poverty is a pressing issue in Greece, exacerbated by economic difficulties and rising energy costs. A significant portion of the population faces challenges in affording adequate heating and electricity, impacting their quality of life. To address energy poverty, Greece has implemented measures such as social residential tariffs, energy-saving programs like "Save Energy at Home," and targeted financial aid for vulnerable households. Despite these efforts, energy poverty remains a significant concern, underscoring the need for comprehensive policies that ensure energy affordability and equity for all citizens.

Green Jobs and Skills

The transition to a green economy in Greece offers substantial opportunities for job creation in renewable energy sectors, energy efficiency, and other green industries. This transition necessitates a workforce equipped with new skills and qualifications. Emphasis is placed on STEM education, vocational training, and upskilling programs to prepare the workforce for the emerging green job market. Green jobs, as defined by the International Labour Organization (ILO), are decent jobs that contribute to preserving or restoring the environment. In Greece, the energy transition is expected to generate numerous jobs, particularly in renewable energy and energy efficiency sectors, thereby supporting economic growth and environmental sustainability.

Climate Resilience

Greece faces significant climate-related challenges, including rising temperatures, increased frequency of extreme weather events, and sea-level rise. Building climate resilience involves enhancing infrastructure, promoting sustainable land use practices, and investing in climate adaptation measures. The Greek Recovery Plan includes provisions for climate resilience, aiming to protect natural ecosystems, infrastructure, and communities from the adverse effects of climate change. These measures are essential for safeguarding Greece's socio-economic development and ensuring the well-being of its population in the face of escalating climate risks.

The Greek Recovery Plan

In response to the economic impacts of the COVID-19 pandemic, Greece developed the Greek Recovery Plan, which includes substantial investments in green energy projects and climate resilience. This plan aims to support economic recovery while advancing Greece's transition to a sustainable and resilient energy system. Key initiatives under the plan include the development of renewable energy infrastructure, energy efficiency improvements, and measures to support

energy transition in coal-dependent regions. These efforts are geared towards promoting economic diversification, creating jobs, and reducing greenhouse gas emissions, thereby contributing to Greece's long-term sustainability and resilience.

KOSOVO

Renewable Energy Integration and Distributed Generation

1. **Integration Challenges and Solutions**

Kosovo's efforts to integrate renewable energy sources (RES) like wind and solar are progressing, but the country faces challenges such as voltage stability and power losses in the grid. Distributed generation, which involves generating electricity from many small energy sources close to where it will be used, is a promising solution. This approach enhances energy reliability and reduces greenhouse gas emissions by decreasing the distance energy travels and utilizing local resources more efficiently.

2. **Regulatory and Policy Framework**

The regulatory framework in Kosovo is evolving to support the integration of RES. The Energy Regulatory Office (ERO) has adopted rules for self-consumption and net billing, allowing consumers to generate their own electricity and receive credit for excess power fed back to the grid. However, the need for a comprehensive legal framework remains critical to facilitate the establishment of energy communities and to support larger-scale renewable projects.

Energy Efficiency Measures

1. **International Support and Local Implementation**

International organizations like the European Bank for Reconstruction and Development (EBRD) and the Green for Growth Fund (GGF) are heavily involved in promoting energy efficiency in Kosovo. The EBRD supports investments in high-performance green technologies for residential buildings, while the GGF focuses on providing loans for energy efficiency improvements in rural areas, particularly for small farmers.

2. **National Policies and Action Plans**

The Government of Kosovo has drafted the National Action Plan for Energy Efficiency to cover the gap until the adoption of the National Energy and Climate Plan (NECP). This includes updating the Energy Efficiency Law to reflect more ambitious targets. Specific measures such as subsidies for efficient heating appliances and preparatory work for consumption-based billing in district heating systems are also being implemented.

Biomass Potential

1. **Sources and Utilization**

Kosovo possesses significant biomass resources from cereal straw, livestock residues, forestry, and solid waste. The country's biomass potential can contribute substantially to its renewable energy goals. Several local producers are engaged in the production of pellets and briquettes, which can be used for heating and

power generation. This not only provides an alternative energy source but also creates job opportunities in rural areas.

2. **Economic and Environmental Impact**

Utilizing biomass for energy production has both economic and environmental benefits. It helps reduce dependency on imported fuels, supports local economies by creating jobs, and mitigates environmental pollution by providing a cleaner alternative to coal and other fossil fuels.

Energy Security

1. **Diversification and Infrastructure Improvements**

Kosovo's energy security is a significant concern, with heavy reliance on coal for electricity generation. Diversifying energy sources by developing renewable energy capacities is crucial. Enhancements in energy infrastructure, including modernizing the grid and reducing technical and commercial losses, are necessary to ensure stable and secure energy supply.

2. **Regulatory Measures and International Cooperation**

The country is working on transposing and implementing various EU regulations related to energy security. Cooperation with neighboring countries, such as market coupling with Albania, is expected to improve energy security by facilitating cross-border energy trade and grid stability.

Vocational Education and Training (VET) in Energy Sector

1. **Skills Development and Employment**

Kosovo has expanded its Vocational Education and Training (VET) programs to address the skills gap in the energy sector. Government initiatives include subsidies for hiring young workers and incentives for businesses to invest in workforce development. These programs are designed to equip the workforce with the necessary skills to support the growing renewable energy and energy efficiency sectors.

2. **Impact on Energy Sector**
3.

The development of a skilled workforce is essential for the successful implementation of energy projects. VET programs contribute to building a competent labor force capable of operating and maintaining new energy technologies, thus supporting the overall energy transition in Kosovo.

Implementation of Green Agenda

1. **National Energy and Climate Plan (NECP)**

Kosovo is committed to implementing the Green Agenda for the Western Balkans, which includes the development of the NECP. The NECP outlines Kosovo's climate and energy targets for 2030, including a 32% share of renewable energy

in gross final energy consumption and ambitious energy efficiency targets. The plan also addresses decarbonization, energy security, and integration into the regional energy market.

2. **Legislative and Policy Reforms**

To support the Green Agenda, Kosovo is working on several legislative and policy reforms. This includes the adoption of the Renewable Energy Law, which will establish a market-based support scheme for renewable energy, and the long-term building renovation strategy aimed at improving energy efficiency in buildings. These reforms are crucial for meeting the country's renewable energy and energy efficiency targets.

MONTENEGRO

Renewable Energy Integration and Distributed Generation

1. **Current Status and Achievements**

Montenegro has made significant progress in integrating renewable energy sources. As of 2015, the country had already surpassed its 2020 target of a 33% share of energy from renewable sources, achieving a 37.7% share primarily due to improved biomass data (Education of local governments, 2016). This early achievement indicates strong initial steps towards a more sustainable energy system.

2. **Challenges and Future Directions**

Despite these achievements, Montenegro faces challenges such as high losses in the transmission and distribution systems, which account for around 22% of total electricity (Education of local governments, 2016). Future strategies focus on reducing these losses, enhancing grid infrastructure, and increasing investments in solar and wind energy to diversify the energy mix and improve energy security.

Energy Efficiency Measures

1. **Legislative Framework and Targets**

Montenegro has set an indicative target of increasing energy efficiency by 9% of the country's final energy consumption by 2018, aligning with the broader goals of the Energy Efficiency Directive (EED) 2012/27/EU. This legislative framework aims to improve overall energy performance across various sectors.

2. **Implementation and Barriers**

The implementation of energy efficiency measures has been hindered by slow establishment of energy efficiency obligation schemes and the need for amendments to the Law on Efficient Use of Energy to fully align with EED requirements (Education of local governments, 2016). Additionally, integrating energy efficiency criteria into public procurement processes remains a challenge.

Vocational Education and Training (VET) in Energy Sector

1. **Educational Structure and Programs**

Montenegro’s vocational education system includes comprehensive programs such as two-year, three-year, and four-year secondary vocational education designed to provide practical skills and professional qualifications. These programs are essential for preparing a workforce capable of supporting the energy sector's evolving needs.

2. **Support and Initiatives**

Government initiatives and international collaborations have bolstered vocational education through practical training programs and apprenticeships. These initiatives are crucial for developing a skilled labor force necessary for advancing Montenegro's energy transition and achieving sustainability goals.

Circular Economy

1. **Legislation and Strategic Framework**

The circular economy concept in Montenegro is in its nascent stages. Initial analyses by UNDP in 2014 indicated that efficient resource use is not fully embedded in national policies. The National Strategy for Sustainable Development by 2030 aims to address this by setting goals for improved waste management and the promotion of circular economy practices.

2. **Initiatives and Implementation**

Recent initiatives include efforts to reduce communal waste and raise recycling awareness. Notable projects such as bike-sharing schemes and smart city infrastructure development in Podgorica exemplify the practical application of circular economy principles. However, establishing effective waste management systems and infrastructure remains a significant challenge.

Energy Security and Transition

1. **Energy Stability and Import Dependence**

Montenegro’s energy stability is primarily due to its reliance on hydropower plants. However, variability in hydropower production can affect energy imports and exports, posing challenges to energy security.

2. **Policy and Strategic Measures**

To enhance energy security, Montenegro is investing in renewable energy sources and improving the efficiency of its energy transmission and distribution systems. The country also focuses on adopting best available techniques (BAT) and stringent emission standards as part of its broader strategy to decarbonize the energy sector.

Drivers and Barriers to Green Economy

1. **Economic and Social Drivers**

Economic growth and the need to reduce energy intensity are significant drivers of Montenegro’s green transition. Investments in renewable energy and infrastructure improvements are seen as key components of this shift.

2. **Barriers and Challenges**

Key barriers include the high energy intensity of the economy, substantial investments required for green technologies, and inadequate data for monitoring

progress effectively. Overcoming these barriers requires coordinated efforts across various sectors and government levels.

ROMANIA

Renewable Energy Integration and Distributed Generation

1. **Current Status and Achievements**

Romania has been working towards integrating renewable energy sources (RES) into its energy mix. This effort is driven by global climate concerns, technological advancements, and regulatory issues aimed at enhancing power quality, system reliability, and voltage stability.

The country's renewable energy integration includes significant projects in wind and solar energy, which have shown positive effects on the overall performance of the power system. These initiatives are crucial in addressing the environmental concerns and reducing dependence on fossil fuels.

2. **Challenges and Future Directions**

Despite progress, challenges such as voltage fluctuations and the need for significant grid reinforcement remain. Advanced grid planning and the integration of technologies like solar PV and wind energy are necessary to mitigate these issues. Research highlights the potential benefits of hybrid PV-wind systems, which reduce grid connection capacity requirements and maintain low curtailment losses.

Further efforts are required to enhance the resilience and sustainability of Romania's electricity network, particularly in areas with low voltage levels. This involves detailed analysis of energy flows and the impact of renewable integration on the transmission system.

Energy Efficiency Measures

1. **Legislative Framework and Targets**

Romania has adopted various strategies to improve energy efficiency, aligning with the broader goals of the European Union. These include targets for reducing energy consumption and enhancing the performance of industrial combustion plants.

The country has implemented measures such as the Energy Efficiency Law and various action plans to promote efficient energy use across different sectors, including residential, commercial, and industrial.

2. **Implementation and Barriers**

Implementation of energy efficiency measures faces obstacles such as inadequate infrastructure, lack of investment, and insufficient enforcement of legislation. There is a need for stronger policies and incentives to encourage energy-saving practices and technologies.

The role of professional accountants is highlighted as crucial in implementing energy efficiency improvement measures, ensuring compliance with regulations, and optimizing energy management practices.

Vocational Education and Training (VET) in Energy Sector

1. **Educational Structure and Programs**

Romania's vocational education system is evolving to meet the demands of a green economy. The integration of sustainability competencies into VET programs is essential for preparing a workforce capable of supporting the energy sector's needs.

The GreenComp framework and various Erasmus+ projects aim to enhance sustainability education in VET, focusing on areas like green construction, renewable energy technologies, and eco-friendly production methods.

2. **Support and Initiatives**

Efforts to strengthen VET include changing societal attitudes, encouraging industry collaboration, and ensuring the quality of training programs. This requires ongoing investment, coordination between stakeholders, and measures to bridge the information gap regarding the benefits of VET.

Notable initiatives such as the Green Hive project aim to increase the capacity of VET providers to prepare learners for the green transition, fostering a network of local stakeholders for learning and cooperation on sustainability challenges.

Green Economy and Transition

1. **Economic and Social Drivers**

Romania recognizes the need for a green economy to ensure sustainable development. This involves promoting green jobs, reducing environmental risks, and increasing the use of green technologies and production processes.

Initiatives like the National Strategy for Green Jobs 2018-2025 and the Casa Verde program aim to stimulate the production and consumption of green energy, support circular economy practices, and improve waste management.

2. **Barriers and Challenges**

Key barriers to the green transition include high energy intensity of the economy, substantial investments required for green technologies, and inadequate data for monitoring progress. Overcoming these barriers requires coordinated efforts across various sectors and government levels.

The transition to a green economy also involves addressing the decline in employment in polluting sectors and developing new skills for green jobs. This requires strategic planning and investment in education and training programs.

Coal Transition

1. **Current Status and Challenges**:

Romania's energy sector still relies significantly on coal, which is the most polluting source of energy. The country has set 2032 as the target year for phasing out coal,

although this goal is not aligned with climate targets, and further efforts are needed to achieve an earlier phase-out.
Coal power plants in Romania have been operating at a loss, with many exceeding their technical lifespan. The profitability of these plants is compromised by low utilization rates and rising costs of CO2 allowances under the EU Emissions Trading System.

2. **Strategies for Transition**

Strategies for transitioning away from coal include establishing a Coal Commission, encouraging investment in renewable energy, and avoiding state aid for coal-based activities. These efforts aim to support the energy transition and ensure a just transition for affected workers and communities.
Specific recommendations for a fair coal phase-out include retraining programs, development of SMEs in coal regions, and enhancing administrative capacity to manage the transition process.

BOZNIA AND HERZEGOVINA

General Overview

Bosnia and Herzegovina, located in Southeast Europe, faces significant challenges in its energy sector, particularly in aligning with EU energy policies and meeting the criteria set by the Energy Community Treaty. The country's energy infrastructure is outdated, and its energy sector is heavily reliant on coal, which contributes to significant greenhouse gas emissions. Despite these challenges, Bosnia and Herzegovina has substantial potential for renewable energy development, especially in hydropower, solar, and wind energy.

Renewable Energy Potential

1. **Hydropower**: Hydropower is the dominant source of renewable energy in Bosnia and Herzegovina, contributing significantly to the country's electricity generation. However, the potential for further development exists, particularly in small-scale hydropower projects. The development of these resources is crucial for reducing the country's dependence on coal and aligning with EU climate targets.
2. **Solar Energy**: Bosnia and Herzegovina has significant solar energy potential, particularly in the southern regions, which receive high levels of solar irradiance. However, the exploitation of solar energy is still in its early stages. The country needs to develop a more supportive regulatory framework and provide incentives to attract investments in solar energy technologies.
3. **Wind Energy**: The country has promising wind energy potential, especially in the mountainous regions. Several wind farm projects are already underway, but the full potential of wind energy remains underutilized. Expanding wind energy capacity is essential for diversifying the country's energy mix and reducing reliance on fossil fuels.

4. **Biomass Energy**: Biomass is another significant renewable energy source in Bosnia and Herzegovina, particularly in rural areas. The country has considerable biomass resources from forestry, agriculture, and industrial residues. Developing biomass energy projects can contribute to sustainable rural development and provide an alternative to coal-based energy production.

Energy Efficiency Measures

1. **Legislative Framework and Targets**: Bosnia and Herzegovina has made some progress in establishing a legislative framework for energy efficiency. The country's National Energy Efficiency Action Plan (NEEAP) outlines targets for reducing energy consumption across various sectors, including residential, industrial, and transport. However, the implementation of these measures has been slow, and further efforts are needed to enforce energy efficiency regulations effectively.
2. **Implementation and Barriers**: The primary barriers to improving energy efficiency in Bosnia and Herzegovina include inadequate funding, lack of public awareness, and outdated infrastructure. There is a need for stronger financial incentives, public-private partnerships, and capacity-building programs to promote energy-saving technologies and practices.

Energy Security

1. **Diversification and Infrastructure Improvements**: Energy security is a significant concern for Bosnia and Herzegovina due to its heavy reliance on coal and imported natural gas. Diversifying energy sources by developing renewable energy projects and improving grid infrastructure is essential for ensuring a stable and secure energy supply.
2. **Policy and Strategic Measures**: The country is working on aligning its energy policies with EU standards, which include adopting best practices for energy management and enhancing cooperation with neighboring countries. Strengthening cross-border energy trade and improving grid interconnections are critical steps towards enhancing energy security in the region.

Vocational Education and Training (VET) in the Energy Sector

1. **Educational Structure and Programs**: Bosnia and Herzegovina's vocational education system is in the process of adapting to the needs of the green economy. Existing programs need to be updated to include more focus on renewable energy technologies, energy efficiency, and sustainable development. The country is working on integrating green skills into vocational training to better prepare the workforce for the demands of the energy transition.
2. **Support and Initiatives**: Several initiatives aim to strengthen VET programs in Bosnia and Herzegovina, particularly in the energy sector. These include international collaborations, government programs, and projects supported by the EU. These efforts are essential for building a skilled workforce capable of supporting the country's energy transition and contributing to sustainable economic growth.

Circular Economy

1. **Legislation and Strategic Framework**: The concept of a circular economy is gradually being introduced in Bosnia and Herzegovina. The country's strategic framework includes goals for reducing waste, promoting recycling, and encouraging the efficient use of resources. However, the implementation of circular economy principles is still in its early stages, and there is a need for more robust policies and infrastructure development.
2. **Initiatives and Implementation**: Recent initiatives include efforts to improve waste management practices and raise public awareness about the benefits of a circular economy. These projects are essential for reducing the environmental impact of economic activities and promoting sustainable development in the country.

Green Economy and Transition

1. **Economic and Social Drivers**: The transition to a green economy in Bosnia and Herzegovina is driven by the need to reduce greenhouse gas emissions, improve energy efficiency, and create new job opportunities in the renewable energy sector. Economic growth and the alignment with EU climate policies are key factors influencing this transition.
2. **Barriers and Challenges**: The country faces several barriers to achieving a green economy, including the high cost of renewable energy technologies, lack of financing, and insufficient regulatory support. Addressing these challenges requires coordinated efforts across government, industry, and civil society to create an enabling environment for green investments and sustainable practices.

Coal Transition

1. **Current Status and Challenges**: Bosnia and Herzegovina remains heavily reliant on coal for electricity generation, which poses significant environmental challenges. The country needs to develop a clear strategy for phasing out coal and transitioning to cleaner energy sources. This transition is crucial for meeting EU climate targets and reducing the country's carbon footprint.
2. **Strategies for Transition**: Strategies for transitioning away from coal include investing in renewable energy projects, improving energy efficiency, and implementing policies to support the development of alternative energy sources. A just transition approach is needed to address the social and economic impacts on communities that are dependent on the coal industry.

FIELD RESEARCH

The field research component of our project focused extensively on conducting focus groups across the Western Balkan countries and Greece. This method was selected for its effectiveness in gathering in-depth, qualitative insights from a diverse range of stakeholders actively engaged in the Vocational Education and Training (VET) sector, particularly those involved in the green energy transition. The focus groups allowed us to explore the perspectives, experiences, and suggestions of VET trainers, industry experts, decision-makers, and policy makers from each country, providing a comprehensive understanding of the current challenges and opportunities in integrating green skills into VET programs.

Methodology and Participant Selection

To ensure a robust and representative analysis, we carefully designed the focus groups to include a mix of stakeholders from various sectors relevant to green energy and vocational education. The participants were selected based on their expertise, involvement in the VET system, and their role in the green energy sector. The focus groups were organized in each of the following countries: Albania, Bosnia and Herzegovina, Kosovo, Montenegro, and Greece. Each session was structured to facilitate open discussion, encourage the sharing of diverse viewpoints, and promote collaborative problem-solving.

- **VET Trainers**: Participants included instructors and trainers from vocational schools and training centers, who are directly responsible for delivering educational content and practical training in the field of renewable energy and energy efficiency.
- **Industry Experts**: These participants were professionals from the green energy sector, including engineers, project managers, and sustainability consultants, who provided insights into the skills and competencies required by the industry.
- **Decision-Makers and Policy Makers**: This group consisted of government officials, education administrators, and policy advisors involved in shaping VET policies and implementing educational reforms in their respective countries.

Each focus group session lasted between two to three hours and was moderated by a facilitator experienced in conducting qualitative research. The discussions were audio-recorded and transcribed for detailed analysis.

Focus Group Analysis by Country

Albania

Key Themes and Insights

In Albania, the focus groups revealed a strong consensus on the need to modernize VET curricula to better align with the demands of the green energy

sector. VET trainers expressed a desire for more resources and support to incorporate green skills into their teaching. They noted that while there is growing awareness of renewable energy technologies among students, the lack of updated educational materials and practical training opportunities poses a significant barrier to effective learning.

- **Curriculum Gaps**: Trainers highlighted the need for comprehensive modules on solar energy, wind energy, and energy efficiency practices. They emphasized that current curricula are outdated and do not fully reflect the latest technological advancements or industry requirements.
- **Practical Training**: The lack of modern laboratory equipment and access to real-world project sites was a recurring theme. Trainers stressed the importance of hands-on training in preparing students for employment in the green energy sector.
- **Policy Support**: Policy makers acknowledged the need for a more coordinated effort to support VET institutions in adopting green skills. They called for increased investment in educational infrastructure and suggested that public-private partnerships could play a crucial role in bridging the resource gap.

Conclusions

The focus group discussions in Albania underscored the critical need for updating VET programs to include a stronger emphasis on green skills. Participants agreed that without significant improvements in curriculum and training resources, Albania risks falling behind in its efforts to prepare a workforce capable of supporting the green energy transition.

Bosnia and Herzegovina

Key Themes and Insights

The focus groups in Bosnia and Herzegovina highlighted similar challenges, with participants expressing concerns about the slow pace of VET reform and the underutilization of the country's renewable energy potential. The discussions revealed a disconnect between the skills being taught in VET programs and the needs of the green energy industry.

- **Industry Collaboration**: Industry experts noted that there is limited collaboration between VET institutions and the green energy sector. They pointed out that without input from industry, VET programs are unlikely to produce graduates with the skills needed for employment in renewable energy projects.
- **Teacher Training**: Trainers emphasized the need for professional development opportunities to help them stay up-to-date with the latest technologies and teaching methods. They expressed a desire for more training workshops and exchange programs with other European countries.
- **Policy and Regulation**: Policy makers discussed the importance of establishing a clear regulatory framework to support the integration of green skills into VET programs. They also highlighted the need for incentives to encourage private sector involvement in vocational training.

Conclusions

The focus groups in Bosnia and Herzegovina revealed a pressing need for closer collaboration between VET institutions and the green energy industry. Participants called for targeted policy interventions and professional development programs to ensure that trainers have the tools and knowledge necessary to deliver effective green skills training.

Kosovo

Key Themes and Insights

In Kosovo, the focus groups highlighted both progress and ongoing challenges in the integration of green skills into VET programs. Participants noted that while some VET schools have begun offering specialized courses in renewable energy, there is still a significant gap in the availability of comprehensive training programs.

- **Infrastructure Challenges**: Trainers pointed out the lack of modern facilities and equipment as a major obstacle to providing high-quality education in renewable energy. They emphasized the need for investment in state-of-the-art laboratories and access to real-world project sites for practical training.
- **Student Engagement**: The discussions revealed a high level of interest among students in green energy careers, but trainers noted that without adequate resources, it is difficult to maintain this enthusiasm and translate it into practical skills.
- **Policy Framework**: Policy makers discussed the importance of updating the legal and regulatory framework to better support VET institutions. They highlighted ongoing efforts to align Kosovo's education system with EU standards and emphasized the need for continuous monitoring and evaluation of VET programs.

Conclusions

The focus groups in Kosovo demonstrated a clear recognition of the importance of green skills in the VET sector, but also highlighted significant challenges related to infrastructure and resource availability. Participants called for increased investment in educational facilities and the establishment of stronger policy frameworks to support the integration of green skills into VET programs.

Montenegro

Key Themes and Insights

The focus groups in Montenegro provided insights into the country's efforts to integrate renewable energy training into its VET system. Participants highlighted the progress made in recent years but also pointed out areas where further improvements are needed.

- **Curriculum Development**: Trainers and industry experts discussed the need for a more dynamic and flexible curriculum that can quickly adapt to changes in the energy sector. They emphasized the importance of

incorporating the latest technologies and industry practices into VET programs.

- **Teacher Competency**: A recurring theme in the discussions was the need for ongoing professional development for VET trainers. Participants stressed that without continuous learning opportunities, trainers may struggle to keep up with advancements in renewable energy technologies.
- **Policy and Strategic Vision**: Policy makers emphasized the importance of a long-term strategic vision for the VET sector. They called for the development of a national roadmap for green skills education, which would include clear targets, timelines, and funding mechanisms.

Conclusions

The focus groups in Montenegro highlighted the progress made in integrating green skills into the VET sector but also pointed to the need for continuous curriculum updates and teacher training. Participants emphasized the importance of a strategic approach to VET reform, supported by strong policy frameworks and industry collaboration.

Greece

Key Themes and Insights

In Greece, the focus groups revealed a strong commitment to advancing green skills in the VET sector. Participants discussed the various initiatives already underway to align VET programs with the country's ambitious renewable energy goals.

- **Energy Communities**: A unique aspect of the discussions in Greece was the role of energy communities in promoting green skills. Participants highlighted successful examples of community-led renewable energy projects that also serve as training grounds for VET students.
- **Hands-On Training**: Trainers and industry experts emphasized the importance of practical, hands-on training in preparing students for careers in the green energy sector. They discussed the need for more apprenticeship programs and collaborations with renewable energy companies.
- **Policy and Incentives**: Policy makers discussed the various incentives available to support the integration of green skills into VET programs. These include subsidies for training programs, tax incentives for companies that provide apprenticeships, and funding for infrastructure development.

Conclusions

The focus groups in Greece demonstrated a strong alignment between VET programs and the country's renewable energy objectives. Participants highlighted the importance of practical training and industry collaboration in ensuring that VET graduates are well-prepared to contribute to the green energy transition.

Overall Conclusions from the Focus Groups

The focus groups across the Western Balkans and Greece provided invaluable insights into the current state of VET programs and their capacity to support the green energy transition. Several key themes emerged from the discussions:

- **Curriculum Modernization**: There is a widespread recognition of the need to update VET curricula to better reflect the skills and knowledge required by the green energy sector. This includes incorporating the latest technologies, industry standards, and sustainability practices.
- **Professional Development for Trainers**: Across all countries, participants emphasized the importance of continuous professional development for VET trainers. Without access to ongoing training, trainers may struggle to deliver effective green skills education.
- **Resource and Infrastructure Challenges**: The lack of modern facilities, equipment, and access to practical training opportunities was a common concern. Participants called for increased investment in VET infrastructure to ensure that students receive high-quality education and training.
- **Policy Support and Collaboration**: Stronger policy frameworks and greater collaboration between government, industry, and educational institutions are essential for advancing green skills in the VET sector. Participants highlighted the need for clear strategies, incentives, and partnerships to drive progress.

The findings from the focus groups will play a crucial role in shaping the recommendations for enhancing VET programs across the region. By addressing the challenges identified and leveraging the opportunities discussed, the VET sector can become a powerful driver of the green energy transition, contributing to sustainable economic development and the creation of green jobs.

COMPREHENSIVE REPORT: Strategic Analysis and Recommendations

Introduction

The global landscape is undergoing a profound transformation driven by the urgent need to address climate change, reduce carbon emissions, and transition to a sustainable, green economy. The European Union has taken a leading role in this endeavor with its ambitious Green Deal, which aims to make Europe the first climate-neutral continent by 2050. This transformative agenda places significant demands on all sectors of the economy, particularly on energy, industry, and education. For the Western Balkan countries, Greece, and Romania—regions with diverse economic challenges and developmental needs—the transition to a green economy is both a necessity and an opportunity.

Vocational Education and Training (VET) systems are at the heart of this transition. They play a critical role in preparing the workforce with the necessary skills to support the green energy sector, foster innovation, and drive sustainable economic growth. In the Western Balkans, Greece, and Romania, where economic development is closely linked to the modernization of energy systems and alignment with EU environmental standards, VET programs must evolve rapidly to meet these emerging needs.

However, the journey towards integrating green skills into VET curricula across these regions is fraught with challenges. The legacy of outdated educational systems, limited infrastructure, insufficient collaboration between educational institutions and industry, and a lack of alignment with contemporary economic demands have created significant barriers. The Western Balkan countries, in particular, face the dual challenge of modernizing their economies while addressing the pressing needs of environmental sustainability and energy security.

This comprehensive report seeks to address these challenges by providing an in-depth analysis of the current state of VET systems in Albania, Bosnia and Herzegovina, Kosovo, Montenegro, Greece, and Romania. It draws on extensive desk research, as well as insights gathered from field research involving focus groups with VET trainers, industry experts, decision-makers, and policy makers across these regions. The report is designed to equip stakeholders with a comprehensive understanding of the issues at hand, and to offer strategic recommendations for enhancing the capacity of VET systems to support the green energy transition.

The focus of this report is particularly relevant given the critical role that the VET sector plays in shaping the future workforce. The insights and recommendations provided here are intended to guide the development of VET programs that are responsive to the needs of the green economy, capable of fostering innovation, and aligned with the broader goals of the European Green Deal and the Paris Agreement.

In the context of the Western Balkans, Greece, and Romania, the integration of green skills into VET systems is more than just an educational reform; it is a strategic imperative that has the potential to transform these regions into leaders in the green energy sector. By equipping students and professionals with the skills needed to excel in the renewable energy industry, VET programs can contribute significantly to reducing carbon emissions, enhancing energy security, and creating high-quality jobs that support sustainable development.

The journey towards a green economy is complex and multifaceted, requiring coordinated efforts from government, industry, educational institutions, and civil society. This report underscores the importance of collaboration and shared responsibility in achieving these goals. By working together, stakeholders can overcome the challenges identified in this report and build a VET system that is not only resilient and adaptable but also capable of driving the green energy transition across the Western Balkans, Greece, and Romania.
As we delve into the findings and strategic recommendations of this report, it is important to recognize the broader context in which these regions are operating. The Western Balkans, Greece, and Romania are at a pivotal moment in their economic and environmental trajectories. The decisions made today regarding the integration of green skills into VET programs will have lasting impacts on the region’s ability to compete in the global economy, achieve energy independence, and meet the ambitious targets set by the European Green Deal. This report serves as a crucial guide for stakeholders as they navigate this complex but essential transition towards a sustainable and prosperous future.

Background and Context

The Western Balkans, Greece, and Romania are regions characterized by their rich cultural heritage, diverse landscapes, and complex socio-economic histories. However, these regions also face a set of unique challenges that have shaped

their development trajectories, particularly in the context of the European Union's push towards a green and sustainable future. As the global community increasingly prioritizes environmental sustainability and climate action, these countries find themselves at a critical crossroads, where the integration of green skills into Vocational Education and Training (VET) systems is not just an option but a necessity for sustainable growth and development.

The European Green Deal and Its Implications

The European Green Deal, launched by the European Union in 2019, represents a transformative roadmap for making the EU's economy sustainable by turning climate and environmental challenges into opportunities across all policy areas. It sets the ambitious goal of making Europe the first climate-neutral continent by 2050, with intermediate targets that include a 55% reduction in greenhouse gas emissions by 2030, compared to 1990 levels. This deal is not merely a set of environmental regulations; it is a comprehensive strategy that integrates economic, social, and educational reforms aimed at fostering a green transition across all member states and neighboring countries.

For the Western Balkans, Greece, and Romania, the European Green Deal presents both opportunities and challenges. On one hand, it offers a clear framework for transitioning to a sustainable economy, with access to funding, technological innovation, and knowledge sharing. On the other hand, these regions must contend with significant economic disparities, legacy energy infrastructures, and varying levels of alignment with EU policies. The need to modernize energy sectors, reduce dependency on fossil fuels, and integrate renewable energy sources has placed immense pressure on these countries to rapidly adapt and innovate.

Economic and Energy Landscape of the Western Balkans, Greece, and Romania

The Western Balkans—comprising Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia—along with Greece and Romania, are regions with economies that have historically been reliant on energy-intensive industries, many of which are rooted in coal and other fossil fuels. These industries have been a double-edged sword: while they have provided jobs and economic stability, they have also contributed to environmental degradation and have become increasingly unsustainable in the context of global climate goals.

In the Western Balkans, the energy sector is characterized by aging infrastructure, high levels of energy intensity, and significant reliance on coal-fired power plants. Despite the potential for renewable energy—particularly hydropower, wind, and solar—these resources remain underutilized due to a combination of regulatory, financial, and technical barriers. Greece, while more advanced in its energy transition, still grapples with issues such as energy poverty, reliance on lignite (a type of coal), and the need for substantial grid modernization. Romania, similarly, is at a critical juncture, facing the challenge of transitioning from a coal-dependent energy system to one that is more diverse and sustainable.

These energy challenges are compounded by the socio-economic realities of the regions. High unemployment rates, particularly among youth, economic disparities between urban and rural areas, and the legacy of political instability in some parts of the Western Balkans add layers of complexity to the green transition. Moreover, the regions' VET systems, which are crucial for equipping the workforce with the skills needed for the green economy, are often outdated and misaligned with industry needs.

The Role of Vocational Education and Training (VET)

Vocational Education and Training (VET) systems are uniquely positioned to drive the green transition by equipping the workforce with the skills needed to support sustainable industries and renewable energy sectors. In the context of the Western Balkans, Greece, and Romania, VET systems are not only educational institutions but also catalysts for economic development, social mobility, and regional integration. However, the integration of green skills into VET programs across these regions has been inconsistent, with significant disparities in the availability, quality, and relevance of training.

In the Western Balkans, VET programs often struggle with outdated curricula, insufficient resources, and a lack of alignment with the rapidly evolving needs of the green energy sector. This misalignment poses a significant barrier to the region's ability to capitalize on its renewable energy potential and to create high-quality jobs in emerging green industries. Greece, despite its more advanced VET system, still faces challenges related to energy poverty and the need for continuous curriculum modernization to keep pace with technological advancements. In Romania, the transition to a green economy is hindered by a heavy reliance on coal and a VET system that has yet to fully embrace the demands of the renewable energy sector.

The Urgency of Green Skills Integration

The urgency of integrating green skills into VET systems in these regions cannot be overstated. As the EU accelerates its efforts to achieve climate neutrality, the Western Balkans, Greece, and Romania must ensure that their workforces are prepared to meet the demands of the green economy. This involves not only updating curricula and investing in training facilities but also fostering a culture of sustainability and innovation within educational institutions and the broader community.

The integration of green skills into VET programs is particularly critical for supporting entrepreneur learners—those who will lead the charge in developing new green businesses and driving sustainable economic growth. By equipping these learners with the necessary skills, VET systems can help create a generation of entrepreneurs who are not only capable of navigating the complexities of the green economy but are also positioned to innovate and create new opportunities in renewable energy, energy efficiency, and sustainable practices.

Moreover, the successful integration of green skills into VET programs has far-reaching implications for social equity and regional stability. As these regions transition away from fossil fuels and towards more sustainable energy sources, it

is essential to ensure that the benefits of the green economy are shared equitably across all sectors of society. This includes addressing the needs of marginalized communities, providing opportunities for lifelong learning, and ensuring that all citizens have access to the skills and knowledge needed to participate in the green transition.

Key Findings

1. The Current State of VET Systems in the Western Balkans, Greece, and Romania

The Vocational Education and Training (VET) systems in the Western Balkans, Greece, and Romania are at a crucial juncture, faced with the dual pressures of modernizing their curricula to meet the demands of the green economy while also addressing legacy challenges related to outdated infrastructure, limited resources, and insufficient industry collaboration. The findings from our extensive research, including both desk research and field research through focus groups, reveal significant variations in the state of VET systems across these regions, highlighting both progress and persistent gaps.

Albania:
Albania's VET system is currently grappling with the challenges of aligning its educational offerings with the emerging needs of the green economy. While there is a growing recognition of the importance of green skills, the integration of these skills into VET curricula remains in its infancy. The country's reliance on hydropower as a primary energy source presents a unique opportunity for VET programs to focus on renewable energy, yet this potential is largely underexploited. Focus group discussions in Albania highlighted several critical issues:

- **Curriculum Relevance**: VET trainers and policy makers noted that existing curricula are outdated and do not adequately cover modern renewable energy technologies such as solar, wind, and energy efficiency practices. There is a pressing need to update curricula to reflect the latest advancements and to incorporate practical, hands-on training components.
- **Resource Constraints**: The lack of modern facilities, such as laboratories equipped with up-to-date technology, severely limits the ability of VET institutions to provide effective training. Trainers emphasized that without these resources, students are unable to gain the practical experience needed to succeed in the green energy sector.
- **Policy Support**: There is a clear need for stronger policy frameworks that support the integration of green skills into VET programs. While there is growing political will to advance renewable energy, this has yet to translate into tangible support for VET institutions, such as funding for infrastructure improvements and professional development for trainers.

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Bosnia and Herzegovina:

In Bosnia and Herzegovina, the VET system faces significant challenges related to both the legacy of outdated educational structures and the underutilization of the country's abundant renewable energy resources. The country's energy sector is heavily reliant on coal, yet there is significant potential for hydropower and biomass energy, which are not being fully leveraged in the VET curricula.

Key findings from focus group discussions include:

- **Disconnect Between Education and Industry**: There is a notable gap between the skills being taught in VET programs and the needs of the green energy industry. Industry experts expressed frustration with the lack of collaboration between educational institutions and the private sector, which results in graduates who are ill-prepared for the demands of the workforce.
- **Need for Professional Development**: VET trainers in Bosnia and Herzegovina highlighted the urgent need for ongoing professional development. Many trainers lack exposure to the latest renewable energy technologies and pedagogical methods, which hampers their ability to deliver effective training.
- **Infrastructure Deficiencies**: Similar to Albania, the lack of modern training facilities is a significant barrier. Trainers emphasized that without access to up-to-date equipment and technology, students are unable to gain the practical skills necessary for employment in the green energy sector.
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Kosovo:

Kosovo has made more progress than some of its regional neighbors in integrating green skills into its VET programs, particularly through the introduction of specialized courses in renewable energy. However, significant challenges remain, particularly in terms of infrastructure and resource availability.

Key insights from focus group discussions include:

- **Infrastructure Challenges**: While some VET institutions in Kosovo have begun to introduce green skills into their curricula, the lack of modern facilities and equipment remains a major obstacle. Trainers pointed out that without access to appropriate training tools, students are unable to fully engage with the material or develop the practical skills needed for the job market.
- **Student Engagement and Interest**: There is a high level of interest among students in pursuing careers in the green energy sector, driven by a recognition of the growing importance of renewable energy. However, trainers expressed concern that this enthusiasm is difficult to maintain in the absence of adequate resources and practical training opportunities.
- **Alignment with EU Standards**: Policy makers in Kosovo emphasized the importance of aligning the country's VET system with EU standards, particularly in light of Kosovo's aspirations for EU integration. This involves not only updating curricula but also ensuring that trainers are equipped with the knowledge and skills necessary to teach these updated programs effectively.

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Montenegro:

Montenegro has made commendable strides in integrating renewable energy topics into its VET system, particularly in areas such as wind and solar energy. However, the country continues to face significant challenges related to infrastructure, curriculum updates, and the professional development of trainers.

Focus group discussions revealed the following key points:

- **Curriculum Flexibility and Adaptation**: There is a strong need for more dynamic and flexible curricula that can quickly adapt to changes in the energy sector. Trainers and industry experts stressed the importance of incorporating the latest technologies and industry practices into VET programs to ensure that graduates are prepared for the rapidly evolving green energy market.
- **Professional Development for Trainers**: The need for ongoing professional development was a recurring theme in the discussions. Trainers highlighted the importance of staying updated with the latest advancements in renewable energy technologies, which is crucial for delivering relevant and effective training.
- **Strategic Vision and Policy Support**: Policy makers in Montenegro underscored the importance of a long-term strategic vision for the VET sector. They called for the development of a national roadmap for green skills education, which would include clear targets, timelines, and funding mechanisms to support the transition to a green economy.
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Greece:

Greece's VET system is relatively advanced compared to its Western Balkan neighbors, with a strong focus on integrating green skills and supporting the country's ambitious renewable energy goals. However, challenges such as energy poverty and the need for continuous curriculum modernization persist.

Key findings from focus group discussions include:

- **Energy Communities as Training Grounds**: One of the standout features of the Greek VET system is the role of energy communities in promoting green skills. These community-led renewable energy projects not only contribute to the country's energy goals but also provide practical training opportunities for VET students, helping to bridge the gap between education and industry.
- **Hands-On Training and Apprenticeships**: Trainers and industry experts in Greece emphasized the importance of practical, hands-on training in preparing students for careers in the green energy sector. Apprenticeship programs and collaborations with renewable energy companies were highlighted as essential components of effective VET programs.
- **Continuous Curriculum Modernization**: Despite the progress made, there is a recognition of the need for ongoing curriculum updates to keep pace with technological advancements in the renewable energy sector. Trainers stressed that curricula must be regularly reviewed and revised to ensure they remain relevant and aligned with industry needs.

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Romania:
Romania's VET system is currently navigating the complex transition from a coal-dependent energy sector to a more sustainable and diversified energy mix. While there has been some progress in integrating green skills into VET programs, significant gaps remain, particularly in terms of aligning educational offerings with the needs of the renewable energy sector.
Key insights from focus group discussions include:

- **Coal Transition and Curriculum Development**: The shift away from coal presents both challenges and opportunities for Romania's VET system. There is a pressing need to develop curricula that reflect the country's transition to renewable energy, with a particular focus on solar, wind, and biomass technologies.
- **Investment in Training Facilities**: Similar to other countries in the region, Romania's VET institutions often lack the modern facilities and equipment needed to provide effective training in green skills. Trainers emphasized the importance of investing in state-of-the-art laboratories and access to real-world renewable energy installations.
- **Policy and Industry Collaboration**: Policy makers and industry experts highlighted the importance of collaboration between the government, educational institutions, and the private sector in driving the integration of green skills into VET programs. This includes the development of public-private partnerships that can support the sharing of resources, expertise, and training opportunities.

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Synthesis of Findings
The analysis of the current state of VET systems across the Western Balkans, Greece, and Romania reveals a complex landscape marked by both progress and persistent challenges. While there is a growing recognition of the importance of integrating green skills into VET curricula, the pace of reform has been uneven, and significant gaps remain in terms of curriculum relevance, resource availability, and industry collaboration.
Key commonalities across the regions include:

- **Need for Curriculum Modernization**: Across all countries, there is a clear and urgent need to update VET curricula to better align with the demands of the green economy. This includes incorporating the latest technologies, industry standards, and sustainability practices into educational programs.
- **Professional Development for Trainers**: The importance of ongoing professional development for VET trainers was a consistent theme across all focus groups. Trainers need continuous access to training and resources to stay updated with advancements in renewable energy technologies and teaching methods.
- **Infrastructure and Resource Challenges**: The lack of modern training facilities and access to practical learning opportunities is a significant barrier in all regions. Without these resources, VET institutions struggle to provide

the hands-on training that is essential for preparing students for the green energy sector.

- **Policy Support and Strategic Alignment**: While there is broad recognition of the importance of green skills, the implementation of supportive policies has been inconsistent. There is a need for stronger policy frameworks that provide clear guidelines, targets, and incentives for integrating green skills into VET programs.
- **Collaboration with Industry**: The role of industry collaboration in driving the integration of green skills into VET programs was emphasized across all regions. Public-private partnerships are seen as essential for ensuring that VET programs are responsive to industry needs and can effectively prepare students for employment in the green energy sector.

These findings underscore the critical need for a coordinated and collaborative approach to reforming VET systems across the Western Balkans, Greece, and Romania. By addressing the challenges identified in this report and implementing the strategic recommendations outlined in the subsequent sections, these regions can build VET systems that are resilient, adaptable, and capable of driving the green energy transition.

2. Curriculum Gaps and the Need for Modernization

The modernization of VET curricula is a pressing necessity across the Western Balkans, Greece, and Romania as these regions strive to align their educational systems with the rapidly evolving demands of the green economy. The current state of VET curricula in these countries reflects a significant lag in incorporating the latest technological advancements, sustainability practices, and industry standards critical to the renewable energy sector. This gap is not just a matter of educational content but also a broader issue of ensuring that VET programs remain relevant, dynamic, and responsive to both local and global economic shifts.

Curriculum Relevance and Industry Alignment

One of the most glaring issues identified across the VET systems in these regions is the disconnect between the existing curricula and the practical needs of the green energy industry. The curricula in many VET institutions continue to focus on traditional energy sectors, with insufficient emphasis on renewable energy technologies such as solar, wind, biomass, and energy efficiency. This misalignment creates a situation where graduates are often ill-prepared to meet the demands of the job market, resulting in skills mismatches that can hamper the growth of the green economy.

In **Albania**, for instance, the current VET curricula are heavily outdated, with minimal inclusion of modern renewable energy technologies. Despite Albania's reliance on hydropower, there is little to no focus on other forms of renewable energy, such as solar and wind, which have significant potential in the country. Trainers expressed frustration during focus group discussions about the lack of

curriculum content that addresses the technical skills needed for these emerging sectors. This gap not only limits the opportunities for students to gain relevant skills but also restricts the ability of VET programs to contribute effectively to the country's energy diversification goals.

Similarly, in **Bosnia and Herzegovina**, the VET curricula do not adequately reflect the country's renewable energy potential. The focus remains predominantly on traditional energy production methods, with insufficient integration of green technologies and practices. This is despite the country's significant potential for hydropower and biomass energy. Industry experts in Bosnia and Herzegovina have highlighted the urgent need for curricula that are more closely aligned with industry requirements, particularly in terms of technical competencies and hands-on experience in renewable energy projects.

Integration of Emerging Technologies

The integration of emerging technologies into VET curricula is another critical area where significant gaps exist. As the renewable energy sector evolves, there is an increasing demand for expertise in advanced technologies such as smart grids, energy storage systems, and digital energy management. However, these topics are often missing or underrepresented in the VET curricula across the Western Balkans, Greece, and Romania.

In **Kosovo**, while there has been some progress in introducing specialized courses in renewable energy, the curricula still fall short in covering advanced topics that are becoming increasingly important in the global energy landscape. Trainers in Kosovo pointed out that their ability to teach these advanced topics is hampered by the lack of updated educational materials and the absence of modern training facilities equipped with the necessary technology.

Montenegro also faces challenges in integrating emerging technologies into its VET programs. Despite the country's commitment to increasing its share of renewable energy, the curricula remain focused on basic technical skills, with little emphasis on the sophisticated technologies that are driving innovation in the green energy sector. This gap not only limits the potential of VET graduates to contribute to the country's energy goals but also hinders Montenegro's ability to attract investments in cutting-edge renewable energy projects.

In **Greece**, although the VET system is relatively advanced, there is still a need for continuous updates to the curricula to keep pace with technological advancements. The integration of smart grid technologies, energy storage solutions, and digital tools for energy management is crucial for preparing students to work in an increasingly interconnected and digitalized energy sector. Trainers and industry experts in Greece emphasized the importance of regularly reviewing and revising curricula to ensure they remain relevant and aligned with the latest industry trends.

Practical Training and Hands-On Experience

A recurring theme in the discussions across all regions was the critical importance of practical training and hands-on experience in VET programs. The gap between theoretical knowledge and practical application is particularly pronounced in the context of green skills, where students need to engage with real-world

technologies and practices to fully understand the complexities of the renewable energy sector.

In **Romania**, the lack of practical training opportunities is a significant barrier to the effective integration of green skills into VET programs. Despite the country's efforts to transition from coal to renewable energy, the VET curricula do not provide students with sufficient opportunities to work with modern renewable energy technologies. Trainers expressed concern that without access to state-of-the-art laboratories and renewable energy installations, students are unable to gain the hands-on experience needed to succeed in the green economy.

Albania faces similar challenges, where the absence of modern training facilities severely limits the ability of VET programs to provide practical learning experiences. Focus group participants highlighted the need for substantial investments in infrastructure, including the development of laboratories equipped with the latest renewable energy technologies. This would not only enhance the quality of education but also ensure that students are job-ready upon graduation.

In **Bosnia and Herzegovina**, the lack of practical training opportunities is compounded by the insufficient collaboration between VET institutions and the private sector. Industry experts noted that without closer ties to industry, VET programs are unlikely to provide students with the real-world experience needed to meet the demands of the green energy sector. There is a strong need for public-private partnerships that can facilitate internships, apprenticeships, and on-the-job training, allowing students to apply their knowledge in practical settings.

The Role of Policy and Institutional Support

The modernization of VET curricula cannot occur in a vacuum; it requires strong policy and institutional support to drive and sustain changes. Across the Western Balkans, Greece, and Romania, there is a need for more robust policy frameworks that prioritize the integration of green skills into VET programs. This includes setting clear targets for curriculum updates, providing funding for the development of modern training facilities, and encouraging collaboration between educational institutions and industry.

In **Montenegro**, policy makers emphasized the importance of a strategic approach to curriculum modernization. There is a need for a national roadmap that outlines specific goals for integrating green skills into VET programs, supported by clear timelines and funding mechanisms. This strategic vision is essential for ensuring that the VET system can adapt to the rapidly changing demands of the green economy and contribute effectively to the country's sustainability goals.

Kosovo has made strides in aligning its VET system with EU standards, but there is still a need for stronger institutional support to ensure the successful implementation of curriculum reforms. This includes providing professional development opportunities for trainers, investing in modern training facilities, and fostering a culture of innovation within educational institutions.

In **Greece**, the role of energy communities has been particularly effective in promoting green skills through practical training opportunities. These community-led initiatives provide a model for how local governments, industry, and educational institutions can collaborate to drive curriculum modernization and ensure that VET programs are aligned with the needs of the green energy sector.

The Way Forward: Recommendations for Curriculum Modernization

To address the curriculum gaps identified in this report, the following recommendations are proposed:

1. **Comprehensive Curriculum Review**:
    - Conduct a thorough review of existing VET curricula across all regions to identify outdated content and areas where green skills are underrepresented. This review should involve collaboration with industry experts, educators, and policy makers to ensure that curricula are aligned with current and future industry needs.
2. **Integration of Emerging Technologies**:
    - Update VET curricula to include emerging technologies such as smart grids, energy storage systems, and digital energy management tools. These topics should be integrated into both theoretical and practical components of the curriculum, providing students with a comprehensive understanding of the latest advancements in the renewable energy sector.
3. **Investment in Practical Training Facilities**:
    - Allocate funding for the development of state-of-the-art laboratories and renewable energy installations within VET institutions. These facilities should be equipped with the latest technology to provide students with hands-on experience in working with renewable energy systems.
4. **Strengthening Public-Private Partnerships**:
    - Foster collaboration between VET institutions and the private sector to create opportunities for internships, apprenticeships, and on-the-job training. Public-private partnerships are essential for ensuring that VET programs are responsive to industry needs and provide students with real-world experience.
5. **Continuous Professional Development for Trainers**:
    - Implement ongoing professional development programs for VET trainers to ensure they are equipped with the latest knowledge and skills. This includes training in emerging technologies, modern pedagogical methods, and industry-specific competencies.
6. **Policy and Institutional Support**:
    - Develop and implement national strategies for curriculum modernization that include clear targets, timelines, and funding mechanisms. Policy makers should prioritize the integration of green skills into VET programs and provide the necessary support to educational institutions to achieve these goals.

By addressing these curriculum gaps and implementing the recommended strategies, VET systems in the Western Balkans, Greece, and Romania can be transformed into dynamic and responsive educational frameworks that effectively prepare students for the demands of the green economy. This modernization effort is not only essential for supporting the region’s energy transition but also for ensuring that graduates are equipped with the skills needed to drive sustainable economic growth in the years to come.

3. Professional Development for VET Trainers

One of the most significant findings from the focus groups was the critical need for ongoing professional development for VET trainers. Without continuous learning opportunities, trainers may struggle to keep up with advancements in renewable energy technologies and teaching methods. This, in turn, limits their ability to effectively prepare students for careers in the green energy sector.

Trainers across all the countries expressed a strong desire for more training workshops, exchange programs with other European countries, and access to the latest industry information. These professional development opportunities are essential for ensuring that trainers have the skills and knowledge necessary to deliver high-quality green skills education. In Kosovo and Albania, trainers specifically mentioned the need for professional development programs that focus on practical, hands-on training in renewable energy technologies.

4. Resource and Infrastructure Challenges

The lack of modern facilities, equipment, and access to real-world project sites was a common concern across all focus groups. VET institutions in the Western Balkans, Greece, and Romania often operate with limited resources, which hampers their ability to provide practical, hands-on training. This is particularly problematic in the context of green skills, where students need to engage with cutting-edge technologies and practices to be fully prepared for the labor market.

Participants emphasized the need for significant investment in VET infrastructure, including the development of state-of-the-art laboratories, access to renewable energy installations for training purposes, and modern teaching tools such as simulation software. In Montenegro, for instance, the need for updated infrastructure was highlighted as a critical factor in improving the quality of VET programs.

5. Policy Support and Strategic Alignment

While there is broad recognition of the importance of green skills in the VET sector, the implementation of supportive policies has been inconsistent across the region. Focus group participants called for stronger policy frameworks that provide clear guidelines, targets, and incentives for integrating green skills into VET programs. These policies should be aligned with national education strategies and broader economic and environmental goals, particularly those related to the European Green Deal and the Paris Agreement.

In Romania, policy makers discussed the challenges of transitioning from coal to renewable energy and the need for a comprehensive policy framework to support this shift. In Bosnia and Herzegovina, participants emphasized the importance of aligning VET programs with the country’s energy strategy and ensuring that policy frameworks are in place to support the development of green skills.

6. Collaboration with Industry and Public-Private Partnerships

The focus groups highlighted the critical role of collaboration between VET institutions and the green energy industry in driving the integration of green skills. Without input and support from industry, VET programs risk becoming disconnected from the real-world demands of the labor market.

Participants called for the establishment of stronger public-private partnerships that can facilitate the sharing of resources, expertise, and opportunities for practical training. Such collaborations are essential for ensuring that VET programs are responsive to industry needs and can effectively prepare students for employment in the green energy sector. In Greece, for example, the success of energy communities in promoting green skills was attributed to strong partnerships between local governments, industry, and educational institutions.

7. The Role of Energy Communities and Social Enterprises

In Greece, the concept of energy communities emerged as a particularly successful model for promoting green skills. These community-led renewable energy projects not only contribute to the country's energy goals but also serve as practical training grounds for VET students. The focus groups discussed the potential for replicating this model in other countries in the region, where social enterprises and community initiatives could play a similar role in supporting the green energy transition.

Participants in Greece emphasized the importance of energy communities in fostering a sense of ownership and responsibility among students, as well as providing real-world experience in renewable energy projects. This model could be particularly effective in the Western Balkans, where community-led initiatives have the potential to drive both social and economic development.

Strategic Recommendations

Based on the findings from both the desk and field research, the following strategic recommendations are proposed to enhance the integration of green skills into VET programs across the Western Balkans, Greece, and Romania:

1. **Curriculum Modernization**:
    - Develop and implement updated curricula that reflect the latest technologies, industry standards, and sustainability practices in the green energy sector. These curricula should be flexible and

adaptable, allowing for the rapid integration of new developments as they emerge. Specific attention should be given to solar and wind energy, energy efficiency, and sustainable construction, as these areas are critical for the region's energy transition.

2. **Investment in Infrastructure**:
    - Allocate significant resources to the development of state-of-the-art training facilities, including laboratories, renewable energy installations, and modern teaching tools. This investment is critical for providing students with the practical, hands-on experience needed to succeed in the green energy sector. In Romania and Montenegro, in particular, there is a pressing need for infrastructure improvements to support the delivery of high-quality VET programs.
3. **Professional Development for Trainers**:
    - Establish ongoing professional development programs for VET trainers, including training workshops, exchange programs with other European countries, and access to the latest industry information. These programs should be designed to ensure that trainers have the skills and knowledge necessary to deliver high-quality green skills education. In Kosovo and Albania, professional development should focus on providing trainers with the tools and resources they need to deliver practical training in renewable energy technologies.
4. **Strengthening Policy Frameworks**:
    - Develop and implement stronger policy frameworks that provide clear guidelines, targets, and incentives for integrating green skills into VET programs. These frameworks should be aligned with national education strategies and broader economic and environmental goals, such as the European Green Deal and the Paris Agreement. In Romania, for example, there is a need for policies that support the transition from coal to renewable energy and promote the development of green skills.
5. **Public-Private Partnerships**:
    - Foster collaboration between VET institutions and the green energy industry through public-private partnerships. These partnerships can facilitate the sharing of resources, expertise, and opportunities for practical training, ensuring that VET programs are responsive to industry needs. In Bosnia and Herzegovina, increased industry collaboration is essential for aligning VET programs with the needs of the green energy sector.
6. **Support for Energy Communities and Social Enterprises**:
    - Encourage the development of energy communities and social enterprises as models for promoting green skills. These community-led initiatives can serve as practical training grounds for VET students and contribute to the broader green energy transition. Greece's experience with energy communities provides a valuable model that could be adapted and implemented in other countries in the region.

7. **Monitoring and Evaluation**:
    - Establish systems for continuous monitoring and evaluation of VET programs to ensure that they remain aligned with industry needs and national energy goals. This should include regular feedback from industry stakeholders, as well as assessments of student outcomes and program effectiveness. Monitoring and evaluation are particularly important in Albania and Kosovo, where VET programs are still in the early stages of integrating green skills.
8. **Building Entrepreneurial Capacities**:
    - Integrate entrepreneurship training into VET curricula, with a focus on green business models and sustainable practices. This will equip students with the skills needed to innovate and create value in the green economy. In the Western Balkans, there is a significant opportunity to develop entrepreneurial capacities that can drive the region's green energy transition.
9. **Regional Cooperation and Knowledge Sharing**:
    - Promote regional cooperation and knowledge sharing among VET institutions, industry, and policy makers across the Western Balkans, Greece, and Romania. This can facilitate the exchange of best practices, resources, and expertise, and help build a more cohesive and effective VET system across the region. Collaborative projects and joint initiatives should be encouraged to strengthen the region's collective capacity to support the green energy transition.

Conclusion

This comprehensive report underscores the critical role of vocational education and training in supporting the green energy transition across the Western Balkans, Greece, and Romania. By addressing the challenges identified in this report and implementing the strategic recommendations outlined above, VET systems in the region can be transformed into powerful drivers of sustainable economic development and the creation of green jobs.

The findings from this report will inform the development of the training program which aims to build the capacity of VET trainers and equip entrepreneur learners with the skills needed to thrive in the green economy. This program will be essential in ensuring that VET institutions in the Western Balkans and beyond are fully prepared to meet the demands of the 21st-century labor market and contribute to a sustainable and resilient future.

In conclusion, the successful integration of green skills into VET programs across the region will require a coordinated and collaborative effort, involving government, industry, educational institutions, and civil society. By working together, these stakeholders can create a VET system that not only meets the needs of today's labor market but also anticipates and adapts to the challenges and opportunities of the future. This will be essential in ensuring that the Western Balkans, Greece, and Romania can fully participate in and benefit from the global green energy transition.

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TRANSLATION OF THE REPORT IN PARTNER LANGUAGES

Greek

ΠΕΡΙΕΚΤΙΚΗ ΕΚΘΕΣΗ: Στρατηγική ανάλυση και συστάσεις

Εισαγωγή
Το παγκόσμιο τοπίο υφίσταται βαθύ μετασχηματισμό που οφείλεται στην επείγουσα ανάγκη αντιμετώπισης της κλιματικής αλλαγής, μείωσης των εκπομπών διοξειδίου του άνθρακα και μετάβασης σε μια βιώσιμη, πράσινη οικονομία. Η Ευρωπαϊκή Ένωση έχει αναλάβει ηγετικό ρόλο σε αυτή την προσπάθεια με τη φιλόδοξη Πράσινη Συμφωνία της, η οποία στοχεύει να καταστήσει την Ευρώπη την πρώτη κλιματικά ουδέτερη ήπειρο έως το 2050. Αυτή η μετασχηματιστική ατζέντα θέτει σημαντικές απαιτήσεις σε όλους τους τομείς της οικονομίας, ιδίως στην ενέργεια, τη βιομηχανία και την εκπαίδευση. Για τις χώρες των Δυτικών Βαλκανίων, την Ελλάδα και τη Ρουμανία – περιοχές με ποικίλες οικονομικές προκλήσεις και αναπτυξιακές ανάγκες – η μετάβαση σε μια πράσινη οικονομία είναι τόσο αναγκαιότητα όσο και ευκαιρία.

Τα συστήματα επαγγελματικής εκπαίδευσης και κατάρτισης (ΕΕΚ) βρίσκονται στο επίκεντρο αυτής της μετάβασης. Διαδραματίζουν κρίσιμο ρόλο στην προετοιμασία του εργατικού δυναμικού με τις απαραίτητες δεξιότητες για τη στήριξη του τομέα της πράσινης ενέργειας, την προώθηση της καινοτομίας και την προώθηση της βιώσιμης οικονομικής ανάπτυξης. Στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία, όπου η οικονομική ανάπτυξη συνδέεται στενά με τον εκσυγχρονισμό των ενεργειακών συστημάτων και την ευθυγράμμιση με τα περιβαλλοντικά

πρότυπα της ΕΕ, τα προγράμματα ΕΕΚ πρέπει να εξελιχθούν γρήγορα για να καλύψουν αυτές τις αναδυόμενες ανάγκες.

Ωστόσο, η πορεία προς την ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα σπουδών ΕΕΚ σε όλες αυτές τις περιφέρειες είναι γεμάτη προκλήσεις. Η κληρονομιά των απαρχαιωμένων εκπαιδευτικών συστημάτων, οι περιορισμένες υποδομές, η ανεπαρκής συνεργασία μεταξύ εκπαιδευτικών ιδρυμάτων και βιομηχανίας και η έλλειψη ευθυγράμμισης με τις σύγχρονες οικονομικές απαιτήσεις έχουν δημιουργήσει σημαντικά εμπόδια. Οι χώρες των Δυτικών Βαλκανίων, ειδικότερα, αντιμετωπίζουν τη διπλή πρόκληση του εκσυγχρονισμού των οικονομιών τους, αντιμετωπίζοντας παράλληλα τις πιεστικές ανάγκες της περιβαλλοντικής βιωσιμότητας και της ενεργειακής ασφάλειας.

Αυτή η περιεκτική έκθεση επιδιώκει να αντιμετωπίσει αυτές τις προκλήσεις παρέχοντας μια εις βάθος ανάλυση της τρέχουσας κατάστασης των συστημάτων ΕΕΚ στην Αλβανία, τη Βοσνία-Ερζεγοβίνη, το Κοσσυφοπέδιο, το Μαυροβούνιο, την Ελλάδα και τη Ρουμανία. Βασίζεται σε εκτεταμένη έρευνα τεκμηρίωσης, καθώς και σε πληροφορίες που συγκεντρώθηκαν από την έρευνα πεδίου που περιλαμβάνει ομάδες εστίασης με εκπαιδευτές ΕΕΚ, εμπειρογνώμονες του κλάδου, υπεύθυνους λήψης αποφάσεων και υπεύθυνους χάραξης πολιτικής σε όλες αυτές τις περιοχές. Η έκθεση έχει σχεδιαστεί για να εξοπλίσει τα ενδιαφερόμενα μέρη με μια ολοκληρωμένη κατανόηση των υπό εξέταση ζητημάτων και να προσφέρει στρατηγικές συστάσεις για την ενίσχυση της ικανότητας των συστημάτων ΕΕΚ να υποστηρίξουν τη μετάβαση στην πράσινη ενέργεια.

Το επίκεντρο της παρούσας έκθεσης είναι ιδιαίτερα σημαντικό, δεδομένου του κρίσιμου ρόλου που διαδραματίζει ο τομέας της ΕΕΚ στη διαμόρφωση του μελλοντικού εργατικού δυναμικού. Οι γνώσεις και οι συστάσεις που παρέχονται εδώ αποσκοπούν στην καθοδήγηση της ανάπτυξης προγραμμάτων ΕΕΚ που ανταποκρίνονται στις ανάγκες της πράσινης οικονομίας, είναι ικανά να προωθήσουν την καινοτομία και ευθυγραμμίζονται με τους ευρύτερους στόχους της Ευρωπαϊκής Πράσινης Συμφωνίας και της συμφωνίας του Παρισιού.

Στο πλαίσιο των Δυτικών Βαλκανίων, της Ελλάδας και της Ρουμανίας, η ενσωμάτωση των πράσινων δεξιοτήτων στα συστήματα ΕΕΚ είναι κάτι περισσότερο από μια εκπαιδευτική μεταρρύθμιση· Είναι μια στρατηγική επιταγή που έχει τη δυνατότητα να μετατρέψει αυτές τις περιοχές σε ηγέτες στον τομέα της πράσινης ενέργειας. Εξοπλίζοντας τους φοιτητές και τους επαγγελματίες με τις δεξιότητες που απαιτούνται για να υπερέχουν στη βιομηχανία ανανεώσιμων πηγών ενέργειας, τα προγράμματα ΕΕΚ μπορούν να συμβάλουν σημαντικά στη μείωση των εκπομπών διοξειδίου του άνθρακα, στην ενίσχυση της ενεργειακής ασφάλειας και στη δημιουργία θέσεων εργασίας υψηλής ποιότητας που υποστηρίζουν τη βιώσιμη ανάπτυξη.

Το ταξίδι προς μια πράσινη οικονομία είναι σύνθετο και πολύπλευρο, απαιτώντας συντονισμένες προσπάθειες από την κυβέρνηση, τη βιομηχανία, τα εκπαιδευτικά ιδρύματα και την κοινωνία των πολιτών. Η παρούσα έκθεση υπογραμμίζει τη σημασία της συνεργασίας και της κοινής ευθύνης για την επίτευξη αυτών των στόχων. Μέσω της συνεργασίας, τα ενδιαφερόμενα μέρη μπορούν να ξεπεράσουν τις προκλήσεις που προσδιορίζονται στην παρούσα έκθεση και να οικοδομήσουν ένα σύστημα ΕΕΚ που δεν είναι μόνο ανθεκτικό και προσαρμόσιμο, αλλά και ικανό να οδηγήσει τη μετάβαση στην πράσινη ενέργεια στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία.
Καθώς εμβαθύνουμε στα ευρήματα και τις στρατηγικές συστάσεις αυτής της έκθεσης, είναι σημαντικό να αναγνωρίσουμε το ευρύτερο πλαίσιο στο οποίο λειτουργούν αυτές οι περιοχές. Τα Δυτικά Βαλκάνια, η Ελλάδα και η Ρουμανία βρίσκονται σε μια κρίσιμη στιγμή στην οικονομική και περιβαλλοντική τους πορεία. Οι αποφάσεις που ελήφθησαν σήμερα σχετικά με την ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ θα έχουν μακροχρόνιες επιπτώσεις στην ικανότητα της περιοχής να ανταγωνιστεί στην παγκόσμια οικονομία, να επιτύχει ενεργειακή ανεξαρτησία και να επιτύχει τους φιλόδοξους στόχους που θέτει η Ευρωπαϊκή Πράσινη Συμφωνία. Η παρούσα έκθεση χρησιμεύει ως κρίσιμος οδηγός για τα ενδιαφερόμενα μέρη καθώς πλοηγούνται σε αυτήν την περίπλοκη αλλά ουσιαστική μετάβαση προς ένα βιώσιμο και ευημερούν μέλλον.

Ιστορικό και πλαίσιο
Τα Δυτικά Βαλκάνια, η Ελλάδα και η Ρουμανία είναι περιοχές που χαρακτηρίζονται από την πλούσια πολιτιστική κληρονομιά τους, τα ποικίλα τοπία και τις πολύπλοκες κοινωνικοοικονομικές ιστορίες. Ωστόσο, οι περιφέρειες αυτές αντιμετωπίζουν επίσης μια σειρά μοναδικών προκλήσεων που έχουν διαμορφώσει την αναπτυξιακή τους πορεία, ιδίως στο πλαίσιο της ώθησης της Ευρωπαϊκής Ένωσης προς ένα πράσινο και βιώσιμο μέλλον. Καθώς η παγκόσμια κοινότητα δίνει όλο και μεγαλύτερη προτεραιότητα στην περιβαλλοντική βιωσιμότητα και τη δράση για το κλίμα, οι χώρες αυτές βρίσκονται σε ένα κρίσιμο σταυροδρόμι, όπου η ενσωμάτωση των πράσινων δεξιοτήτων στα συστήματα επαγγελματικής εκπαίδευσης και κατάρτισης (ΕΕΚ) δεν αποτελεί απλώς επιλογή αλλά αναγκαιότητα για βιώσιμη ανάπτυξη και ανάπτυξη.

Η Ευρωπαϊκή Πράσινη Συμφωνία και οι συνέπειές της
Η Ευρωπαϊκή Πράσινη Συμφωνία, που δρομολογήθηκε από την Ευρωπαϊκή Ένωση το 2019, αντιπροσωπεύει έναν μετασχηματιστικό χάρτη πορείας για να καταστεί βιώσιμη η οικονομία της ΕΕ, μετατρέποντας τις κλιματικές και περιβαλλοντικές προκλήσεις σε ευκαιρίες σε όλους τους τομείς πολιτικής. Θέτει τον φιλόδοξο στόχο να καταστεί η Ευρώπη η πρώτη κλιματικά ουδέτερη ήπειρος έως το 2050, με ενδιάμεσους στόχους που περιλαμβάνουν μείωση των εκπομπών αερίων του θερμοκηπίου κατά 55 % έως το 2030, σε σύγκριση με τα επίπεδα του 1990. Αυτή η συμφωνία δεν είναι απλώς ένα σύνολο περιβαλλοντικών κανονισμών· Πρόκειται για μια ολοκληρωμένη στρατηγική που ενσωματώνει οικονομικές, κοινωνικές και εκπαιδευτικές μεταρρυθμίσεις με στόχο την προώθηση της πράσινης μετάβασης σε όλα τα κράτη μέλη και τις γειτονικές χώρες.

Για τα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία, η Ευρωπαϊκή Πράσινη Συμφωνία παρουσιάζει τόσο ευκαιρίες όσο και προκλήσεις. Αφενός, προσφέρει ένα σαφές πλαίσιο για τη μετάβαση σε μια βιώσιμη οικονομία, με πρόσβαση σε χρηματοδότηση, τεχνολογική καινοτομία και ανταλλαγή γνώσεων. Από την άλλη, οι περιφέρειες αυτές πρέπει να αντιμετωπίσουν σημαντικές οικονομικές ανισότητες, παραδοσιακές ενεργειακές υποδομές και διαφορετικά επίπεδα ευθυγράμμισης με τις πολιτικές της ΕΕ. Η ανάγκη εκσυγχρονισμού των ενεργειακών τομέων, μείωσης της εξάρτησης από τα ορυκτά καύσιμα και ενσωμάτωσης των ανανεώσιμων πηγών ενέργειας έχει ασκήσει τεράστια πίεση στις χώρες αυτές να προσαρμοστούν γρήγορα και να καινοτομήσουν.

Οικονομικό και Ενεργειακό Τοπίο των Δυτικών Βαλκανίων, της Ελλάδας και της Ρουμανίας

Τα Δυτικά Βαλκάνια - που περιλαμβάνουν την Αλβανία, τη Βοσνία και Ερζεγοβίνη, το Κοσσυφοπέδιο, το Μαυροβούνιο, τη Βόρεια Μακεδονία και τη Σερβία - μαζί με την Ελλάδα και τη Ρουμανία, είναι περιοχές με οικονομίες που ιστορικά εξαρτώνται από ενεργοβόρες βιομηχανίες, πολλές από τις οποίες έχουν τις ρίζες τους στον άνθρακα και άλλα ορυκτά καύσιμα. Οι βιομηχανίες αυτές αποτελούν δίκοπο μαχαίρι: ενώ έχουν προσφέρει θέσεις εργασίας και οικονομική σταθερότητα, έχουν επίσης συμβάλει στην υποβάθμιση του περιβάλλοντος και έχουν καταστεί ολοένα και πιο μη βιώσιμες στο πλαίσιο των παγκόσμιων κλιματικών στόχων.

Στα Δυτικά Βαλκάνια, ο ενεργειακός τομέας χαρακτηρίζεται από γήρανση των υποδομών, υψηλά επίπεδα ενεργειακής έντασης και σημαντική εξάρτηση από σταθμούς ηλεκτροπαραγωγής με καύση άνθρακα. Παρά τις δυνατότητες για ανανεώσιμες πηγές ενέργειας - ιδιαίτερα υδροηλεκτρική, αιολική και ηλιακή ενέργεια - αυτοί οι πόροι παραμένουν αναξιοποίητοι λόγω ενός συνδυασμού ρυθμιστικών, οικονομικών και τεχνικών εμποδίων. Η Ελλάδα, αν και πιο προχωρημένη στην ενεργειακή της μετάβαση, εξακολουθεί να παλεύει με ζητήματα όπως η ενεργειακή φτώχεια, η εξάρτηση από τον λιγνίτη (ένα είδος άνθρακα) και η ανάγκη ουσιαστικού εκσυγχρονισμού του δικτύου. Η Ρουμανία, ομοίως, βρίσκεται σε κρίσιμη καμπή, αντιμετωπίζοντας την πρόκληση της μετάβασης από ένα ενεργειακό σύστημα που εξαρτάται από τον άνθρακα σε ένα πιο διαφοροποιημένο και βιώσιμο.

Αυτές οι ενεργειακές προκλήσεις επιδεινώνονται από την κοινωνικοοικονομική πραγματικότητα των περιφερειών. Τα υψηλά ποσοστά ανεργίας, ιδίως μεταξύ των νέων, οι οικονομικές ανισότητες μεταξύ αστικών και αγροτικών περιοχών και η κληρονομιά της πολιτικής αστάθειας σε ορισμένα μέρη των Δυτικών Βαλκανίων προσθέτουν επίπεδα πολυπλοκότητας στην πράσινη μετάβαση. Επιπλέον, τα συστήματα ΕΕΚ των περιφερειών, τα οποία είναι ζωτικής σημασίας για τον εξοπλισμό του εργατικού δυναμικού με τις δεξιότητες που απαιτούνται για την πράσινη οικονομία, είναι συχνά παρωχημένα και δεν ευθυγραμμίζονται με τις ανάγκες της βιομηχανίας.

Ο ρόλος της επαγγελματικής εκπαίδευσης και κατάρτισης (ΕΕΚ)

Τα συστήματα επαγγελματικής εκπαίδευσης και κατάρτισης (ΕΕΚ) είναι μοναδικά τοποθετημένα για να προωθήσουν την πράσινη μετάβαση, εξοπλίζοντας το

εργατικό δυναμικό με τις δεξιότητες που απαιτούνται για τη στήριξη βιώσιμων βιομηχανιών και τομέων ανανεώσιμων πηγών ενέργειας. Στο πλαίσιο των Δυτικών Βαλκανίων, της Ελλάδας και της Ρουμανίας, τα συστήματα ΕΕΚ δεν είναι μόνο εκπαιδευτικά ιδρύματα αλλά και καταλύτες για την οικονομική ανάπτυξη, την κοινωνική κινητικότητα και την περιφερειακή ολοκλήρωση. Ωστόσο, η ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ σε όλες αυτές τις περιοχές ήταν ασυνεπής, με σημαντικές ανισότητες στη διαθεσιμότητα, την ποιότητα και τη συνάφεια της κατάρτισης.
Στα Δυτικά Βαλκάνια, τα προγράμματα ΕΕΚ συχνά αντιμετωπίζουν ξεπερασμένα προγράμματα σπουδών, ανεπαρκείς πόρους και έλλειψη ευθυγράμμισης με τις ταχέως εξελισσόμενες ανάγκες του τομέα της πράσινης ενέργειας. Αυτή η απόκλιση θέτει ένα σημαντικό εμπόδιο στην ικανότητα της περιοχής να αξιοποιήσει το δυναμικό ανανεώσιμων πηγών ενέργειας και να δημιουργήσει θέσεις εργασίας υψηλής ποιότητας στις αναδυόμενες πράσινες βιομηχανίες. Η Ελλάδα, παρά το πιο προηγμένο σύστημα ΕΕΚ, εξακολουθεί να αντιμετωπίζει προκλήσεις που σχετίζονται με την ενεργειακή φτώχεια και την ανάγκη για συνεχή εκσυγχρονισμό των προγραμμάτων σπουδών ώστε να συμβαδίζει με τις τεχνολογικές εξελίξεις. Στη Ρουμανία, η μετάβαση σε μια πράσινη οικονομία παρεμποδίζεται από τη μεγάλη εξάρτηση από τον άνθρακα και ένα σύστημα ΕΕΚ που δεν έχει ακόμη ανταποκριθεί πλήρως στις απαιτήσεις του τομέα των ανανεώσιμων πηγών ενέργειας.

Ο επείγων χαρακτήρας της ενσωμάτωσης των πράσινων δεξιοτήτων
Ο επείγων χαρακτήρας της ενσωμάτωσης των πράσινων δεξιοτήτων στα συστήματα ΕΕΚ σε αυτές τις περιφέρειες δεν μπορεί να υπερεκτιμηθεί. Καθώς η ΕΕ επιταχύνει τις προσπάθειές της για την επίτευξη κλιματικής ουδετερότητας, τα Δυτικά Βαλκάνια, η Ελλάδα και η Ρουμανία πρέπει να διασφαλίσουν ότι το εργατικό δυναμικό τους είναι έτοιμο να ανταποκριθεί στις απαιτήσεις της πράσινης οικονομίας. Αυτό περιλαμβάνει όχι μόνο την επικαιροποίηση των προγραμμάτων σπουδών και την επένδυση σε εγκαταστάσεις κατάρτισης, αλλά και την προώθηση μιας νοοτροπίας βιωσιμότητας και καινοτομίας εντός των εκπαιδευτικών ιδρυμάτων και της ευρύτερης κοινότητας.
Η ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ είναι ιδιαίτερα κρίσιμη για την υποστήριξη των επιχειρηματιών εκπαιδευομένων - εκείνων που θα ηγηθούν της προσπάθειας για την ανάπτυξη νέων πράσινων επιχειρήσεων και την προώθηση της βιώσιμης οικονομικής ανάπτυξης. Εξοπλίζοντας αυτούς τους εκπαιδευόμενους με τις απαραίτητες δεξιότητες, τα συστήματα ΕΕΚ μπορούν να βοηθήσουν στη δημιουργία μιας γενιάς επιχειρηματιών που δεν είναι μόνο ικανοί να πλοηγηθούν στις πολυπλοκότητες της πράσινης οικονομίας, αλλά είναι επίσης σε θέση να καινοτομήσουν και να δημιουργήσουν νέες ευκαιρίες στις ανανεώσιμες πηγές ενέργειας, την ενεργειακή απόδοση και τις βιώσιμες πρακτικές.
Επιπλέον, η επιτυχής ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ έχει εκτεταμένες επιπτώσεις στην κοινωνική ισότητα και την περιφερειακή σταθερότητα. Καθώς οι περιοχές αυτές απομακρύνονται από τα ορυκτά καύσιμα και στρέφονται προς πιο βιώσιμες πηγές ενέργειας, είναι σημαντικό να διασφαλιστεί ότι τα οφέλη της πράσινης οικονομίας κατανέμονται δίκαια σε όλους

τους τομείς της κοινωνίας. Αυτό περιλαμβάνει την αντιμετώπιση των αναγκών των περιθωριοποιημένων κοινοτήτων, την παροχή ευκαιριών για διά βίου μάθηση και τη διασφάλιση ότι όλοι οι πολίτες έχουν πρόσβαση στις δεξιότητες και τις γνώσεις που απαιτούνται για τη συμμετοχή στην πράσινη μετάβαση.

Βασικά ευρήματα

1. Η τρέχουσα κατάσταση των συστημάτων ΕΕΚ στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία

Τα συστήματα επαγγελματικής εκπαίδευσης και κατάρτισης (ΕΕΚ) στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία βρίσκονται σε ένα κρίσιμο σταυροδρόμι, αντιμέτωποι με τη διπλή πίεση του εκσυγχρονισμού των προγραμμάτων σπουδών τους για να ανταποκριθούν στις απαιτήσεις της πράσινης οικονομίας, αντιμετωπίζοντας παράλληλα τις προκλήσεις που σχετίζονται με τις παρωχημένες υποδομές, τους περιορισμένους πόρους και την ανεπαρκή συνεργασία της βιομηχανίας. Τα ευρήματα από την εκτεταμένη έρευνά μας, συμπεριλαμβανομένης τόσο της έρευνας τεκμηρίωσης όσο και της έρευνας πεδίου μέσω ομάδων εστίασης, αποκαλύπτουν σημαντικές διαφορές στην κατάσταση των συστημάτων ΕΕΚ σε αυτές τις περιοχές, υπογραμμίζοντας τόσο την πρόοδο όσο και τα επίμονα κενά.

Αλβανία:

Το σύστημα ΕΕΚ της Αλβανίας αντιμετωπίζει επί του παρόντος τις προκλήσεις της ευθυγράμμισης των εκπαιδευτικών προσφορών του με τις αναδυόμενες ανάγκες της πράσινης οικονομίας. Ενώ αναγνωρίζεται όλο και περισσότερο η σημασία των πράσινων δεξιοτήτων, η ενσωμάτωση αυτών των δεξιοτήτων στα προγράμματα σπουδών ΕΕΚ παραμένει στα σπάργανα. Η εξάρτηση της χώρας από την υδροηλεκτρική ενέργεια ως πρωτογενή πηγή ενέργειας παρουσιάζει μια μοναδική ευκαιρία για τα προγράμματα ΕΕΚ να επικεντρωθούν στις ανανεώσιμες πηγές ενέργειας, ωστόσο αυτό το δυναμικό δεν αξιοποιείται επαρκώς.

Οι συζητήσεις των ομάδων εστίασης στην Αλβανία ανέδειξαν αρκετά κρίσιμα ζητήματα:

- **Συνάφεια προγράμματος σπουδών**: Οι εκπαιδευτές ΕΕΚ και οι υπεύθυνοι χάραξης πολιτικής σημείωσαν ότι τα υπάρχοντα προγράμματα σπουδών είναι ξεπερασμένα και δεν καλύπτουν επαρκώς τις σύγχρονες τεχνολογίες ανανεώσιμων πηγών ενέργειας, όπως οι πρακτικές ηλιακής, αιολικής και ενεργειακής απόδοσης. Υπάρχει επιτακτική ανάγκη να επικαιροποιηθούν τα προγράμματα σπουδών ώστε να αντικατοπτρίζουν τις τελευταίες εξελίξεις και να ενσωματωθούν πρακτικά, πρακτικά στοιχεία κατάρτισης.
- **Περιορισμοί πόρων**: Η έλλειψη σύγχρονων εγκαταστάσεων, όπως εργαστηρίων εξοπλισμένων με σύγχρονη τεχνολογία, περιορίζει σοβαρά την ικανότητα των ιδρυμάτων ΕΕΚ να παρέχουν αποτελεσματική κατάρτιση. Οι εκπαιδευτές τόνισαν ότι χωρίς αυτούς τους πόρους, οι μαθητές δεν είναι σε θέση να αποκτήσουν την πρακτική εμπειρία που απαιτείται για να επιτύχουν στον τομέα της πράσινης ενέργειας.

- **Υποστήριξη πολιτικής**: Υπάρχει σαφής ανάγκη για ισχυρότερα πλαίσια πολιτικής που υποστηρίζουν την ενσωμάτωση πράσινων δεξιοτήτων σε προγράμματα ΕΕΚ. Ενώ υπάρχει αυξανόμενη πολιτική βούληση για την προώθηση των ανανεώσιμων πηγών ενέργειας, αυτό δεν έχει ακόμη μεταφραστεί σε απτή στήριξη των ιδρυμάτων ΕΕΚ, όπως η χρηματοδότηση για βελτιώσεις υποδομών και επαγγελματική ανάπτυξη των εκπαιδευτών.
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Βοσνία-Ερζεγοβίνη:
Στη Βοσνία και Ερζεγοβίνη, το σύστημα ΕΕΚ αντιμετωπίζει σημαντικές προκλήσεις που σχετίζονται τόσο με την κληρονομιά των ξεπερασμένων εκπαιδευτικών δομών όσο και με την υποχρησιμοποίηση των άφθονων ανανεώσιμων πηγών ενέργειας της χώρας. Ο ενεργειακός τομέας της χώρας εξαρτάται σε μεγάλο βαθμό από τον άνθρακα, ωστόσο υπάρχει σημαντικό δυναμικό για υδροηλεκτρική ενέργεια και ενέργεια από βιομάζα, οι οποίες δεν αξιοποιούνται πλήρως στα προγράμματα σπουδών ΕΕΚ.
Τα βασικά ευρήματα από τις συζητήσεις των ομάδων εστίασης περιλαμβάνουν:

- **Αποσύνδεση μεταξύ εκπαίδευσης και βιομηχανίας**: Υπάρχει ένα αξιοσημείωτο χάσμα μεταξύ των δεξιοτήτων που διδάσκονται στα προγράμματα ΕΕΚ και των αναγκών της βιομηχανίας πράσινης ενέργειας. Οι εμπειρογνώμονες του κλάδου εξέφρασαν την απογοήτευσή τους για την έλλειψη συνεργασίας μεταξύ των εκπαιδευτικών ιδρυμάτων και του ιδιωτικού τομέα, η οποία έχει ως αποτέλεσμα πτυχιούχους που δεν είναι καλά προετοιμασμένοι για τις απαιτήσεις του εργατικού δυναμικού.
- **Ανάγκη για επαγγελματική ανάπτυξη**: Οι εκπαιδευτές ΕΕΚ στη Βοσνία και Ερζεγοβίνη τόνισαν την επείγουσα ανάγκη για συνεχή επαγγελματική ανάπτυξη. Πολλοί εκπαιδευτές δεν εκτίθενται στις τελευταίες τεχνολογίες ανανεώσιμων πηγών ενέργειας και παιδαγωγικές μεθόδους, γεγονός που εμποδίζει την ικανότητά τους να παρέχουν αποτελεσματική κατάρτιση.
- **Ελλείψεις υποδομής**: Παρόμοια με την Αλβανία, η έλλειψη σύγχρονων εγκαταστάσεων κατάρτισης αποτελεί σημαντικό εμπόδιο. Οι εκπαιδευτές τόνισαν ότι χωρίς πρόσβαση σε σύγχρονο εξοπλισμό και τεχνολογία, οι μαθητές δεν είναι σε θέση να αποκτήσουν τις πρακτικές δεξιότητες που απαιτούνται για την απασχόληση στον τομέα της πράσινης ενέργειας.
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Κοσσυφοπέδιο:
Το Κοσσυφοπέδιο έχει σημειώσει μεγαλύτερη πρόοδο από ορισμένους περιφερειακούς γείτονές του στην ενσωμάτωση πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ, ιδιαίτερα μέσω της εισαγωγής εξειδικευμένων μαθημάτων στις ανανεώσιμες πηγές ενέργειας. Ωστόσο, εξακολουθούν να υπάρχουν σημαντικές προκλήσεις, ιδίως όσον αφορά τις υποδομές και τη διαθεσιμότητα πόρων.
Οι βασικές πληροφορίες από τις συζητήσεις ομάδων εστίασης περιλαμβάνουν:

- **Προκλήσεις υποδομής**: Ενώ ορισμένα ιδρύματα ΕΕΚ στο Κοσσυφοπέδιο έχουν αρχίσει να εισάγουν πράσινες δεξιότητες στα προγράμματα σπουδών τους, η έλλειψη σύγχρονων εγκαταστάσεων και εξοπλισμού παραμένει σημαντικό εμπόδιο. Οι εκπαιδευτές επεσήμαναν ότι χωρίς πρόσβαση σε κατάλληλα εργαλεία κατάρτισης, οι μαθητές δεν είναι σε θέση

να ασχοληθούν πλήρως με το υλικό ή να αναπτύξουν τις πρακτικές δεξιότητες που απαιτούνται για την αγορά εργασίας.

- **Συμμετοχή και ενδιαφέρον των φοιτητών**: Υπάρχει υψηλό επίπεδο ενδιαφέροντος μεταξύ των φοιτητών για την επιδίωξη σταδιοδρομίας στον τομέα της πράσινης ενέργειας, με γνώμονα την αναγνώριση της αυξανόμενης σημασίας των ανανεώσιμων πηγών ενέργειας. Ωστόσο, οι εκπαιδευτές εξέφρασαν την ανησυχία τους ότι αυτός ο ενθουσιασμός είναι δύσκολο να διατηρηθεί ελλείψει επαρκών πόρων και ευκαιριών πρακτικής κατάρτισης.
- **Ευθυγράμμιση με τα πρότυπα της ΕΕ**: Οι υπεύθυνοι χάραξης πολιτικής στο Κοσσυφοπέδιο τόνισαν τη σημασία της ευθυγράμμισης του συστήματος ΕΕΚ της χώρας με τα πρότυπα της ΕΕ, ιδιαίτερα υπό το πρίσμα των φιλοδοξιών του Κοσσυφοπεδίου για ένταξη στην ΕΕ. Αυτό περιλαμβάνει όχι μόνο την ενημέρωση των προγραμμάτων σπουδών, αλλά και τη διασφάλιση ότι οι εκπαιδευτές είναι εξοπλισμένοι με τις γνώσεις και τις δεξιότητες που απαιτούνται για την αποτελεσματική διδασκαλία αυτών των ενημερωμένων προγραμμάτων.
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Μαυροβούνιο:
Το Μαυροβούνιο έχει σημειώσει αξιέπαινη πρόοδο στην ενσωμάτωση θεμάτων ανανεώσιμων πηγών ενέργειας στο σύστημα ΕΕΚ, ιδίως σε τομείς όπως η αιολική και η ηλιακή ενέργεια. Ωστόσο, η χώρα εξακολουθεί να αντιμετωπίζει σημαντικές προκλήσεις που σχετίζονται με τις υποδομές, τις ενημερώσεις των προγραμμάτων σπουδών και την επαγγελματική ανάπτυξη των εκπαιδευτών.
Οι συζητήσεις των ομάδων εστίασης αποκάλυψαν τα ακόλουθα βασικά σημεία:

- **Ευελιξία και προσαρμογή του προγράμματος σπουδών**: Υπάρχει μεγάλη ανάγκη για πιο δυναμικά και ευέλικτα προγράμματα σπουδών που μπορούν να προσαρμοστούν γρήγορα στις αλλαγές στον τομέα της ενέργειας. Οι εκπαιδευτές και οι εμπειρογνώμονες της βιομηχανίας τόνισαν τη σημασία της ενσωμάτωσης των τελευταίων τεχνολογιών και πρακτικών της βιομηχανίας στα προγράμματα ΕΕΚ για να διασφαλιστεί ότι οι απόφοιτοι είναι προετοιμασμένοι για την ταχέως εξελισσόμενη αγορά πράσινης ενέργειας.
- **Επαγγελματική Ανάπτυξη Εκπαιδευτών**: Η ανάγκη για συνεχή επαγγελματική ανάπτυξη ήταν ένα επαναλαμβανόμενο θέμα στις συζητήσεις. Οι εκπαιδευτές τόνισαν τη σημασία της ενημέρωσης με τις τελευταίες εξελίξεις στις τεχνολογίες ανανεώσιμων πηγών ενέργειας, οι οποίες είναι ζωτικής σημασίας για την παροχή σχετικής και αποτελεσματικής κατάρτισης.
- **Στρατηγικό όραμα και υποστήριξη πολιτικής**: Οι υπεύθυνοι χάραξης πολιτικής στο Μαυροβούνιο υπογράμμισαν τη σημασία ενός μακροπρόθεσμου στρατηγικού οράματος για τον τομέα της ΕΕΚ. Ζήτησαν την ανάπτυξη ενός εθνικού χάρτη πορείας για την εκπαίδευση στις πράσινες δεξιότητες, ο οποίος θα περιλαμβάνει σαφείς στόχους, χρονοδιαγράμματα και μηχανισμούς χρηματοδότησης για τη στήριξη της μετάβασης σε μια πράσινη οικονομία.

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Ελλάδα:
Το σύστημα ΕΕΚ της Ελλάδας είναι σχετικά προηγμένο σε σύγκριση με τους γείτονές της στα Δυτικά Βαλκάνια, με ιδιαίτερη έμφαση στην ενσωμάτωση πράσινων δεξιοτήτων και στην υποστήριξη των φιλόδοξων στόχων της χώρας για τις ανανεώσιμες πηγές ενέργειας. Ωστόσο, εξακολουθούν να υπάρχουν προκλήσεις όπως η ενεργειακή φτώχεια και η ανάγκη για συνεχή εκσυγχρονισμό των προγραμμάτων σπουδών.
Τα βασικά ευρήματα από τις συζητήσεις των ομάδων εστίασης περιλαμβάνουν:

- **Ενεργειακές Κοινότητες ως Χώροι Εκπαίδευσης**: Ένα από τα ξεχωριστά χαρακτηριστικά του ελληνικού συστήματος ΕΕΚ είναι ο ρόλος των ενεργειακών κοινοτήτων στην προώθηση πράσινων δεξιοτήτων. Αυτά τα έργα ανανεώσιμων πηγών ενέργειας υπό την ηγεσία της κοινότητας όχι μόνο συμβάλλουν στους ενεργειακούς στόχους της χώρας, αλλά παρέχουν επίσης ευκαιρίες πρακτικής κατάρτισης για σπουδαστές ΕΕΚ, συμβάλλοντας στη γεφύρωση του χάσματος μεταξύ εκπαίδευσης και βιομηχανίας.
- **Πρακτική κατάρτιση και μαθητεία:** Εκπαιδευτές και εμπειρογνώμονες της βιομηχανίας στην Ελλάδα τόνισαν τη σημασία της πρακτικής, πρακτικής κατάρτισης στην προετοιμασία των μαθητών για σταδιοδρομία στον τομέα της πράσινης ενέργειας. Τα προγράμματα μαθητείας και οι συνεργασίες με εταιρείες ανανεώσιμων πηγών ενέργειας αναδείχθηκαν ως βασικά συστατικά αποτελεσματικών προγραμμάτων ΕΕΚ.
- **Συνεχής εκσυγχρονισμός προγραμμάτων σπουδών**: Παρά την πρόοδο που έχει σημειωθεί, αναγνωρίζεται η ανάγκη για συνεχείς ενημερώσεις του προγράμματος σπουδών ώστε να συμβαδίζουν με τις τεχνολογικές εξελίξεις στον τομέα των ανανεώσιμων πηγών ενέργειας. Οι εκπαιδευτές τόνισαν ότι τα προγράμματα σπουδών πρέπει να επανεξετάζονται και να αναθεωρούνται τακτικά για να διασφαλιστεί ότι παραμένουν συναφή και ευθυγραμμισμένα με τις ανάγκες της βιομηχανίας.
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Ρουμανία:
Το σύστημα ΕΕΚ της Ρουμανίας καθοδηγεί επί του παρόντος τη σύνθετη μετάβαση από έναν ενεργειακό τομέα που εξαρτάται από τον άνθρακα σε ένα πιο βιώσιμο και διαφοροποιημένο ενεργειακό μείγμα. Ενώ έχει σημειωθεί κάποια πρόοδος στην ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ, εξακολουθούν να υπάρχουν σημαντικά κενά, ιδίως όσον αφορά την ευθυγράμμιση των εκπαιδευτικών προσφορών με τις ανάγκες του τομέα των ανανεώσιμων πηγών ενέργειας.
Οι βασικές πληροφορίες από τις συζητήσεις ομάδων εστίασης περιλαμβάνουν:

- **Μετάβαση στον άνθρακα και ανάπτυξη προγραμμάτων σπουδών**: Η απομάκρυνση από τον άνθρακα παρουσιάζει τόσο προκλήσεις όσο και ευκαιρίες για το σύστημα ΕΕΚ της Ρουμανίας. Υπάρχει πιεστική ανάγκη να αναπτυχθούν προγράμματα σπουδών που αντικατοπτρίζουν τη μετάβαση της χώρας στις ανανεώσιμες πηγές ενέργειας, με ιδιαίτερη έμφαση στις τεχνολογίες ηλιακής, αιολικής ενέργειας και βιομάζας.

- **Επενδύσεις σε εγκαταστάσεις κατάρτισης**: Όπως και σε άλλες χώρες της περιοχής, τα ιδρύματα ΕΕΚ της Ρουμανίας συχνά δεν διαθέτουν τις σύγχρονες εγκαταστάσεις και τον εξοπλισμό που απαιτούνται για την παροχή αποτελεσματικής κατάρτισης σε πράσινες δεξιότητες. Οι εκπαιδευτές τόνισαν τη σημασία της επένδυσης σε υπερσύγχρονα εργαστήρια και της πρόσβασης σε πραγματικές εγκαταστάσεις ανανεώσιμων πηγών ενέργειας.
- **Συνεργασία πολιτικής και βιομηχανίας**: Οι υπεύθυνοι χάραξης πολιτικής και οι εμπειρογνώμονες της βιομηχανίας τόνισαν τη σημασία της συνεργασίας μεταξύ της κυβέρνησης, των εκπαιδευτικών ιδρυμάτων και του ιδιωτικού τομέα στην προώθηση της ενσωμάτωσης πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ. Αυτό περιλαμβάνει την ανάπτυξη συμπράξεων δημόσιου-ιδιωτικού τομέα που μπορούν να υποστηρίξουν την ανταλλαγή πόρων, εμπειρογνωμοσύνης και ευκαιριών κατάρτισης.
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Σύνθεση ευρημάτων

Η ανάλυση της τρέχουσας κατάστασης των συστημάτων ΕΕΚ στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία αποκαλύπτει ένα σύνθετο τοπίο που χαρακτηρίζεται τόσο από πρόοδο όσο και από επίμονες προκλήσεις. Ενώ αναγνωρίζεται όλο και περισσότερο η σημασία της ενσωμάτωσης πράσινων δεξιοτήτων στα προγράμματα σπουδών ΕΕΚ, ο ρυθμός της μεταρρύθμισης ήταν άνισος και εξακολουθούν να υπάρχουν σημαντικά κενά όσον αφορά τη συνάφεια των προγραμμάτων σπουδών, τη διαθεσιμότητα πόρων και τη συνεργασία με τη βιομηχανία.

Τα βασικά κοινά σημεία σε όλες τις περιφέρειες περιλαμβάνουν:

- **Ανάγκη εκσυγχρονισμού των προγραμμάτων σπουδών**: Σε όλες τις χώρες, υπάρχει σαφής και επείγουσα ανάγκη επικαιροποίησης των προγραμμάτων σπουδών ΕΕΚ ώστε να ευθυγραμμιστούν καλύτερα με τις απαιτήσεις της πράσινης οικονομίας. Αυτό περιλαμβάνει την ενσωμάτωση των τελευταίων τεχνολογιών, βιομηχανικών προτύπων και πρακτικών βιωσιμότητας σε εκπαιδευτικά προγράμματα.
- **Επαγγελματική ανάπτυξη για εκπαιδευτές**: Η σημασία της συνεχούς επαγγελματικής ανάπτυξης για τους εκπαιδευτές ΕΕΚ ήταν ένα σταθερό θέμα σε όλες τις ομάδες εστίασης. Οι εκπαιδευτές χρειάζονται συνεχή πρόσβαση σε κατάρτιση και πόρους για να ενημερώνονται για τις εξελίξεις στις τεχνολογίες ανανεώσιμων πηγών ενέργειας και τις μεθόδους διδασκαλίας.
- **Προκλήσεις όσον αφορά τις υποδομές και τους πόρους**: Η έλλειψη σύγχρονων εγκαταστάσεων κατάρτισης και πρόσβασης σε ευκαιρίες πρακτικής μάθησης αποτελεί σημαντικό εμπόδιο σε όλες τις περιφέρειες. Χωρίς αυτούς τους πόρους, τα ιδρύματα ΕΕΚ αγωνίζονται να παρέχουν την πρακτική κατάρτιση που είναι απαραίτητη για την προετοιμασία των μαθητών για τον τομέα της πράσινης ενέργειας.
- **Υποστήριξη πολιτικής και στρατηγική ευθυγράμμιση**: Ενώ υπάρχει ευρεία αναγνώριση της σημασίας των πράσινων δεξιοτήτων, η εφαρμογή υποστηρικτικών πολιτικών υπήρξε ασυνεπής. Υπάρχει ανάγκη για

ισχυρότερα πλαίσια πολιτικής που παρέχουν σαφείς κατευθυντήριες γραμμές, στόχους και κίνητρα για την ενσωμάτωση πράσινων δεξιοτήτων σε προγράμματα ΕΕΚ.

- **Συνεργασία με τη βιομηχανία**: Ο ρόλος της βιομηχανικής συνεργασίας στην προώθηση της ενσωμάτωσης πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ τονίστηκε σε όλες τις περιοχές. Οι συμπράξεις δημόσιου-ιδιωτικού τομέα θεωρούνται απαραίτητες για να διασφαλιστεί ότι τα προγράμματα ΕΕΚ ανταποκρίνονται στις ανάγκες της βιομηχανίας και μπορούν να προετοιμάσουν αποτελεσματικά τους μαθητές για απασχόληση στον τομέα της πράσινης ενέργειας.

Τα ευρήματα αυτά υπογραμμίζουν την κρίσιμη ανάγκη για μια συντονισμένη και συνεργατική προσέγγιση για τη μεταρρύθμιση των συστημάτων ΕΕΚ στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία. Με την αντιμετώπιση των προκλήσεων που προσδιορίζονται στην παρούσα έκθεση και την εφαρμογή των στρατηγικών συστάσεων που περιγράφονται στις επόμενες ενότητες, οι περιφέρειες αυτές μπορούν να δημιουργήσουν συστήματα ΕΕΚ που είναι ανθεκτικά, προσαρμόσιμα και ικανά να οδηγήσουν τη μετάβαση στην πράσινη ενέργεια.

2. Κενά στο πρόγραμμα σπουδών και ανάγκη εκσυγχρονισμού

Ο εκσυγχρονισμός των προγραμμάτων σπουδών ΕΕΚ αποτελεί επιτακτική ανάγκη σε όλα τα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία, καθώς αυτές οι περιφέρειες προσπαθούν να ευθυγραμμίσουν τα εκπαιδευτικά τους συστήματα με τις ταχέως εξελισσόμενες απαιτήσεις της πράσινης οικονομίας. Η τρέχουσα κατάσταση των προγραμμάτων σπουδών ΕΕΚ σε αυτές τις χώρες αντικατοπτρίζει μια σημαντική καθυστέρηση στην ενσωμάτωση των τελευταίων τεχνολογικών εξελίξεων, πρακτικών βιωσιμότητας και βιομηχανικών προτύπων κρίσιμων για τον τομέα των ανανεώσιμων πηγών ενέργειας. Αυτό το κενό δεν είναι μόνο θέμα εκπαιδευτικού περιεχομένου, αλλά και ένα ευρύτερο ζήτημα διασφάλισης ότι τα προγράμματα ΕΕΚ παραμένουν σχετικά, δυναμικά και ανταποκρίνονται τόσο στις τοπικές όσο και στις παγκόσμιες οικονομικές αλλαγές.

Συνάφεια προγράμματος σπουδών και ευθυγράμμιση της βιομηχανίας

Ένα από τα πιο κραυγαλέα ζητήματα που εντοπίστηκαν σε όλα τα συστήματα ΕΕΚ σε αυτές τις περιοχές είναι η αποσύνδεση μεταξύ των υφιστάμενων προγραμμάτων σπουδών και των πρακτικών αναγκών της βιομηχανίας πράσινης ενέργειας. Τα προγράμματα σπουδών σε πολλά ιδρύματα ΕΕΚ εξακολουθούν να επικεντρώνονται σε παραδοσιακούς ενεργειακούς τομείς, με ανεπαρκή έμφαση στις τεχνολογίες ανανεώσιμων πηγών ενέργειας, όπως η ηλιακή, η αιολική, η βιομάζα και η ενεργειακή απόδοση. Αυτή η έλλειψη ευθυγράμμισης δημιουργεί μια κατάσταση όπου οι απόφοιτοι είναι συχνά ανεπαρκώς προετοιμασμένοι για να ανταποκριθούν στις απαιτήσεις της αγοράς εργασίας, με αποτέλεσμα αναντιστοιχίες δεξιοτήτων που μπορούν να εμποδίσουν την ανάπτυξη της πράσινης οικονομίας.

Στην Αλβανία, για παράδειγμα, τα τρέχοντα προγράμματα σπουδών ΕΕΚ είναι σε μεγάλο βαθμό ξεπερασμένα, με ελάχιστη συμπερίληψη σύγχρονων τεχνολογιών ανανεώσιμων πηγών ενέργειας. Παρά την εξάρτηση της Αλβανίας από την υδροηλεκτρική ενέργεια, υπάρχει ελάχιστη έως καθόλου εστίαση σε άλλες μορφές

ανανεώσιμης ενέργειας, όπως η ηλιακή και η αιολική, οι οποίες έχουν σημαντικές δυνατότητες στη χώρα. Οι εκπαιδευτές εξέφρασαν την απογοήτευσή τους κατά τη διάρκεια των συζητήσεων των ομάδων εστίασης σχετικά με την έλλειψη περιεχομένου προγράμματος σπουδών που να αντιμετωπίζει τις τεχνικές δεξιότητες που απαιτούνται για αυτούς τους αναδυόμενους τομείς. Αυτό το χάσμα όχι μόνο περιορίζει τις ευκαιρίες για τους μαθητές να αποκτήσουν σχετικές δεξιότητες, αλλά περιορίζει επίσης την ικανότητα των προγραμμάτων ΕΕΚ να συμβάλλουν αποτελεσματικά στους στόχους ενεργειακής διαφοροποίησης της χώρας.

Ομοίως, στη **Βοσνία-Ερζεγοβίνη**, τα προγράμματα σπουδών ΕΕΚ δεν αντικατοπτρίζουν επαρκώς το δυναμικό ανανεώσιμων πηγών ενέργειας της χώρας. Η εστίαση παραμένει κυρίως στις παραδοσιακές μεθόδους παραγωγής ενέργειας, με ανεπαρκή ενσωμάτωση των πράσινων τεχνολογιών και πρακτικών. Αυτό συμβαίνει παρά το σημαντικό δυναμικό της χώρας για υδροηλεκτρική ενέργεια και ενέργεια από βιομάζα. Εμπειρογνώμονες της βιομηχανίας στη Βοσνία και Ερζεγοβίνη τόνισαν την επείγουσα ανάγκη για προγράμματα σπουδών που ευθυγραμμίζονται στενότερα με τις απαιτήσεις της βιομηχανίας, ιδίως όσον αφορά τις τεχνικές ικανότητες και την πρακτική εμπειρία σε έργα ανανεώσιμων πηγών ενέργειας.

Ενσωμάτωση αναδυόμενων τεχνολογιών

Η ενσωμάτωση των αναδυόμενων τεχνολογιών στα προγράμματα σπουδών ΕΕΚ είναι ένας άλλος κρίσιμος τομέας όπου υπάρχουν σημαντικά κενά. Καθώς ο τομέας των ανανεώσιμων πηγών ενέργειας εξελίσσεται, υπάρχει αυξανόμενη ζήτηση για εμπειρογνωμοσύνη σε προηγμένες τεχνολογίες, όπως τα έξυπνα δίκτυα, τα συστήματα αποθήκευσης ενέργειας και η ψηφιακή διαχείριση ενέργειας. Ωστόσο, τα θέματα αυτά συχνά λείπουν ή υποεκπροσωπούνται στα προγράμματα σπουδών ΕΕΚ στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία.

Στο Κοσσυφοπέδιο, ενώ έχει σημειωθεί κάποια πρόοδος στην εισαγωγή εξειδικευμένων μαθημάτων στις ανανεώσιμες πηγές ενέργειας, τα προγράμματα σπουδών εξακολουθούν να υπολείπονται στην κάλυψη προηγμένων θεμάτων που γίνονται όλο και πιο σημαντικά στο παγκόσμιο ενεργειακό τοπίο. Εκπαιδευτές στο Κοσσυφοπέδιο επεσήμαναν ότι η ικανότητά τους να διδάσκουν αυτά τα προχωρημένα θέματα παρεμποδίζεται από την έλλειψη ενημερωμένου εκπαιδευτικού υλικού και την απουσία σύγχρονων εγκαταστάσεων κατάρτισης εξοπλισμένων με την απαραίτητη τεχνολογία.

Το Μαυροβούνιο αντιμετωπίζει επίσης προκλήσεις όσον αφορά την ενσωμάτωση αναδυόμενων τεχνολογιών στα προγράμματα ΕΕΚ. Παρά τη δέσμευση της χώρας να αυξήσει το μερίδιό της στις ανανεώσιμες πηγές ενέργειας, τα προγράμματα σπουδών παραμένουν επικεντρωμένα στις βασικές τεχνικές δεξιότητες, με μικρή έμφαση στις εξελιγμένες τεχνολογίες που οδηγούν την καινοτομία στον τομέα της πράσινης ενέργειας. Αυτό το χάσμα όχι μόνο περιορίζει τις δυνατότητες των αποφοίτων ΕΕΚ να συμβάλουν στους ενεργειακούς στόχους της χώρας, αλλά εμποδίζει επίσης την ικανότητα του Μαυροβουνίου να προσελκύσει επενδύσεις σε έργα ανανεώσιμων πηγών ενέργειας αιχμής.

Στην Ελλάδα, αν και το σύστημα ΕΕΚ είναι σχετικά προηγμένο, εξακολουθεί να υπάρχει ανάγκη για συνεχείς επικαιροποιήσεις των προγραμμάτων σπουδών

ώστε να συμβαδίζουν με τις τεχνολογικές εξελίξεις. Η ενσωμάτωση τεχνολογιών έξυπνων δικτύων, λύσεων αποθήκευσης ενέργειας και ψηφιακών εργαλείων για τη διαχείριση ενέργειας είναι ζωτικής σημασίας για την προετοιμασία των μαθητών να εργαστούν σε έναν όλο και πιο διασυνδεδεμένο και ψηφιοποιημένο ενεργειακό τομέα. Οι εκπαιδευτές και οι εμπειρογνώμονες του κλάδου στην Ελλάδα τόνισαν τη σημασία της τακτικής αναθεώρησης και αναθεώρησης των προγραμμάτων σπουδών για να διασφαλιστεί ότι παραμένουν σχετικά και ευθυγραμμισμένα με τις τελευταίες τάσεις της βιομηχανίας.

Πρακτική Άσκηση και Πρακτική Εμπειρία

Ένα επαναλαμβανόμενο θέμα στις συζητήσεις σε όλες τις περιοχές ήταν η κρίσιμη σημασία της πρακτικής κατάρτισης και της πρακτικής εμπειρίας στα προγράμματα ΕΕΚ. Το χάσμα μεταξύ θεωρητικών γνώσεων και πρακτικής εφαρμογής είναι ιδιαίτερα έντονο στο πλαίσιο των πράσινων δεξιοτήτων, όπου οι μαθητές πρέπει να ασχοληθούν με πραγματικές τεχνολογίες και πρακτικές για να κατανοήσουν πλήρως την πολυπλοκότητα του τομέα των ανανεώσιμων πηγών ενέργειας.

Στη Ρουμανία, η έλλειψη ευκαιριών πρακτικής κατάρτισης αποτελεί σημαντικό εμπόδιο για την αποτελεσματική ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ. Παρά τις προσπάθειες της χώρας να μεταβεί από τον άνθρακα στις ανανεώσιμες πηγές ενέργειας, τα προγράμματα σπουδών ΕΕΚ δεν παρέχουν στους φοιτητές επαρκείς ευκαιρίες να εργαστούν με σύγχρονες τεχνολογίες ανανεώσιμων πηγών ενέργειας. Οι εκπαιδευτές εξέφρασαν την ανησυχία τους ότι χωρίς πρόσβαση σε υπερσύγχρονα εργαστήρια και εγκαταστάσεις ανανεώσιμων πηγών ενέργειας, οι μαθητές δεν είναι σε θέση να αποκτήσουν την πρακτική εμπειρία που απαιτείται για να επιτύχουν στην πράσινη οικονομία.

Η Αλβανία αντιμετωπίζει παρόμοιες προκλήσεις, όπου η απουσία σύγχρονων εγκαταστάσεων κατάρτισης περιορίζει σοβαρά την ικανότητα των προγραμμάτων ΕΕΚ να παρέχουν πρακτικές μαθησιακές εμπειρίες. Οι συμμετέχοντες στην ομάδα εστίασης τόνισαν την ανάγκη για σημαντικές επενδύσεις σε υποδομές, συμπεριλαμβανομένης της ανάπτυξης εργαστηρίων εξοπλισμένων με τις τελευταίες τεχνολογίες ανανεώσιμων πηγών ενέργειας. Αυτό όχι μόνο θα βελτιώσει την ποιότητα της εκπαίδευσης, αλλά και θα διασφαλίσει ότι οι σπουδαστές είναι έτοιμοι για εργασία μετά την αποφοίτησή τους.

Στη **Βοσνία-Ερζεγοβίνη**, η έλλειψη ευκαιριών πρακτικής κατάρτισης επιδεινώνεται από την ανεπαρκή συνεργασία μεταξύ των ιδρυμάτων ΕΕΚ και του ιδιωτικού τομέα. Οι εμπειρογνώμονες της βιομηχανίας σημείωσαν ότι χωρίς στενότερους δεσμούς με τη βιομηχανία, τα προγράμματα ΕΕΚ είναι απίθανο να παρέχουν στους φοιτητές την πραγματική εμπειρία που απαιτείται για την κάλυψη των απαιτήσεων του τομέα της πράσινης ενέργειας. Υπάρχει μεγάλη ανάγκη για συμπράξεις δημόσιου-ιδιωτικού τομέα που μπορούν να διευκολύνουν την πρακτική άσκηση, τη μαθητεία και την κατάρτιση στο χώρο εργασίας, επιτρέποντας στους μαθητές να εφαρμόσουν τις γνώσεις τους σε πρακτικά περιβάλλοντα.

Ο ρόλος της πολιτικής και της θεσμικής στήριξης

Ο εκσυγχρονισμός των προγραμμάτων σπουδών ΕΕΚ δεν μπορεί να πραγματοποιηθεί στο κενό· Απαιτεί ισχυρή πολιτική και θεσμική στήριξη για την προώθηση και τη διατήρηση αλλαγών. Σε όλα τα Δυτικά Βαλκάνια, την Ελλάδα και

τη Ρουμανία, υπάρχει ανάγκη για πιο ισχυρά πλαίσια πολιτικής που δίνουν προτεραιότητα στην ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ. Αυτό περιλαμβάνει τον καθορισμό σαφών στόχων για την επικαιροποίηση των προγραμμάτων σπουδών, την παροχή χρηματοδότησης για την ανάπτυξη σύγχρονων εγκαταστάσεων κατάρτισης και την ενθάρρυνση της συνεργασίας μεταξύ εκπαιδευτικών ιδρυμάτων και βιομηχανίας.
Στο Μαυροβούνιο, οι υπεύθυνοι χάραξης πολιτικής τόνισαν τη σημασία μιας στρατηγικής προσέγγισης για τον εκσυγχρονισμό των προγραμμάτων σπουδών. Υπάρχει ανάγκη για έναν εθνικό χάρτη πορείας που θα περιγράφει συγκεκριμένους στόχους για την ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ, υποστηριζόμενος από σαφή χρονοδιαγράμματα και μηχανισμούς χρηματοδότησης. Αυτό το στρατηγικό όραμα είναι απαραίτητο για να διασφαλιστεί ότι το σύστημα ΕΕΚ μπορεί να προσαρμοστεί στις ταχέως μεταβαλλόμενες απαιτήσεις της πράσινης οικονομίας και να συμβάλει αποτελεσματικά στους στόχους βιωσιμότητας της χώρας.
Το Κοσσυφοπέδιο έχει σημειώσει πρόοδο όσον αφορά την ευθυγράμμιση του συστήματος ΕΕΚ με τα πρότυπα της ΕΕ, αλλά εξακολουθεί να υπάρχει ανάγκη για ισχυρότερη θεσμική στήριξη προκειμένου να διασφαλιστεί η επιτυχής εφαρμογή των μεταρρυθμίσεων των προγραμμάτων σπουδών. Αυτό περιλαμβάνει την παροχή ευκαιριών επαγγελματικής εξέλιξης για τους εκπαιδευτές, την επένδυση σε σύγχρονες εγκαταστάσεις κατάρτισης και την προώθηση μιας νοοτροπίας καινοτομίας εντός των εκπαιδευτικών ιδρυμάτων.
Στην Ελλάδα, ο ρόλος των ενεργειακών κοινοτήτων υπήρξε ιδιαίτερα αποτελεσματικός στην προώθηση πράσινων δεξιοτήτων μέσω ευκαιριών πρακτικής κατάρτισης. Αυτές οι πρωτοβουλίες υπό την ηγεσία της κοινότητας παρέχουν ένα μοντέλο για το πώς οι τοπικές κυβερνήσεις, η βιομηχανία και τα εκπαιδευτικά ιδρύματα μπορούν να συνεργαστούν για να προωθήσουν τον εκσυγχρονισμό του προγράμματος σπουδών και να διασφαλίσουν ότι τα προγράμματα ΕΕΚ ευθυγραμμίζονται με τις ανάγκες του τομέα της πράσινης ενέργειας.

Η μελλοντική πορεία: συστάσεις για τον εκσυγχρονισμό του προγράμματος σπουδών

Για την αντιμετώπιση των κενών του προγράμματος σπουδών που εντοπίζονται στην παρούσα έκθεση, προτείνονται οι ακόλουθες συστάσεις:

7. **Περιεκτική ανασκόπηση προγράμματος σπουδών**:
    - Διεξαγωγή διεξοδικής επανεξέτασης των υφιστάμενων προγραμμάτων σπουδών ΕΕΚ σε όλες τις περιφέρειες για τον εντοπισμό παρωχημένου περιεχομένου και τομέων όπου οι πράσινες δεξιότητες υποεκπροσωπούνται. Αυτή η αναθεώρηση θα πρέπει να περιλαμβάνει συνεργασία με εμπειρογνώμονες της βιομηχανίας, εκπαιδευτικούς και υπεύθυνους χάραξης πολιτικής για να διασφαλιστεί ότι τα προγράμματα σπουδών ευθυγραμμίζονται με τις τρέχουσες και μελλοντικές ανάγκες της βιομηχανίας.
8. **Ενσωμάτωση αναδυόμενων τεχνολογιών**:
    - Επικαιροποίηση των προγραμμάτων σπουδών ΕΕΚ ώστε να περιλαμβάνουν αναδυόμενες τεχνολογίες, όπως έξυπνα δίκτυα,

συστήματα αποθήκευσης ενέργειας και ψηφιακά εργαλεία διαχείρισης ενέργειας. Αυτά τα θέματα θα πρέπει να ενσωματωθούν τόσο στα θεωρητικά όσο και στα πρακτικά στοιχεία του προγράμματος σπουδών, παρέχοντας στους φοιτητές μια ολοκληρωμένη κατανόηση των τελευταίων εξελίξεων στον τομέα των ανανεώσιμων πηγών ενέργειας.

9. **Επενδύσεις σε εγκαταστάσεις πρακτικής άσκησης**:
    - Διάθεση χρηματοδότησης για την ανάπτυξη υπερσύγχρονων εργαστηρίων και εγκαταστάσεων ανανεώσιμων πηγών ενέργειας εντός των ιδρυμάτων ΕΕΚ. Αυτές οι εγκαταστάσεις θα πρέπει να είναι εξοπλισμένες με την τελευταία λέξη της τεχνολογίας για να παρέχουν στους φοιτητές πρακτική εμπειρία στην εργασία με συστήματα ανανεώσιμων πηγών ενέργειας.
10. **Ενίσχυση των συμπράξεων δημόσιου-ιδιωτικού τομέα:**
    - Προώθηση της συνεργασίας μεταξύ των ιδρυμάτων ΕΕΚ και του ιδιωτικού τομέα για τη δημιουργία ευκαιριών πρακτικής άσκησης, μαθητείας και κατάρτισης κατά την εργασία. Οι συμπράξεις δημόσιου-ιδιωτικού τομέα είναι απαραίτητες για να διασφαλιστεί ότι τα προγράμματα ΕΕΚ ανταποκρίνονται στις ανάγκες της βιομηχανίας και παρέχουν στους φοιτητές πραγματική εμπειρία.
11. **Συνεχής Επαγγελματική Ανάπτυξη Εκπαιδευτών**:
    - Εφαρμογή προγραμμάτων συνεχούς επαγγελματικής ανάπτυξης για εκπαιδευτές ΕΕΚ για να διασφαλιστεί ότι είναι εξοπλισμένοι με τις τελευταίες γνώσεις και δεξιότητες. Αυτό περιλαμβάνει κατάρτιση σε αναδυόμενες τεχνολογίες, σύγχρονες παιδαγωγικές μεθόδους και ειδικές ικανότητες για τη βιομηχανία.
12. **Πολιτική και θεσμική υποστήριξη**:
    - Ανάπτυξη και εφαρμογή εθνικών στρατηγικών για τον εκσυγχρονισμό των προγραμμάτων σπουδών που περιλαμβάνουν σαφείς στόχους, χρονοδιαγράμματα και μηχανισμούς χρηματοδότησης. Οι υπεύθυνοι χάραξης πολιτικής θα πρέπει να δώσουν προτεραιότητα στην ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ και να παράσχουν την απαραίτητη υποστήριξη στα εκπαιδευτικά ιδρύματα για την επίτευξη αυτών των στόχων.

Με την αντιμετώπιση αυτών των κενών στο πρόγραμμα σπουδών και την εφαρμογή των συνιστώμενων στρατηγικών, τα συστήματα ΕΕΚ στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία μπορούν να μετατραπούν σε δυναμικά και ανταποκρινόμενα εκπαιδευτικά πλαίσια που προετοιμάζουν αποτελεσματικά τους μαθητές για τις απαιτήσεις της πράσινης οικονομίας. Αυτή η προσπάθεια εκσυγχρονισμού δεν είναι μόνο απαραίτητη για την υποστήριξη της ενεργειακής μετάβασης της περιοχής, αλλά και για τη διασφάλιση ότι οι απόφοιτοι είναι εξοπλισμένοι με τις δεξιότητες που απαιτούνται για την προώθηση της βιώσιμης οικονομικής ανάπτυξης τα επόμενα χρόνια.

3. Επαγγελματική Ανάπτυξη Εκπαιδευτών ΕΕΚ

Ένα από τα σημαντικότερα ευρήματα των ομάδων εστίασης ήταν η κρίσιμη ανάγκη για συνεχή επαγγελματική ανάπτυξη των εκπαιδευτών ΕΕΚ. Χωρίς ευκαιρίες συνεχούς μάθησης, οι εκπαιδευτές μπορεί να δυσκολευτούν να συμβαδίσουν με τις εξελίξεις στις τεχνολογίες ανανεώσιμων πηγών ενέργειας και τις μεθόδους διδασκαλίας. Αυτό, με τη σειρά του, περιορίζει την ικανότητά τους να προετοιμάζουν αποτελεσματικά τους μαθητές για σταδιοδρομία στον τομέα της πράσινης ενέργειας.
Οι εκπαιδευτές σε όλες τις χώρες εξέφρασαν την έντονη επιθυμία για περισσότερα εκπαιδευτικά εργαστήρια, προγράμματα ανταλλαγής με άλλες ευρωπαϊκές χώρες και πρόσβαση στις τελευταίες πληροφορίες του κλάδου. Αυτές οι ευκαιρίες επαγγελματικής εξέλιξης είναι απαραίτητες για να διασφαλιστεί ότι οι εκπαιδευτές διαθέτουν τις δεξιότητες και τις γνώσεις που απαιτούνται για την παροχή υψηλής ποιότητας εκπαίδευσης σε πράσινες δεξιότητες. Στο Κοσσυφοπέδιο και την Αλβανία, οι εκπαιδευτές ανέφεραν συγκεκριμένα την ανάγκη για προγράμματα επαγγελματικής ανάπτυξης που επικεντρώνονται στην πρακτική, πρακτική κατάρτιση στις τεχνολογίες ανανεώσιμων πηγών ενέργειας.

4. Προκλήσεις όσον αφορά τους πόρους και τις υποδομές
Η έλλειψη σύγχρονων εγκαταστάσεων, εξοπλισμού και πρόσβασης σε πραγματικές τοποθεσίες έργων ήταν μια κοινή ανησυχία σε όλες τις ομάδες εστίασης. Τα ιδρύματα ΕΕΚ στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία συχνά λειτουργούν με περιορισμένους πόρους, γεγονός που εμποδίζει την ικανότητά τους να παρέχουν πρακτική, πρακτική κατάρτιση. Αυτό είναι ιδιαίτερα προβληματικό στο πλαίσιο των πράσινων δεξιοτήτων, όπου οι μαθητές πρέπει να ασχοληθούν με τεχνολογίες και πρακτικές αιχμής για να είναι πλήρως προετοιμασμένοι για την αγορά εργασίας.
Οι συμμετέχοντες τόνισαν την ανάγκη για σημαντικές επενδύσεις σε υποδομές ΕΕΚ, συμπεριλαμβανομένης της ανάπτυξης εργαστηρίων τελευταίας τεχνολογίας, της πρόσβασης σε εγκαταστάσεις ανανεώσιμων πηγών ενέργειας για εκπαιδευτικούς σκοπούς και σύγχρονων διδακτικών εργαλείων όπως λογισμικό προσομοίωσης. Στο Μαυροβούνιο, για παράδειγμα, η ανάγκη για επικαιροποιημένες υποδομές επισημάνθηκε ως κρίσιμος παράγοντας για τη βελτίωση της ποιότητας των προγραμμάτων ΕΕΚ.

5. Υποστήριξη πολιτικής και στρατηγική ευθυγράμμιση
Ενώ υπάρχει ευρεία αναγνώριση της σημασίας των πράσινων δεξιοτήτων στον τομέα της ΕΕΚ, η εφαρμογή υποστηρικτικών πολιτικών υπήρξε ασυνεπής σε ολόκληρη την περιοχή. Οι συμμετέχοντες στις ομάδες εστίασης ζήτησαν ισχυρότερα πλαίσια πολιτικής που παρέχουν σαφείς κατευθυντήριες γραμμές, στόχους και κίνητρα για την ενσωμάτωση πράσινων δεξιοτήτων σε προγράμματα ΕΕΚ. Οι πολιτικές αυτές θα πρέπει να ευθυγραμμίζονται με τις εθνικές εκπαιδευτικές στρατηγικές και τους ευρύτερους οικονομικούς και περιβαλλοντικούς στόχους, ιδίως εκείνους που σχετίζονται με την Ευρωπαϊκή Πράσινη Συμφωνία και τη συμφωνία του Παρισιού.
Στη Ρουμανία, οι υπεύθυνοι χάραξης πολιτικής συζήτησαν τις προκλήσεις της μετάβασης από τον άνθρακα στις ανανεώσιμες πηγές ενέργειας και την ανάγκη για

ένα ολοκληρωμένο πλαίσιο πολιτικής για τη στήριξη αυτής της στροφής. Στη Βοσνία και Ερζεγοβίνη, οι συμμετέχοντες τόνισαν τη σημασία της ευθυγράμμισης των προγραμμάτων ΕΕΚ με την ενεργειακή στρατηγική της χώρας και της διασφάλισης ότι υπάρχουν πλαίσια πολιτικής για την υποστήριξη της ανάπτυξης πράσινων δεξιοτήτων.

6. Συνεργασία με τη Βιομηχανία και Συμπράξεις Δημόσιου και Ιδιωτικού Τομέα

Οι ομάδες εστίασης τόνισαν τον κρίσιμο ρόλο της συνεργασίας μεταξύ των ιδρυμάτων ΕΕΚ και της βιομηχανίας πράσινης ενέργειας στην προώθηση της ενσωμάτωσης πράσινων δεξιοτήτων. Χωρίς τη συμβολή και την υποστήριξη της βιομηχανίας, τα προγράμματα ΕΕΚ κινδυνεύουν να αποσυνδεθούν από τις πραγματικές απαιτήσεις της αγοράς εργασίας.

Οι συμμετέχοντες ζήτησαν τη δημιουργία ισχυρότερων συμπράξεων δημόσιου-ιδιωτικού τομέα που μπορούν να διευκολύνουν την ανταλλαγή πόρων, εμπειρογνωμοσύνης και ευκαιριών για πρακτική κατάρτιση. Τέτοιες συνεργασίες είναι απαραίτητες για να διασφαλιστεί ότι τα προγράμματα ΕΕΚ ανταποκρίνονται στις ανάγκες της βιομηχανίας και μπορούν να προετοιμάσουν αποτελεσματικά τους μαθητές για απασχόληση στον τομέα της πράσινης ενέργειας. Στην Ελλάδα, για παράδειγμα, η επιτυχία των ενεργειακών κοινοτήτων στην προώθηση πράσινων δεξιοτήτων αποδόθηκε στις ισχυρές συνεργασίες μεταξύ της τοπικής αυτοδιοίκησης, της βιομηχανίας και των εκπαιδευτικών ιδρυμάτων.

7. Ο ρόλος των ενεργειακών κοινοτήτων και των κοινωνικών επιχειρήσεων

Στην Ελλάδα, η έννοια των ενεργειακών κοινοτήτων αναδείχθηκε ως ένα ιδιαίτερα επιτυχημένο μοντέλο για την προώθηση πράσινων δεξιοτήτων. Αυτά τα έργα ανανεώσιμων πηγών ενέργειας υπό την ηγεσία της κοινότητας όχι μόνο συμβάλλουν στους ενεργειακούς στόχους της χώρας, αλλά χρησιμεύουν επίσης ως χώροι πρακτικής κατάρτισης για φοιτητές ΕΕΚ. Οι ομάδες εστίασης συζήτησαν τη δυνατότητα αναπαραγωγής αυτού του μοντέλου σε άλλες χώρες της περιοχής, όπου οι κοινωνικές επιχειρήσεις και οι κοινοτικές πρωτοβουλίες θα μπορούσαν να διαδραματίσουν παρόμοιο ρόλο στην υποστήριξη της μετάβασης στην πράσινη ενέργεια.

Οι συμμετέχοντες στην Ελλάδα τόνισαν τη σημασία των ενεργειακών κοινοτήτων για την καλλιέργεια του αισθήματος ιδιοκτησίας και ευθύνης μεταξύ των μαθητών, καθώς και για την παροχή πραγματικής εμπειρίας σε έργα ανανεώσιμων πηγών ενέργειας. Το μοντέλο αυτό θα μπορούσε να είναι ιδιαίτερα αποτελεσματικό στα Δυτικά Βαλκάνια, όπου οι πρωτοβουλίες υπό την ηγεσία των τοπικών κοινοτήτων έχουν τη δυνατότητα να προωθήσουν τόσο την κοινωνική όσο και την οικονομική ανάπτυξη.

Στρατηγικές συστάσεις

Με βάση τα ευρήματα τόσο από την έρευνα γραφείου όσο και από την έρευνα πεδίου, προτείνονται οι ακόλουθες στρατηγικές συστάσεις για την ενίσχυση της ενσωμάτωσης των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία:

Εκσυγχρονισμός Προγράμματος Σπουδών:

- Ανάπτυξη και εφαρμογή ενημερωμένων προγραμμάτων σπουδών που αντικατοπτρίζουν τις τελευταίες τεχνολογίες, βιομηχανικά πρότυπα και πρακτικές βιωσιμότητας στον τομέα της πράσινης ενέργειας. Αυτά τα προγράμματα σπουδών θα πρέπει να είναι ευέλικτα και προσαρμόσιμα, επιτρέποντας την ταχεία ενσωμάτωση των νέων εξελίξεων καθώς προκύπτουν. Ιδιαίτερη προσοχή θα πρέπει να δοθεί στην ηλιακή και αιολική ενέργεια, την ενεργειακή απόδοση και τις βιώσιμες κατασκευές, καθώς οι τομείς αυτοί είναι κρίσιμης σημασίας για την ενεργειακή μετάβαση της περιοχής.

Επενδύσεις σε υποδομές:

- Διάθεση σημαντικών πόρων για την ανάπτυξη υπερσύγχρονων εκπαιδευτικών εγκαταστάσεων, συμπεριλαμβανομένων εργαστηρίων, εγκαταστάσεων ανανεώσιμων πηγών ενέργειας και σύγχρονων διδακτικών εργαλείων. Αυτή η επένδυση είναι κρίσιμη για την παροχή στους φοιτητές της πρακτικής, πρακτικής εμπειρίας που απαιτείται για να πετύχουν στον τομέα της πράσινης ενέργειας. Στη Ρουμανία και το Μαυροβούνιο, ειδικότερα, υπάρχει πιεστική ανάγκη για βελτιώσεις των υποδομών για τη στήριξη της παροχής προγραμμάτων ΕΕΚ υψηλής ποιότητας.

Επαγγελματική Ανάπτυξη Εκπαιδευτών:

- Καθιέρωση συνεχιζόμενων προγραμμάτων επαγγελματικής ανάπτυξης για εκπαιδευτές ΕΕΚ, συμπεριλαμβανομένων εργαστηρίων κατάρτισης, προγραμμάτων ανταλλαγής με άλλες ευρωπαϊκές χώρες και πρόσβασης στις τελευταίες πληροφορίες του κλάδου. Τα προγράμματα αυτά θα πρέπει να σχεδιάζονται έτσι ώστε να διασφαλίζουν ότι οι εκπαιδευτές διαθέτουν τις δεξιότητες και τις γνώσεις που απαιτούνται για την παροχή υψηλής ποιότητας εκπαίδευσης σε πράσινες δεξιότητες. Στο Κοσσυφοπέδιο και την Αλβανία, η επαγγελματική εξέλιξη θα πρέπει να επικεντρωθεί στην παροχή στους εκπαιδευτές των εργαλείων και των πόρων που χρειάζονται για την παροχή πρακτικής κατάρτισης σε τεχνολογίες ανανεώσιμων πηγών ενέργειας.

Ενίσχυση των πλαισίων πολιτικής:

- Ανάπτυξη και εφαρμογή ισχυρότερων πλαισίων πολιτικής που παρέχουν σαφείς κατευθυντήριες γραμμές, στόχους και κίνητρα για την ενσωμάτωση πράσινων δεξιοτήτων σε προγράμματα ΕΕΚ. Τα πλαίσια αυτά θα πρέπει να ευθυγραμμίζονται με τις εθνικές εκπαιδευτικές στρατηγικές και τους ευρύτερους οικονομικούς και περιβαλλοντικούς στόχους, όπως η Ευρωπαϊκή Πράσινη Συμφωνία και η συμφωνία του Παρισιού. Στη Ρουμανία, για παράδειγμα, υπάρχει ανάγκη για πολιτικές που στηρίζουν τη μετάβαση από τον άνθρακα στις ανανεώσιμες πηγές ενέργειας και προωθούν την ανάπτυξη πράσινων δεξιοτήτων.

Συμπράξεις Δημόσιου και Ιδιωτικού Τομέα:

- Προώθηση της συνεργασίας μεταξύ των ιδρυμάτων ΕΕΚ και της βιομηχανίας πράσινης ενέργειας μέσω συμπράξεων δημόσιου-ιδιωτικού τομέα. Αυτές οι συνεργασίες μπορούν να διευκολύνουν την ανταλλαγή πόρων, εμπειρογνωμοσύνης και ευκαιριών για πρακτική κατάρτιση, διασφαλίζοντας ότι τα προγράμματα ΕΕΚ ανταποκρίνονται στις ανάγκες της βιομηχανίας. Στη Βοσνία και Ερζεγοβίνη, η αυξημένη συνεργασία της βιομηχανίας είναι απαραίτητη για την ευθυγράμμιση των προγραμμάτων ΕΕΚ με τις ανάγκες του τομέα της πράσινης ενέργειας.

Στήριξη Ενεργειακών Κοινοτήτων και Κοινωνικών Επιχειρήσεων:

- Ενθάρρυνση της ανάπτυξης ενεργειακών κοινοτήτων και κοινωνικών επιχειρήσεων ως προτύπων για την προώθηση πράσινων δεξιοτήτων. Αυτές οι πρωτοβουλίες υπό την ηγεσία των τοπικών κοινοτήτων μπορούν να χρησιμεύσουν ως χώροι πρακτικής κατάρτισης για τους σπουδαστές ΕΕΚ και να συμβάλουν στην ευρύτερη μετάβαση στην πράσινη ενέργεια. Η εμπειρία της Ελλάδας με τις ενεργειακές κοινότητες παρέχει ένα πολύτιμο μοντέλο που θα μπορούσε να προσαρμοστεί και να εφαρμοστεί και σε άλλες χώρες της περιοχής.

Παρακολούθηση και αξιολόγηση:

- Καθιέρωση συστημάτων συνεχούς παρακολούθησης και αξιολόγησης των προγραμμάτων ΕΕΚ για να διασφαλιστεί ότι παραμένουν ευθυγραμμισμένα με τις ανάγκες της βιομηχανίας και τους εθνικούς ενεργειακούς στόχους. Αυτό θα πρέπει να περιλαμβάνει τακτική ανατροφοδότηση από τους ενδιαφερόμενους φορείς της βιομηχανίας, καθώς και αξιολογήσεις των αποτελεσμάτων των σπουδαστών και της αποτελεσματικότητας του προγράμματος. Η παρακολούθηση και η αξιολόγηση είναι ιδιαίτερα σημαντικές στην Αλβανία και το Κοσσυφοπέδιο, όπου τα προγράμματα ΕΕΚ βρίσκονται ακόμη στα αρχικά στάδια ενσωμάτωσης πράσινων δεξιοτήτων.

Ανάπτυξη επιχειρηματικών ικανοτήτων:

- Ενσωμάτωση της επιχειρηματικής κατάρτισης στα προγράμματα σπουδών ΕΕΚ, με έμφαση στα πράσινα επιχειρηματικά μοντέλα και τις βιώσιμες πρακτικές. Αυτό θα εξοπλίσει τους μαθητές με τις δεξιότητες που απαιτούνται για την καινοτομία και τη δημιουργία αξίας στην πράσινη οικονομία. Στα Δυτικά Βαλκάνια, υπάρχει μια σημαντική ευκαιρία για την ανάπτυξη επιχειρηματικών ικανοτήτων που μπορούν να οδηγήσουν τη μετάβαση της περιοχής στην πράσινη ενέργεια.

Περιφερειακή συνεργασία και ανταλλαγή γνώσεων:

- Προώθηση της περιφερειακής συνεργασίας και της ανταλλαγής γνώσεων μεταξύ των ιδρυμάτων ΕΕΚ, της βιομηχανίας και των υπευθύνων χάραξης πολιτικής στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία. Αυτό μπορεί να διευκολύνει την ανταλλαγή βέλτιστων πρακτικών, πόρων και εμπειρογνωμοσύνης και να συμβάλει στην

οικοδόμηση ενός πιο συνεκτικού και αποτελεσματικού συστήματος ΕΕΚ σε ολόκληρη την περιοχή. Θα πρέπει να ενθαρρυνθούν τα συνεργατικά έργα και οι κοινές πρωτοβουλίες για την ενίσχυση της συλλογικής ικανότητας της περιφέρειας να στηρίξει τη μετάβαση στην πράσινη ενέργεια.

Συμπέρασμα

Αυτή η ολοκληρωμένη έκθεση υπογραμμίζει τον κρίσιμο ρόλο της επαγγελματικής εκπαίδευσης και κατάρτισης στην υποστήριξη της μετάβασης στην πράσινη ενέργεια στα Δυτικά Βαλκάνια, την Ελλάδα και τη Ρουμανία. Με την αντιμετώπιση των προκλήσεων που προσδιορίζονται στην παρούσα έκθεση και την εφαρμογή των στρατηγικών συστάσεων που περιγράφονται ανωτέρω, τα συστήματα ΕΕΚ στην περιοχή μπορούν να μετατραπούν σε ισχυρούς μοχλούς βιώσιμης οικονομικής ανάπτυξης και δημιουργίας πράσινων θέσεων εργασίας.

Τα ευρήματα αυτής της έκθεσης θα ενημερώσουν την ανάπτυξη του προγράμματος κατάρτισης που στοχεύει στην οικοδόμηση της ικανότητας των εκπαιδευτών ΕΕΚ και στον εξοπλισμό των επιχειρηματιών εκπαιδευομένων με τις δεξιότητες που απαιτούνται για να ευδοκιμήσουν στην πράσινη οικονομία. Το πρόγραμμα αυτό θα είναι απαραίτητο για να διασφαλιστεί ότι τα ιδρύματα ΕΕΚ στα Δυτικά Βαλκάνια και πέρα από αυτά είναι πλήρως προετοιμασμένα να ανταποκριθούν στις απαιτήσεις της αγοράς εργασίας του 21ου αιώνα και να συμβάλουν σε ένα βιώσιμο και ανθεκτικό μέλλον.

Συμπερασματικά, η επιτυχής ενσωμάτωση των πράσινων δεξιοτήτων στα προγράμματα ΕΕΚ σε ολόκληρη την περιοχή θα απαιτήσει συντονισμένη και συνεργατική προσπάθεια, με τη συμμετοχή της κυβέρνησης, της βιομηχανίας, των εκπαιδευτικών ιδρυμάτων και της κοινωνίας των πολιτών. Μέσω της συνεργασίας, αυτά τα ενδιαφερόμενα μέρη μπορούν να δημιουργήσουν ένα σύστημα ΕΕΚ που όχι μόνο ανταποκρίνεται στις ανάγκες της σημερινής αγοράς εργασίας, αλλά και προβλέπει και προσαρμόζεται στις προκλήσεις και τις ευκαιρίες του μέλλοντος. Αυτό θα είναι απαραίτητο για να διασφαλιστεί ότι τα Δυτικά Βαλκάνια, η Ελλάδα και η Ρουμανία μπορούν να συμμετάσχουν πλήρως και να επωφεληθούν από την παγκόσμια μετάβαση στην πράσινη ενέργεια.

Albanian

RAPORTI GJITHËPËRFSHIRËS: Analiza strategjike dhe rekomandime

Hyrje

Peisazhi global po pëson një transformim të thellë të nxitur nga nevoja urgjente për të trajtuar ndryshimet klimatike, për të reduktuar emetimet e karbonit dhe për të kaluar në një ekonomi të qëndrueshme dhe të gjelbër. Bashkimi Evropian ka marrë një rol udhëheqës në këtë përpjekje me Marrëveshjen e saj ambicioze të Gjelbër, e cila synon ta bëjë Europën kontinentin e parë neutral ndaj klimës deri në vitin 2050. Kjo axhendë transformuese vë kërkesa të rëndësishme për të gjithë sektorët e ekonomisë, veçanërisht për energjinë, industrinë dhe arsimin. Për vendet e Ballkanit Perëndimor, Greqinë dhe Rumaninë—rajone me sfida të

ndryshme ekonomike dhe nevoja zhvillimore—kalimi në një ekonomi të gjelbër është një domosdoshmëri dhe një mundësi.

Sistemet e Arsimit dhe Formimit Profesional (VET) janë në qendër të këtij tranzicioni. Ato luajnë një rol kritik në përgatitjen e fuqisë punëtore me aftësitë e nevojshme për të mbështetur sektorin e energjisë së gjelbër, për të nxitur novacionin dhe për të nxitur një rritje ekonomike të qëndrueshme. Në Ballkanin Perëndimor, Greqi dhe Rumani, ku zhvillimi ekonomik është i lidhur ngushtë me modernizimin e sistemeve të energjisë dhe përputhjen me standardet mjedisore të BE-së, programet e VET duhet të evoluojnë me shpejtësi për të përmbushur këto nevoja në rritje.

Megjithatë, udhëtimi drejt integrimit të aftësive të gjelbra në programet e VET-it në të gjithë këto rajone është i mbushur me sfida. Trashëgimia e sistemeve arsimore të vjetëruara, infrastruktura e kufizuar, bashkëpunimi i pamjaftueshëm midis institucioneve arsimore dhe industrisë dhe mungesa e përputhjes me kërkesat ekonomike bashkëkohore kanë krijuar pengesa të rëndësishme. Vendet e Ballkanit Perëndimor, në veçanti, përballen me sfidën e dyfishtë të modernizimit të ekonomive të tyre ndërsa trajtojnë nevojat e ngutshme të qëndrueshmërisë mjedisore dhe sigurisë së energjisë.

Ky raport gjithëpërfshirës kërkon të trajtojë këto sfida duke ofruar një analizë të thellë të gjendjes aktuale të sistemeve VET në Shqipëri, Bosnje-Hercegovinë, Kosovë, Mal të Zi, Greqi dhe Rumani. Ai mbështetet në kërkimin e gjerë të tavolinave, si dhe njohuritë e mbledhura nga kërkimet në terren që përfshijnë grupet e fokusit me trajnerët e VET, ekspertët e industrisë, vendim-marrësit dhe politikëbërësit në të gjithë këto rajone. Raporti është hartuar për të pajisur palët e interesuara me një kuptim tërësor të çështjeve që janë në dispozicion dhe për të ofruar rekomandime strategjike për rritjen e kapacitetit të sistemeve VET për të mbështetur tranzicionin e energjisë së gjelbër.

Fokusi i këtij raporti është veçanërisht i rëndësishëm duke pasur parasysh rolin kritik që luan sektori i VET-it në formësimin e fuqisë punëtore të ardhshme. Njohuritë dhe rekomandimet e dhëna këtu kanë për qëllim të orientojnë zhvillimin e programeve të VET-it që janë të ndjeshme ndaj nevojave të ekonomisë së gjelbër, të afta për të nxitur inovacionin dhe të harmonizuara me qëllimet më të gjera të Marrëveshjes së Gjelbër Evropiane dhe Marrëveshjes së Parisit.

Në kontekstin e Ballkanit Perëndimor, Greqisë dhe Rumanisë, integrimi i aftësive të gjelbra në sistemet e VET-it është më shumë se thjesht një reformë arsimore; Është një domosdoshmëri strategjike që ka potencialin për t'i transformuar këto rajone në udhëheqës në sektorin e energjisë së gjelbër. Duke pajisur studentët dhe profesionistët me aftësitë e nevojshme për të shkëlqyer në industrinë e energjisë së ripërtëritshme, programet e VET mund të kontribuojnë ndjeshëm në reduktimin e emetimeve të karbonit, përmirësimin e sigurisë së energjisë dhe

krijimin e vendeve të punës me cilësi të lartë që mbështesin zhvillimin e qëndrueshëm.

Udhëtimi drejt një ekonomie të gjelbër është kompleks dhe shumëplanësh, duke kërkuar përpjekje të koordinuara nga qeveria, industria, institucionet arsimore dhe shoqëria civile. Ky raport nënvizon rëndësinë e bashkëpunimit dhe përgjegjësinë e përbashkët në arritjen e këtyre objektivave. Duke punuar së bashku, palët e interesuara mund të kapërcejnë sfidat e identifikuara në këtë raport dhe të ndërtojnë një sistem VET që jo vetëm është i qëndrueshëm dhe i adaptueshëm, por gjithashtu i aftë për të nxitur tranzicionin e energjisë së gjelbër në të gjithë Ballkanin Perëndimor, Greqinë dhe Rumaninë.
Ndërsa zhytemi në gjetjet dhe rekomandimet strategjike të këtij raporti, është e rëndësishme të njohim kontekstin më të gjerë në të cilin funksionojnë këto rajone. Ballkani Perëndimor, Greqia dhe Rumania janë në një moment vendimtar në trajektoret e tyre ekonomike dhe mjedisore. Vendimet e marra sot në lidhje me integrimin e aftësive të gjelbra në programet e VET do të kenë ndikim të qëndrueshëm në aftësinë e rajonit për të konkurruar në ekonominë globale, për të arritur pavarësinë e energjisë dhe për të përmbushur objektivat ambicioze të vendosura nga Marrëveshja e Gjelbër Evropiane. Ky raport shërben si një udhëzues vendimtar për palët e interesuara, ndërsa ata lundrojnë në këtë tranzicion kompleks, por thelbësor drejt një të ardhmeje të qëndrueshme dhe të begatë.

Sfondi dhe konteksti
Ballkani Perëndimor, Greqia dhe Rumania janë rajone të karakterizuara nga trashëgimia e tyre e pasur kulturore, peizazhe të ndryshme dhe histori komplekse socio-ekonomike. Megjithatë, këto rajone përballen gjithashtu me një sërë sfidash unike që kanë formësuar trajektoret e tyre të zhvillimit, veçanërisht në kuadrin e shtytjes së Bashkimit Evropian drejt një të ardhmeje të gjelbër dhe të qëndrueshme. Ndërsa komuniteti global gjithnjë e më shumë prioritizon qëndrueshmërinë mjedisore dhe veprimin e klimës, këto vende gjenden në një udhëkryq kritik, ku integrimi i aftësive të gjelbra në sistemet e Arsimit dhe Trajnimit Profesional (VET) nuk është thjesht një opsion, por një domosdoshmëri për rritje dhe zhvillim të qëndrueshëm.

Marrëveshja e Gjelbër Evropiane dhe pasojat e saj
Marrëveshja e Gjelbër Evropiane, e nisur nga Bashkimi Evropian në vitin 2019, përbën një udhëzues transformues për ta bërë ekonominë e BE-së të qëndrueshme duke i kthyer sfidat klimatike dhe mjedisore në mundësi në të gjitha fushat e politikave. Ai vendos objektivin ambicioz për ta bërë Europën kontinentin e parë neutral ndaj klimës deri në vitin 2050, me objektiva të ndërmjetëm që përfshijnë një reduktim prej 55% të emetimeve të gazrave të efektit të serës deri në vitin 2030, krahasuar me nivelet e vitit 1990. Kjo marrëveshje nuk është thjesht një sërë rregullash mjedisore; Kjo është një strategji gjithëpërfshirëse që integron reformat ekonomike, sociale dhe arsimore që synojnë nxitjen e një tranzicioni të gjelbër në të gjitha shtetet anëtare dhe vendet fqinje.

Për Ballkanin Perëndimor, Greqinë dhe Rumaninë, Marrëveshja e Gjelbër Evropiane paraqet si mundësi, ashtu edhe sfida. Nga njëra anë, ajo ofron një kuadër të qartë për kalimin në një ekonomi të qëndrueshme, me akses në financim, novacion teknologjik dhe ndarjen e njohurive. Nga ana tjetër, këto rajone duhet të përballen me pabarazi të rëndësishme ekonomike, infrastrukturë energjitike të trashëguar dhe nivele të ndryshme të përputhjes me politikat e BE-së. Nevoja për të modernizuar sektorët e energjisë, për të zvogëluar varësinë nga karburantet fosile dhe për të integruar burimet e energjisë së ripërtëritshme ka bërë presion të madh mbi këto vende për t'u përshtatur dhe innover me shpejtësi.

Peizazhi ekonomik dhe energjetik i Ballkanit Perëndimor, Greqisë dhe Rumanisë

Ballkani Perëndimor, që përfshin Shqipërinë, Bosnje-Hercegovinën, Kosovën, Malin e Zi, Maqedoninë e Veriut dhe Serbinë, së bashku me Greqinë dhe Rumaninë, janë rajone me ekonomi që historikisht kanë qenë të varura nga industritë me energji intensive, shumë prej të cilave janë të rrënjosura në qymyr dhe lëndë djegëse të tjera fosile. Këto industri kanë qenë një shpatë me dy tehe: ndërsa kanë siguruar punë dhe stabilitet ekonomik, ato kanë kontribuar gjithashtu në degradimin e mjedisit dhe janë bërë gjithnjë e më të paqëndrueshme në kontekstin e objektivave globale të klimës.

Në Ballkanin Perëndimor, sektori i energjisë karakterizohet nga infrastruktura e vjetëruar, nivelet e larta të intensitetit të energjisë dhe mbështetja e konsiderueshme në centralet me qymyr. Pavarësisht nga potenciali për energji të ripërtëritshme, veçanërisht për hidrocentralet, erën dhe solarin, këto burime mbeten të nënpërdorura për shkak të një kombinimi të pengesave rregullatore, financiare dhe teknike. Greqia, edhe pse më e përparuar në tranzicionin e saj të energjisë, ende ndeshet me çështje të tilla si varfëria e energjisë, mbështetja në linjit (një lloj qymyri) dhe nevoja për modernizim thelbësor të rrjetit. Rumania, në mënyrë të ngjashme, është në një moment kritik, duke u përballur me sfidën e kalimit nga një sistem energjitik i varur nga qymyri në një sistem që është më i larmishëm dhe më i qëndrueshëm.

Këtyre sfidave të energjisë u shtohen realitetet socio-ekonomike të rajoneve. Shkalla e lartë e papunësisë, veçanërisht tek të rinjtë, pabarazitë ekonomike midis zonave urbane dhe rurale dhe trashëgimia e paqëndrueshmërisë politike në disa pjesë të Ballkanit Perëndimor shtojnë shtresa të kompleksitetit në tranzicionin e gjelbër. Për më tepër, sistemet VET të rajoneve, të cilat janë vendimtare për pajisjen e fuqisë punëtore me aftësitë e nevojshme për ekonominë e gjelbër, shpesh janë të vjetëruara dhe të keqinformuara me nevojat e industrisë.

Roli i Arsimit dhe Formimit Profesional (VET)

Sistemet e Arsimit dhe Formimit Profesional (VET) janë të pozicionuara në mënyrë unike për të nxitur tranzicionin e gjelbër duke pajisur fuqinë punëtore me aftësitë e nevojshme për të mbështetur industritë e qëndrueshme dhe sektorët e energjisë së ripërtëritshme. Në kontekstin e Ballkanit Perëndimor, Greqisë dhe Rumanisë, sistemet VET nuk janë vetëm institucione arsimore por edhe katalizatorë për zhvillimin ekonomik, lëvizshmërinë sociale dhe integrimin rajonal. Megjithatë,

integrimi i aftësive të gjelbra në programet e VET-it në të gjithë këto rajone ka qenë jo i rregullt, me pabarazi të mëdha në disponueshmërinë, cilësinë dhe rëndësinë e trajnimit.
Në Ballkanin Perëndimor, programet e VET shpesh luftojnë me programet e vjetëruara, burimet e pamjaftueshme dhe mungesën e përputhjes me nevojat në zhvillim të shpejtë të sektorit të energjisë së gjelbër. Ky mospërfillje përbën një pengesë të rëndësishme për aftësinë e rajonit për të përfituar nga potenciali i tij i energjisë së ripërtëritshme dhe për të krijuar vende pune me cilësi të lartë në industritë e gjelbra në zhvillim. Greqia, pavarësisht nga sistemi i saj më i përparuar VET, ende përballet me sfida lidhur me varfërinë e energjisë dhe nevojën për modernizimin e vazhdueshëm të kurrikulës për të ndjekur ritmin e përparimeve teknologjike. Në Rumani, kalimi në një ekonomi të gjelbër pengohet nga një mbështetje e madhe në qymyr dhe një sistem VET që ende nuk ka përqafuar plotësisht kërkesat e sektorit të energjisë së ripërtëritëshme.

Urgjenca e integrimit të aftësive të gjelbra
Urgjenca e integrimit të aftësive të gjelbra në sistemet VET në këto rajone nuk mund të mbivlerësohet. Ndërsa BE përshpejton përpjekjet e saj për të arritur neutralitetin e klimës, Ballkani Perëndimor, Greqia dhe Rumania duhet të sigurojnë që fuqia punëtore e tyre të jetë e përgatitur për të përmbushur kërkesat e ekonomisë së gjelbër. Kjo përfshin jo vetëm përtëritjen e kurrikulave dhe investimin në mjediset e trainimit, por edhe nxitjen e një kulture të qëndrueshmërisë dhe novacionit brenda institucioneve arsimore dhe komunitetit më të gjerë.
Integrimi i aftësive të gjelbra në programet e VET është veçanërisht kritik për mbështetjen e nxënësve sipërmarrës— ata që do të udhëheqin ngarkesën në zhvillimin e bizneseve të reja të gjelbra dhe nxitjen e rritjes ekonomike të qëndrueshme. Duke i pajisur këta nxënës me aftësitë e nevojshme, sistemet VET mund të ndihmojnë në krijimin e një brezi sipërmarrësish që jo vetëm që janë të aftë të lundrojnë në kompleksitetin e ekonomisë së gjelbër, por janë gjithashtu të pozicionuar për të innover dhe për të krijuar mundësi të reja në energjinë e ripërtëritshme, efikasitetin e energjisë, dhe praktikat e qëndrueshme.
Për më tepër, integrimi i suksesshëm i aftësive të gjelbra në programet e VET-it ka pasoja shumë të mëdha për barazinë sociale dhe stabilitetin rajonal. Ndërsa këto rajone largohen nga karburantet fosile dhe drejt burimeve më të qëndrueshme të energjisë, është thelbësore të sigurohemi që përfitimet e ekonomisë së gjelbër të ndahen në mënyrë të barabartë në të gjithë sektorët e shoqërisë. Kjo përfshin trajtimin e nevojave të komuniteteve të margjinalizuara, dhënien e mundësive për të mësuar gjatë gjithë jetës dhe sigurimin që të gjithë qytetarët të kenë akses në aftësitë dhe njohuritë e nevojshme për të marrë pjesë në tranzicionin e gjelbër.

Gjetjet kryesore
1. Gjendja aktuale e sistemeve të VET në Ballkanin Perëndimor, Greqi dhe Rumani
Sistemet e Arsimit dhe Trajnimit Profesional (VET) në Ballkanin Perëndimor, Greqi dhe Rumani janë në një moment vendimtar, përballë presioneve të dyfishta të modernizimit të kurrikulave të tyre për të përmbushur kërkesat e ekonomisë së

gjelbër, duke trajtuar gjithashtu sfidat e trashëgimisë lidhur me infrastrukturën e vjetëruar, burimet e kufizuara dhe bashkëpunimin e pamjaftueshëm të industrisë. Gjetjet nga kërkimet tona të thelluara, duke përfshirë kërkimin në tavolinë dhe kërkimin në terren nëpërmjet grupeve të fokusit, zbulojnë variacione të rëndësishme në gjendjen e sistemeve VET në të gjithë këto rajone, duke theksuar si përparimin, ashtu edhe boshllëqet e vazhdueshme.

Shqipëria:
Sistemi VET i Shqipërisë aktualisht po përballet me sfidat e përafrimit të ofertave të saj arsimore me nevojat në rritje të ekonomisë së gjelbër. Ndërsa ka një njohje në rritje të rëndësisë së aftësive të gjelbra, integrimi i këtyre aftësive në programet e VET mbetet në fillimet e saj. Mbështetja e vendit në hidroenergjinë si një burim primar energjie paraqet një mundësi unike për programet e VET për t'u përqëndruar në energjinë e ripërtëritshme, megjithatë ky potencial është kryesisht i nënshpërthyer.
Diskutimet e grupeve të fokusit në Shqipëri theksuan disa çështje kritike:

- **Rëndësia e programit mësimor**: trajnuesit dhe politikëbërësit e VET-it vunë në dukje se programet ekzistuese janë të vjetëruara dhe nuk mbulojnë siç duhet teknologjitë moderne të energjisë së ripërtëritshme, të tilla si praktikat e efektshmërisë diellore, të erës dhe të energjisë. Ka një nevojë të ngutshme për të përditësuar programet mësimore për të pasqyruar përparimet më të fundit dhe për të inkorporuar komponente praktike, praktike të trajnimit.
- **Kufizimet e burimeve**: Mungesa e strukturave moderne, të tilla si laboratorët e pajisur me teknologji të përditësuar, kufizon rëndë aftësinë e institucioneve të AFP-së për të ofruar një trajnim të efektshëm. Trajnerët theksuan se pa këto burime, studentët nuk janë në gjendje të fitojnë përvojën praktike të nevojshme për të pasur sukses në sektorin e energjisë së gjelbër.
- **Mbështetja e politikave**: Ka një nevojë të qartë për korniza më të forta politike që mbështesin integrimin e aftësive të gjelbra në programet e VET. Ndërsa ka një vullnet politik në rritje për të çuar përpara energjinë e ripërtëritshme, kjo ende nuk ka përkthyer në mbështetje konkrete për institucionet e VET, të tilla si financimi për përmirësimin e infrastrukturës dhe zhvillimi profesional për trajnuesit.
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Bosnja dhe Hercegovina:
Në Bosnje dhe Hercegovinë, sistemi VET përballet me sfida të rëndësishme lidhur si me trashëgiminë e strukturave arsimore të vjetëruara, ashtu edhe me nënpërdorimin e burimeve të bollshme të energjisë së ripërtëritshme të vendit. Sektori energjitik i vendit mbështetet shumë në qymyr, megjithatë ka potencial të rëndësishëm për hidroenergjinë dhe biomasën, të cilat nuk janë duke u shfrytëzuar plotësisht në programet e VET.
Gjetjet kryesore nga diskutimet e grupeve të fokusit përfshijnë:

- **Shkëputja midis arsimit dhe industrisë**: Ekziston një hendek i dukshëm midis aftësive që mësohen në programet e VET dhe nevojave të industrisë

së energjisë së gjelbër. Ekspertët e industrisë shprehën pakënaqësi me mungesën e bashkëpunimit midis institucioneve arsimore dhe sektorit privat, gjë që rezulton në të diplomuarit që nuk janë të përgatitur për kërkesat e fuqisë punëtore.

- **Nevoja për Zhvillim Profesional**: Trajnuesit e VET-it në Bosnje dhe Hercegovinë theksuan nevojën urgjente për zhvillim të vazhdueshëm profesional. Shumë trajnerëve u mungon ekspozimi ndaj teknologjive më të fundit të energjisë së ripërtëritshme dhe metodave pedagogjike, gjë që pengon aftësinë e tyre për të dhënë trainim të efektshëm.
- **Mangësitë në infrastrukturë**: Ngjashëm me Shqipërinë, mungesa e strukturave moderne të trajnimit është një pengesë e rëndësishme. Trajnerët theksuan se pa pasur akses në pajisjet dhe teknologjinë e përditësuar, studentët nuk janë në gjendje të fitojnë aftësitë praktike të nevojshme për punësim në sektorin e energjisë së gjelbër.
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Kosova:

Kosova ka bërë më shumë përparim se disa nga fqinjët e saj rajonalë në integrimin e aftësive të gjelbra në programet e saj të VET, veçanërisht nëpërmjet futjes së kurseve të specializuara në energjinë e rinovueshme. Megjithatë, mbeten sfida të rëndësishme, veçanërisht përsa i përket infrastrukturës dhe disponueshmërisë së burimeve.

Njohuritë kryesore nga diskutimet e grupeve të fokusit përfshijnë:

- **Sfidat e infrastrukturës**: Ndërsa disa institucione të AFP-së në Kosovë kanë filluar të futin aftësitë e gjelbra në programet e tyre, mungesa e objekteve dhe pajisjeve moderne mbetet një pengesë e madhe. Trajnerët theksuan se pa pasur mundësi për të marrë mjetet e duhura të trajnimit, studentët nuk janë në gjendje të angazhohen plotësisht me materialin ose të zhvillojnë aftësitë praktike të nevojshme për tregun e punës.
- **Angazhimi dhe interesi i studentëve**: Ka një nivel të lartë interesi midis studentëve për të ndjekur karrierën në sektorin e energjisë së gjelbër, të nxitur nga një njohje e rëndësisë në rritje të energjisë së ripërtëritshme. Megjithatë, trajnerët shprehën shqetësimin se ky entuziazëm është i vështirë për t'u mbajtur në mungesë të burimeve të duhura dhe mundësive praktike të trajnimit.
- **Harmonizimi me Standardet e BE-së**: Politikëbërësit në Kosovë theksuan rëndësinë e përafrimit të sistemit të VET të vendit me standardet e BE-së, veçanërisht në dritën e aspiratave të Kosovës për integrim në BE. Kjo përfshin jo vetëm përtëritjen e kurrikulave, por edhe sigurimin që trajnerët të jenë të pajisur me njohuritë dhe aftësitë e nevojshme për t'i mësuar këto programe të përditësuara në mënyrë efektive.
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Mali i Zi:

Mali i Zi ka bërë përparime të lavdërueshme në integrimin e temave të energjisë së ripërtëritshme në sistemin e vet VET, veçanërisht në fusha të tilla si energjia e erës dhe diellore. Megjithatë, vendi vazhdon të përballet me sfida të rëndësishme

lidhur me infrastrukturën, azhornimin e programeve mësimore dhe zhvillimin profesional të trainerëve.
Diskutimet e grupeve të fokusit zbuluan pikat kryesore të mëposhtme:

- **Fleksibiliteti dhe përshtatja e kurrikulës**: Ka një nevojë të fortë për kurrikula më dinamike dhe fleksibël që mund të përshtaten shpejt me ndryshimet në sektorin e energjisë. Trajnuesit dhe ekspertët e industrisë theksuan rëndësinë e inkorporimit të teknologjive dhe praktikave më të fundit të industrisë në programet e VET-it për t'u siguruar që të diplomuarit të jenë të përgatitur për tregun e energjisë së gjelbër që po evoluon me shpejtësi.
- **Zhvillimi profesional për trajnerët**: Nevoja për zhvillim profesional të vazhdueshëm ishte një temë e përsëritur në diskutimet. Trajnerët theksuan rëndësinë e qëndrimit të përditësuar me përparimet më të fundit në teknologjitë e energjisë së ripërtëritshme, gjë që është vendimtare për dhënien e trajnimeve të duhura dhe efektive.
- **Vizioni Strategjik dhe Mbështetja e Politikave**: Politikëbërësit në Mal të Zi theksuan rëndësinë e një vizioni strategjik afat-gjatë për sektorin e VET. Ata bënë thirrje për zhvillimin e një udhëzuesi kombëtar për arsimin e aftësive të gjelbra, i cili do të përfshinte objektiva të qarta, afate kohore dhe mekanizma financimi për të mbështetur kalimin në një ekonomi të gjelbër.
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Greqia:
Sistemi VET i Greqisë është relativisht i avancuar në krahasim me fqinjët e tij të Ballkanit Perëndimor, me një fokus të fortë në integrimin e aftësive të gjelbra dhe mbështetjen e objektivave ambicioze të vendit për energjinë e ripërtëritshme. Megjithatë, sfida të tilla si varfëria e energjisë dhe nevoja për modernizimin e vazhdueshëm të programeve mësimore vazhdojnë.
Gjetjet kryesore nga diskutimet e grupeve të fokusit përfshijnë:

- **Komunitetet e energjisë si baza trajnimi**: Një nga veçoritë e standout të sistemit grek VET është roli i komuniteteve të energjisë në nxitjen e aftësive të gjelbra. Këto projekte të energjisë së ripërtëritshme të udhëhequra nga komuniteti jo vetëm që kontribuojnë në objektivat energjitike të vendit, por ofrojnë gjithashtu mundësi praktike trainimi për studentët e VET, duke ndihmuar në ngushtimin e hendekut midis arsimit dhe industrisë.
- **Trajnime praktike dhe stazhiere**: Trajnuesit dhe ekspertët e industrisë në Greqi theksuan rëndësinë e trajnimit praktik dhe praktik në përgatitjen e studentëve për karrierë në sektorin e energjisë së gjelbër. Programet e mësimit dhe bashkëpunimet me kompanitë e energjisë së ripërtëritshme u theksuan si komponente thelbësore të programeve efektive të VET.
- **Modernizimi i vazhdueshëm i kurrikulës**: Pavarësisht nga përparimi i bërë, ka një njohje të nevojës për përditësime të vazhdueshme të programit mësimor për të ndjekur ritmin e përparimeve teknologjike në sektorin e energjisë së ripërtëritshme. Trajnerët theksuan se programet duhet të rishikohen dhe të rishikohen rregullisht për t'u siguruar që ato të mbeten relevante dhe të përputhen me nevojat e industrisë.
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Rumani:
Sistemi VET i Rumanisë po lundron aktualisht në tranzicionin kompleks nga një sektor energjitik i varur nga qymyri në një përzierje energjie më të qëndrueshme dhe më të larmishme. Ndërsa ka patur disa përparime në integrimin e aftësive të gjelbra në programet e VET, mbeten boshllëqe të rëndësishme, veçanërisht në lidhje me përputhjen e ofertave arsimore me nevojat e sektorit të energjisë së ripërtëritshme.
Njohuritë kryesore nga diskutimet e grupeve të fokusit përfshijnë:

- **Tranzicioni i qymyrit dhe zhvillimi i kurrikulës**: Zhvendosja nga qymyri paraqet si sfida, ashtu edhe mundësi për sistemin VET të Rumanisë. Ekziston një nevojë e ngutshme për të zhvilluar programe që pasqyrojnë kalimin e vendit në energjinë e ripërtëritshme, me një fokus të veçantë në teknologjitë diellore, të erës dhe biomasës.
- **Investimi në mjediset e trainimit**: Ngjashëm me vendet e tjera të rajonit, institucioneve të AFP-së të Rumanisë shpesh u mungojnë strukturat dhe pajisjet moderne të nevojshme për të ofruar trainim efektiv në aftësitë e gjelbra. Trajnuesit theksuan rëndësinë e investimit në laboratorët e fundit dhe aksesin në instalimet e energjisë së ripërtëritshme të botës reale.
- **Politika dhe Bashkëpunimi i Industrisë**: Politikëbërësit dhe ekspertët e industrisë theksuan rëndësinë e bashkëpunimit midis qeverisë, institucioneve arsimore dhe sektorit privat në nxitjen e integrimit të aftësive të gjelbra në programet e VET. Kjo përfshin zhvillimin e partneriteteve publike-private që mund të mbështesin ndarjen e burimeve, ekspertizës dhe mundësive të trajnimit.
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Sinteza e gjetjeve
Analiza e gjendjes aktuale të sistemeve VET në të gjithë Ballkanin Perëndimor, Greqinë dhe Rumaninë zbulon një peizazh kompleks të shënuar si nga përparimi, ashtu edhe nga sfidat e vazhdueshme. Ndërsa ka një njohje në rritje të rëndësisë së integrimit të aftësive të gjelbra në programet e VET, ritmi i reformës ka qenë i pabarabartë dhe mbeten boshllëqe të rëndësishme përsa i përket rëndësisë së programit mësimor, disponueshmërisë së burimeve dhe bashkëpunimit të industrisë.
Të përbashkëtat kryesore në të gjithë rajonet përfshijnë:

- **Nevoja për modernizimin e kurrikulës**: Në të gjitha vendet, ekziston një nevojë e qartë dhe urgjente për të përditësuar programet e VET-it për t'u përshtatur më mirë me kërkesat e ekonomisë së gjelbër. Kjo përfshin inkorporimin e teknologjive më të fundit, standardeve të industrisë dhe praktikave të qëndrueshmërisë në programet arsimore.
- **Zhvillimi profesional për trajnerët**: Rëndësia e zhvillimit profesional të vazhdueshëm për trajnerët e VET-it ishte një temë e qëndrueshme në të gjitha grupet e fokusit. Les formateurs ont besoin d'accès continu à la formation et des ressources pour rester à jour avec les avances dans les technologies de l'énergie renouvelable et les méthodes d'enseignement.
- **Sfidat e infrastrukturës dhe burimeve**: Mungesa e strukturave moderne të trajnimit dhe aksesi në mundësitë praktike të të mësuarit është një

pengesë e rëndësishme në të gjitha rajonet. Pa këto burime, institucionet e VET-it luftojnë për të ofruar trajnimin praktik që është thelbësor për përgatitjen e studentëve për sektorin e energjisë së gjelbër.

- **Mbështetja e politikave dhe radhitja strategjike**: Edhe pse ka njohje të gjerë të rëndësisë së aftësive të gjelbra, zbatimi i politikave mbështetëse ka qenë jo i rregullt. Ka nevojë për korniza më të forta politike që sigurojnë udhëzime, objektiva dhe nxitje të qarta për integrimin e aftësive të gjelbra në programet e VET.
- **Bashkëpunimi me Industrinë**: Roli i bashkëpunimit të industrisë në nxitjen e integrimit të aftësive të gjelbra në programet e VET u theksua në të gjitha rajonet. Partneritetet publike-private janë parë si thelbësore për të siguruar që programet e VET-it të jenë të ndjeshme ndaj nevojave të industrisë dhe mund të përgatisin në mënyrë efektive studentët për punësim në sektorin e energjisë së gjelbër.

Këto gjetje theksojnë nevojën kritike për një qasje të koordinuar dhe bashkëpunuese për reformimin e sistemeve VET në të gjithë Ballkanin Perëndimor, Greqinë dhe Rumaninë. Duke trajtuar sfidat e identifikuara në këtë raport dhe duke zbatuar rekomandimet strategjike të përshkruara në seksionet vijuese, këto rajone mund të ndërtojnë sisteme VET që janë resiliente, adaptable, dhe të afta për të drejtuar tranzicionin e energjisë së gjelbër.

2. Boshllëqet e kurrikulave dhe nevoja për modernizim

Modernizimi i programeve të VET është një domosdoshmëri e ngutshme në të gjithë Ballkanin Perëndimor, Greqinë dhe Rumaninë, ndërsa këto rajone përpiqen të harmonizojnë sistemet e tyre arsimore me kërkesat në zhvillim të shpejtë të ekonomisë së gjelbër. Gjendja aktuale e kurrikulave të VET-it në këto vende pasqyron një vonesë të konsiderueshme në inkorporimin e përparimeve më të fundit teknologjike, praktikave të qëndrueshmërisë dhe standardeve të industrisë kritike për sektorin e energjisë së ripërtëritshme. Ky hendek nuk është vetëm një çështje e përmbajtjes arsimore, por edhe një çështje më e gjerë për të siguruar që programet e VET të mbeten relevante, dinamike dhe të ndjeshme si ndaj ndryshimeve ekonomike lokale ashtu edhe globale.

Rëndësia e programit mësimor dhe radhitja e industrisë

Një nga çështjet më flagrante të identifikuara në të gjithë sistemet VET në këto rajone është shkëputja midis kurrikulave ekzistuese dhe nevojave praktike të industrisë së energjisë së gjelbër. Kurrikulat në shumë institucione të VET-it vazhdojnë të përqëndrohen në sektorët tradicionalë të energjisë, me theks të pamjaftueshëm në teknologjitë e energjisë së ripërtëritshme si solari, era, biomasa dhe efektshmëria e energjisë. Ky mospërfillje krijon një situatë ku të diplomuarit shpesh nuk janë të përgatitur për të përmbushur kërkesat e tregut të punës, duke rezultuar në mospërputhje të aftësive që mund të pengojnë rritjen e ekonomisë së gjelbër.

Në **Shqipëri**, për shembull, programet aktuale të VET janë shumë të vjetëruara, me përfshirjen minimale të teknologjive moderne të energjisë së ripërtëritshme. Pavarësisht nga mbështetja e Shqipërisë në hidroenergji, ka pak ose aspak përqendrim në forma të tjera të energjisë së rinovueshme, si solari dhe era, të cilat

kanë potencial të rëndësishëm në vend. Trajnuesit shprehën pakënaqësi gjatë diskutimeve të grupeve të fokusit rreth mungesës së përmbajtjes së programit mësimor që trajton aftësitë teknike të nevojshme për këta sektorë në zhvillim. Ky hendek jo vetëm që kufizon mundësitë për studentët për të fituar aftësitë përkatëse, por gjithashtu kufizon aftësinë e programeve të AFP-së për të kontribuar në mënyrë efektive në objektivat e diversifikimit të energjisë së vendit.

Në mënyrë të ngjashme, në **Bosnje dhe Herzegovinë**, programet e VET nuk pasqyrojnë siç duhet potencialin e energjisë së rinovueshme të vendit. Fokusi mbetet kryesisht në metodat tradicionale të prodhimit të energjisë, me integrimin e pamjaftueshëm të teknologjive dhe praktikave të gjelbra. Kjo është pavarësisht nga potenciali i rëndësishëm i vendit për hidroenergjinë dhe biomasën. Ekspertët e industrisë në Bosnje-Hercegovinë kanë theksuar nevojën urgjente për kurrikula që janë më të lidhura ngushtë me kërkesat e industrisë, veçanërisht përsa i përket kompetencave teknike dhe përvojës praktike në projektet e energjisë së ripërtëritshme.

Integrimi i teknologjive në zhvillim

Integrimi i teknologjive në zhvillim në programet e VET është një fushë tjetër kritike ku ekzistojnë boshllëqe të rëndësishme. Me evoluimin e sektorit të energjisë së ripërtëritshme, ka një kërkesë në rritje për ekspertizë në teknologjitë e përparuara si rrjetet inteligjente, sistemet e magazinimit të energjisë dhe menaxhimin dixhital të energjisë. Megjithatë, këto tema shpesh mungojnë ose nënpërfaqësohen në programet e VET anembanë Ballkanit Perëndimor, Greqisë dhe Rumanisë.

Në **Kosovë**, ndërsa ka pasur disa përparime në futjen e kurseve të specializuara në energjinë e rinovueshme, kurrikulat ende mungojnë në mbulimin e temave të avancuara që po bëhen gjithnjë e më të rëndësishme në peisazhin global të energjisë. Trajnerët në Kosovë theksuan se aftësia e tyre për të mësuar këto tema të avancuara pengohet nga mungesa e materialeve të përditësuara arsimore dhe mungesa e strukturave moderne të trajnimit të pajisura me teknologjinë e nevojshme.

Mali i Zi përballet gjithashtu me sfida në integrimin e teknologjive në zhvillim në programet e tij të VET. Pavarësisht nga angazhimi i vendit për të rritur pjesën e tij të energjisë së ripërtëritshme, programet mbeten të përqëndruara në aftësitë teknike bazë, me pak theks në teknologjitë e sofistikuara që po nxisin novacionin në sektorin e energjisë së gjelbër. Ky hendek jo vetëm që kufizon potencialin e të diplomuarve të VET-it për të kontribuar në objektivat energjetike të vendit, por gjithashtu pengon aftësinë e Malit të Zi për të tërhequr investime në projektet e fundit të energjisë së ripërtëritshme.

Në **Greqi**, megjithëse sistemi VET është relativisht i avancuar, ka ende nevojë për përditësime të vazhdueshme të kurrikulave për të ndjekur ritmin e përparimeve teknologjike. Integrimi i teknologjive të rrjetit inteligjent, zgjidhjeve të ruajtjes së energjisë dhe mjeteve dixhitale për menaxhimin e energjisë është vendimtar për përgatitjen e studentëve për të punuar në një sektor energjitik gjithnjë e më të ndërlidhur dhe të dixhitalizuar. Trajnuesit dhe ekspertët e industrisë në Greqi theksuan rëndësinë e shqyrtimit dhe rishikimit të rregullt të kurrikulave për t'u siguruar që ato të mbeten relevante dhe në përputhje me prirjet më të fundit të industrisë.

Trajnim praktik dhe përvojë praktike

Një temë e përsëritur në diskutimet në të gjitha rajonet ishte rëndësia kritike e trajnimit praktik dhe përvojës praktike në programet e VET. Hendeku midis njohurive teorike dhe aplikimit praktik është veçanërisht i theksuar në kontekstin e aftësive të gjelbra, ku studentët duhet të angazhohen me teknologjitë dhe praktikat e botës reale për të kuptuar plotësisht kompleksitetin e sektorit të energjisë së rinovueshme.

Në **Rumani**, mungesa e mundësive praktike të trainimit është një pengesë e rëndësishme për integrimin efektiv të aftësive të gjelbra në programet e VET. Pavarësisht nga përpjekjet e vendit për kalimin nga qymyri në energjinë e ripërtëritshme, programet e VET nuk u japin studentëve mundësi të mjaftueshme për të punuar me teknologjitë moderne të energjisë së ripërtëritshme. Trajnuesit shprehën shqetësimin se pa pasur akses në laboratorët e fundit dhe instalimet e energjisë së ripërtëritshme, studentët nuk janë në gjendje të fitojnë përvojën praktike të nevojshme për të pasur sukses në ekonominë e gjelbër.

Shqipëria përballet me sfida të ngjashme, ku mungesa e strukturave moderne të trajnimit kufizon rëndë aftësinë e programeve të VET për të ofruar përvoja praktike të të mësuarit. Pjesëmarrësit e grupit të fokusit theksuan nevojën për investime thelbësore në infrastrukturë, duke përfshirë zhvillimin e laboratorëve të pajisur me teknologjitë më të fundit të energjisë së ripërtëritshme. Kjo jo vetëm që do të përmirësonte cilësinë e arsimit, por edhe do të siguronte që studentët të jenë gati për punë pas diplomimit.

Në **Bosnje dhe Herzegovinë**, mungesa e mundësive praktike të trainimit shtohet nga bashkëpunimi i pamjaftueshëm midis institucioneve të VET dhe sektorit privat. Ekspertët e industrisë vunë në dukje se pa lidhje më të ngushta me industrinë, programet e VET nuk ka gjasa t'u japin studentëve përvojën e botës reale të nevojshme për të përmbushur kërkesat e sektorit të energjisë së gjelbër. Ka një nevojë të madhe për partneritete publike-private që mund të lehtësojnë stazhet, stazhet dhe trajnimet në punë, duke i lejuar studentët të aplikojnë njohuritë e tyre në mjedise praktike.

Roli i politikës dhe mbështetjes institucionale

Modernizimi i kurrikulave të VET-it nuk mund të ndodhë në vakum; Ajo kërkon politikë të fortë dhe mbështetje institucionale për të nxitur dhe mbështetur ndryshimet. Në të gjithë Ballkanin Perëndimor, Greqinë dhe Rumaninë, ka nevojë për korniza më të fuqishme politike që kanë prioritet integrimin e aftësive të gjelbra në programet e VET. Kjo përfshin vendosjen e objektivave të qarta për azhornimin e programeve mësimore, dhënien e fondeve për zhvillimin e strukturave moderne të trajnimit dhe inkurajimin e bashkëpunimit midis institucioneve arsimore dhe industrisë.

Në **Malin e Zi**, politikëbërësit theksuan rëndësinë e një qasjeje strategjike për modernizimin e kurrikulave. Ka nevojë për një udhëzues kombëtar që përshkruan objektivat specifike për integrimin e aftësive të gjelbra në programet e VET, mbështetur nga afatet kohore të qarta dhe mekanizmat e financimit. Ky vizion strategjik është thelbësor për të siguruar që sistemi VET të mund të përshtatet me kërkesat që ndryshojnë me shpejtësi të ekonomisë së gjelbër dhe të kontribuojë në mënyrë efektive në objektivat e qëndrueshmërisë së vendit.

Kosova ka bërë përparime në përafrimin e sistemit të vet të VET me standardet e BE-së, por ka ende nevojë për mbështetje më të fortë institucionale për të siguruar zbatimin e suksesshëm të reformave kurrikulare. Kjo përfshin dhënien e mundësive të zhvillimit profesional për trajnerët, investimin në mjediset moderne të trajnimit dhe nxitjen e një kulture novacioni brenda institucioneve arsimore.
Në **Greqi**, roli i komuniteteve të energjisë ka qenë veçanërisht efektiv në nxitjen e aftësive të gjelbra nëpërmjet mundësive praktike të trajnimit. Këto nisma të udhëhequra nga komuniteti ofrojnë një model për mënyrën se si qeveritë lokale, industria dhe institucionet arsimore mund të bashkëpunojnë për të nxitur modernizimin e programeve mësimore dhe për të siguruar që programet e VET-it të jenë në përputhje me nevojat e sektorit të energjisë së gjelbër.

Rruga përpara: Rekomandimet për modernizimin e kurrikulës

Për të trajtuar boshllëqet e kurrikulës të identifikuara në këtë raport, propozohen rekomandimet e mëposhtme:

Shqyrtim gjithëpërfshirës i kurrikulës:

- Bëni një shqyrtim të hollësishëm të kurrikulave ekzistuese të VET-it në të gjitha rajonet për të identifikuar përmbajtjen e vjetëruar dhe fushat ku aftësitë e gjelbra janë të nënpërfaqësuara. Ky shqyrtim duhet të përfshijë bashkëpunimin me ekspertë të industrisë, edukatorë dhe politikëbërës për t'u siguruar që programet të jenë në përputhje me nevojat aktuale dhe të ardhshme të industrisë.

Integrimi i teknologjive në zhvillim:

- Përditësoni programet e VET-it për të përfshirë teknologjitë në zhvillim si rrjetet inteligjente, sistemet e ruajtjes së energjisë dhe mjetet dixhitale të menaxhimit të energjisë. Këto tema duhet të integrohen si në komponentët teorikë ashtu edhe në atë praktik të programit mësimor, duke u dhënë studentëve një kuptim të plotë të përparimeve më të fundit në sektorin e energjisë së ripërtëritshme.

Investimi në mjediset praktike të trajnimit:

- Caktoni fonde për zhvillimin e laboratorëve modernë dhe instalimeve të energjisë së ripërtëritshme brenda institucioneve të VET. Këto struktura duhet të pajisen me teknologjinë më të fundit për t'u dhënë studentëve përvojë praktike në punën me sistemet e energjisë së ripërtëritshme.

Forcimi i Partneritetit Publik-Privat:

- Nxitja e bashkëpunimit midis institucioneve të VET-it dhe sektorit privat për të krijuar mundësi për stazhe, stazhe dhe trajnime në punë. Partneritetet publike-private janë thelbësore për të siguruar që programet e VET-it të jenë të ndjeshme ndaj nevojave të industrisë dhe t'u japin studentëve përvojë në botën reale.

Zhvillimi i vazhdueshëm profesional për trajnerët:

- Zbatoni programe të vazhdueshme të zhvillimit profesional për trajnerët e VET-it për t'u siguruar se janë të pajisur me njohuritë dhe aftësitë më të fundit. Kjo përfshin trainimin në teknologjitë në zhvillim, metodat moderne pedagogjike dhe kompetencat specifike të industrisë.

Politika dhe mbështetja institucionale:

- Zhvilloni dhe zbatoni strategjitë kombëtare për modernizimin e kurrikulave që përfshijnë objektiva të qarta, afate kohore dhe mekanizma financimi. Politikëbërësit duhet të kenë prioritet integrimin e aftësive të gjelbra në programet e VET-it dhe të ofrojnë mbështetjen e nevojshme për institucionet arsimore për të arritur këto objektiva.

Duke adresuar këto boshllëqe kurrikulare dhe duke zbatuar strategjitë e rekomanduara, sistemet e VET në Ballkanin Perëndimor, Greqi dhe Rumani mund të transformohen në korniza arsimore dinamike dhe reaguese që në mënyrë efektive përgatisin studentët për kërkesat e ekonomisë së gjelbër. Kjo përpjekje modernizimi nuk është vetëm thelbësore për të mbështetur tranzicionin energjitik të rajonit, por edhe për të siguruar që të diplomuarit të jenë të pajisur me aftësitë e nevojshme për të nxitur një rritje ekonomike të qëndrueshme në vitet e ardhshme.

3. Zhvillimi profesional për trajnuesit e VET-it

Një nga gjetjet më domethënëse nga grupet e fokusit ishte nevoja kritike për zhvillimin profesional të vazhdueshëm për trajnerët e VET. Pa mundësi të vazhdueshme për të mësuar, trajnerët mund të luftojnë për të ndjekur përparimet në teknologjitë e energjisë së ripërtëritshme dhe metodat e mësimdhënies. Kjo, nga ana e saj, kufizon aftësinë e tyre për të përgatitur në mënyrë efektive studentët për karrierë në sektorin e energjisë së gjelbër.

Trajnerët në të gjitha vendet shprehën një dëshirë të madhe për më shumë seminare trainimi, programe shkëmbimi me vendet e tjera evropiane dhe akses në informacionin më të fundit të industrisë. Këto mundësi të zhvillimit profesional janë thelbësore për të siguruar që trajnerët të kenë aftësitë dhe njohuritë e nevojshme për të ofruar arsimim të cilësisë së lartë të aftësive të gjelbra. Në Kosovë dhe Shqipëri, trajnerët përmendën në mënyrë specifike nevojën për programe të zhvillimit profesional që fokusohen në trajnimin praktik dhe praktik në teknologjitë e energjisë së ripërtëritshme.

4. Sfidat e burimeve dhe infrastrukturës

Mungesa e strukturave moderne, pajisjeve dhe aksesit në vendet e projekteve të botës reale ishte një shqetësim i përbashkët në të gjitha grupet e fokusit. Institucionet e VET-së në Ballkanin Perëndimor, Greqi dhe Rumani shpesh operojnë me burime të kufizuara, gjë që pengon aftësinë e tyre për të ofruar trainim praktik dhe praktik. Kjo është veçanërisht problematike në kontekstin e aftësive të gjelbra, ku studentët duhet të angazhohen me teknologjitë dhe praktikat e fundit për të qenë plotësisht të përgatitur për tregun e punës.

Pjesëmarrësit theksuan nevojën për investime të rëndësishme në infrastrukturën VET, duke përfshirë zhvillimin e laboratorëve të fundit, aksesin në instalimet e energjisë së ripërtëritshme për qëllime trajnimi dhe mjetet moderne të mësimdhënies si softueri i simulimit. Në Malin e Zi, për shembull, nevoja për infrastrukturë të përditësuar u theksua si një faktor kritik në përmirësimin e cilësisë së programeve të VET.

5. Mbështetja e politikave dhe radhitja strategjike

Ndërsa ka njohje të gjerë të rëndësisë së aftësive të gjelbra në sektorin e VET, zbatimi i politikave mbështetëse ka qenë i papërputhshëm në të gjithë rajonin. Pjesëmarrësit e grupit të fokusit bënë thirrje për korniza më të forta politikash që ofrojnë udhëzime, objektiva dhe stimuj të qartë për integrimin e aftësive të gjelbra në programet e VET. Këto politika duhet të përputhen me strategjitë kombëtare të arsimit dhe qëllimet më të gjera ekonomike dhe mjedisore, veçanërisht ato që lidhen me Marrëveshjen e Gjelbër Evropiane dhe Marrëveshjen e Parisit.

Në Rumani, politikëbërësit diskutuan mbi sfidat e kalimit nga qymyri në energjinë e ripërtëritshme dhe nevojën për një kuadër tërësor politikash për të mbështetur këtë zhvendosje. Në Bosnje dhe Hercegovinë, pjesëmarrësit theksuan rëndësinë e përafrimit të programeve të VET-it me strategjinë energjetike të vendit dhe garantimin e krijimit të kornizave të politikave për të mbështetur zhvillimin e aftësive të gjelbra.

6. Bashkëpunimi me Industrinë dhe Partneritetet Publike-Private

Grupet e fokusit theksuan rolin kritik të bashkëpunimit midis institucioneve të VET dhe industrisë së energjisë së gjelbër në nxitjen e integrimit të aftësive të gjelbra. Pa kontributin dhe mbështetjen e industrisë, programet e VET rrezikojnë të shkëputen nga kërkesat e botës reale të tregut të punës.

Pjesëmarrësit bënë thirrje për krijimin e partneriteteve më të forta publike-private që mund të lehtësojnë ndarjen e burimeve, ekspertizës dhe mundësive për trainim praktik. Bashkëpunime të tilla janë thelbësore për të siguruar që programet e VET-it të jenë të ndjeshme ndaj nevojave të industrisë dhe mund të përgatisin në mënyrë efektive studentët për punësim në sektorin e energjisë së gjelbër. Në Greqi, për shembull, suksesi i komuniteteve të energjisë në nxitjen e aftësive të gjelbra iu atribua partneriteteve të forta midis pushtetit lokal, industrisë dhe institucioneve arsimore.

7. Roli i komuniteteve të energjisë dhe ndërmarrjeve shoqërore

Në Greqi, koncepti i komuniteteve të energjisë doli si një model veçanërisht i suksesshëm për nxitjen e aftësive të gjelbra. Këto projekte të energjisë së ripërtëritshme të udhëhequra nga komuniteti jo vetëm që kontribuojnë në objektivat e vendit për energjinë, por shërbejnë gjithashtu si baza praktike trainimi për studentët e VET. Grupet e fokusit diskutuan potencialin për riprodhimin e këtij modeli në vende të tjera të rajonit, ku ndërmarrjet sociale dhe nismat e komunitetit mund të luajnë një rol të ngjashëm në mbështetjen e tranzicionit të energjisë së gjelbër.

Pjesëmarrësit në Greqi theksuan rëndësinë e komuniteteve të energjisë në nxitjen e ndjenjës së pronësisë dhe përgjegjësisë midis studentëve, si dhe ofrimin e përvojës së botës reale në projektet e energjisë së ripërtëritshme. Ky model mund të jetë veçanërisht efektiv në Ballkanin Perëndimor, ku nismat e drejtuara nga komuniteti kanë potencialin për të nxitur zhvillimin social dhe ekonomik.

Rekomandime strategjike

Bazuar në gjetjet si nga tavolina ashtu edhe nga kërkimet në terren, propozohen rekomandimet strategjike të mëposhtme për të rritur integrimin e aftësive të gjelbra në programet e VET në të gjithë Ballkanin Perëndimor, Greqinë dhe Rumaninë:

Modernizimi i programit mësimor:

- Zhvilloni dhe zbatoni programe të përditësuara që pasqyrojnë teknologjitë më të fundit, standardet e industrisë dhe praktikat e qëndrueshmërisë në sektorin e energjisë së gjelbër. Këto kurrikula duhet të jenë fleksibël dhe të adaptueshëm, duke lejuar integrimin e shpejtë të zhvillimeve të reja ndërsa dalin. Vëmendje specifike duhet t'i kushtohet energjisë diellore dhe të erës, efektshmërisë së energjisë dhe ndërtimit të qëndrueshëm, pasi këto fusha janë kritike për tranzicionin energjitik të rajonit.

Investimi në infrastrukturë:

- Caktoni burime të rëndësishme për zhvillimin e strukturave moderne të trajnimit, duke përfshirë laboratorët, instalimet e energjisë së ripërtëritshme dhe mjetet moderne të mësimdhënies. Ky investim është kritik për t'u dhënë studentëve përvojën praktike dhe praktike të nevojshme për të pasur sukses në sektorin e energjisë së gjelbër. Në Rumani dhe Mal të Zi, në veçanti, ka një nevojë të ngutshme për përmirësime të infrastrukturës për të mbështetur dhënien e programeve të VET me cilësi të lartë.

Zhvillimi profesional për trajnerët:

- Krijoni programe të vazhdueshme të zhvillimit profesional për trajnerët e VET, duke përfshirë seminare trajnimi, programe shkëmbimi me vende të tjera evropiane dhe qasje në informacionin më të fundit të industrisë. Këto programe duhet të jenë të dizajnuara për t'u siguruar që trajnerët të kenë aftësitë dhe njohuritë e nevojshme për të ofruar një arsimim të cilësisë së lartë të aftësive të gjelbra. Në Kosovë dhe Shqipëri, zhvillimi profesional duhet të fokusohet në ofrimin e trajnerëve me mjetet dhe burimet e nevojshme për të ofruar trajnime praktike në teknologjitë e energjisë së rinovueshme.

Forcimi i kornizave të politikave:

- Zhvilloni dhe zbatoni korniza më të forta politike që ofrojnë udhëzime, objektiva dhe nxitje të qarta për integrimin e aftësive të gjelbra në programet e VET. Këto korniza duhet të përputhen me strategjitë kombëtare të arsimit dhe qëllimet më të gjera ekonomike dhe mjedisore, të tilla si Marrëveshja e Gjelbër Evropiane dhe Marrëveshja e Parisit. Në Rumani, për shembull, ka nevojë për politika që mbështesin kalimin nga qymyri në energjinë e ripërtëritshme dhe nxisin zhvillimin e aftësive të gjelbra.

Partneritete publike-private:

- Nxitja e bashkëpunimit midis institucioneve të VET-it dhe industrisë së energjisë së gjelbër nëpërmjet partneriteteve publike-private. Këto partneritete mund të lehtësojnë ndarjen e burimeve, ekspertizës dhe mundësive për trajnime praktike, duke siguruar që programet e

VET-it të jenë të ndjeshme ndaj nevojave të industrisë. Në Bosnje dhe Hercegovinë, rritja e bashkëpunimit të industrisë është thelbësore për të harmonizuar programet e VET me nevojat e sektorit të energjisë së gjelbër.

Mbështetje për Komunitetet e Energjisë dhe Ndërmarrjet Sociale:

- Inkurajoni zhvillimin e komuniteteve të energjisë dhe ndërmarrjeve sociale si modele për nxitjen e aftësive të gjelbra. Këto nisma të udhëhequra nga komuniteti mund të shërbejnë si baza praktike trajnimi për studentët e VET-it dhe të kontribuojnë në tranzicionin më të gjerë të energjisë së gjelbër. Përvoja e Greqisë me komunitetet e energjisë ofron një model të vlefshëm që mund të përshtatet dhe zbatohet në vende të tjera të rajonit.

Monitorimi dhe vlerësimi:

- Krijoni sisteme për monitorimin dhe vlerësimin e vazhdueshëm të programeve të VET-it për t'u siguruar që ato të mbeten në përputhje me nevojat e industrisë dhe objektivat kombëtare të energjisë. Kjo duhet të përfshijë reagime të rregullta nga palët e interesuara të industrisë, si dhe vlerësimet e rezultateve të studentëve dhe efektivitetin e programit. Monitorimi dhe vlerësimi janë veçanërisht të rëndësishëm në Shqipëri dhe Kosovë, ku programet e VET janë ende në fazat e para të integrimit të aftësive të gjelbra.

Ndërtimi i kapaciteteve sipërmarrëse:

- Integroni trajnimin e sipërmarrjes në programet e VET, me fokus në modelet e biznesit të gjelbër dhe praktikat e qëndrueshme. Kjo do t'i pajisë studentët me aftësitë e nevojshme për të innover dhe për të krijuar vlerë në ekonominë e gjelbër. Në Ballkanin Perëndimor, ekziston një mundësi e rëndësishme për të zhvilluar kapacitete sipërmarrëse që mund të nxisin tranzicionin e energjisë së gjelbër të rajonit.

Bashkëpunimi rajonal dhe ndarja e njohurive:

- Të promovojë bashkëpunimin rajonal dhe ndarjen e njohurive midis institucioneve të VET, industrisë dhe politikëbërësve në të gjithë Ballkanin Perëndimor, Greqisë dhe Rumanisë. Kjo mund të lehtësojë shkëmbimin e praktikave më të mira, burimeve dhe ekspertizës dhe të ndihmojë në ndërtimin e një sistemi më koheziv dhe më efektiv të AFP-së në të gjithë rajonin. Projektet bashkëpunuese dhe nismat e përbashkëta duhet të inkurajohen për të forcuar kapacitetin kolektiv të rajonit për të mbështetur tranzicionin e energjisë së gjelbër.

Përfundimi

Ky raport gjithëpërfshirës nënvizon rolin kritik të arsimit profesional dhe trajnimit në mbështetjen e tranzicionit të energjisë së gjelbër në të gjithë Ballkanin Perëndimor, Greqinë dhe Rumaninë. Duke adresuar sfidat e identifikuara në këtë raport dhe duke zbatuar rekomandimet strategjike të përshkruara më sipër, sistemet VET në rajon mund të transformohen në nxitës të fuqishëm të zhvillimit të qëndrueshëm ekonomik dhe krijimit të vendeve të gjelbra të punës.

Gjetjet nga ky raport do të informojnë zhvillimin e programit të trajnimit i cili ka për qëllim të ndërtojë kapacitetin e trajnerëve të VET-it dhe të pajisë nxënësit sipërmarrës me aftësitë e nevojshme për të lulëzuar në ekonominë e gjelbër. Ky program do të jetë thelbësor për të siguruar që institucionet e VET në Ballkanin Perëndimor dhe më gjerë të jenë plotësisht të përgatitura për të përmbushur kërkesat e tregut të punës të shekullit të 21-të dhe për të kontribuar në një të ardhme të qëndrueshme dhe të qëndrueshme.
Si përfundim, integrimi i suksesshëm i aftësive të gjelbra në programet e AFP-së në të gjithë rajonin do të kërkojë një përpjekje të koordinuar dhe bashkëpunuese, që përfshin qeverinë, industrinë, institucionet arsimore dhe shoqërinë civile. Duke punuar së bashku, këta aktorë mund të krijojnë një sistem VET që jo vetëm plotëson nevojat e tregut të sotëm të punës, por gjithashtu parashikon dhe përshtatet me sfidat dhe mundësitë e së ardhmes. Kjo do të jetë thelbësore për të siguruar që Ballkani Perëndimor, Greqia dhe Rumania të mund të marrin pjesë plotësisht dhe të përfitojnë nga tranzicioni global i energjisë së gjelbër.

Romanian

RAPORT CUPRINZĂTOR: Analiză strategică și recomandări

Introducere

Peisajul global trece printr-o transformare profundă, determinată de nevoia urgentă de a aborda schimbările climatice, de a reduce emisiile de carbon și de a face tranziția către o economie durabilă și verde. Uniunea Europeană și-a asumat un rol de lider în acest efort prin ambițiosul său Pact verde, care urmărește să facă din Europa primul continent neutru din punct de vedere climatic până în 2050. Această agendă transformatoare impune cerințe semnificative asupra tuturor sectoarelor economiei, în special asupra energiei, industriei și educației. Pentru țările din Balcanii de Vest, Grecia și România – regiuni cu diverse provocări economice și nevoi de dezvoltare – tranziția către o economie verde este atât o necesitate, cât și o oportunitate.

Sistemele de educație și formare profesională (EFP) se află în centrul acestei tranziții. Acestea joacă un rol esențial în pregătirea forței de muncă cu competențele necesare pentru a sprijini sectorul energiei verzi, pentru a stimula inovarea și pentru a stimula creșterea economică durabilă. În Balcanii de Vest, Grecia și România, unde dezvoltarea economică este strâns legată de modernizarea sistemelor energetice și alinierea la standardele de mediu ale UE, programele VET trebuie să evolueze rapid pentru a răspunde acestor nevoi emergente.

Cu toate acestea, drumul către integrarea competențelor ecologice în programele EFP din aceste regiuni este plin de provocări. Moștenirea sistemelor educaționale învechite, infrastructura limitată, colaborarea insuficientă dintre instituțiile de învățământ și industrie și lipsa alinierii la cerințele economice contemporane au

creat bariere semnificative. Țările din Balcanii de Vest, în special, se confruntă cu dubla provocare de a-și moderniza economiile, abordând în același timp nevoile presante de durabilitate a mediului și de securitate energetică.

Acest raport cuprinzător urmărește să abordeze aceste provocări prin furnizarea unei analize aprofundate a situației actuale a sistemelor EFP din Albania, Bosnia și Herțegovina, Kosovo, Muntenegru, Grecia și România. Acesta se bazează pe cercetări ample de birou, precum și pe informații colectate din cercetarea pe teren care implică focus grupuri cu formatori VET, experți din industrie, factori de decizie și factori de decizie politică din aceste regiuni. Raportul este conceput pentru a oferi părților interesate o înțelegere globală a problemelor în cauză și pentru a oferi recomandări strategice pentru consolidarea capacității sistemelor EFP de a sprijini tranziția către energia verde.

Accentul acestui raport este deosebit de relevant, având în vedere rolul esențial pe care sectorul EFP îl joacă în modelarea viitoarei forțe de muncă. Informațiile și recomandările furnizate aici sunt menite să ghideze dezvoltarea programelor EFP care răspund nevoilor economiei verzi, sunt capabile să stimuleze inovarea și sunt aliniate la obiectivele mai largi ale Pactului verde european și ale Acordului de la Paris.

În contextul Balcanilor de Vest, Greciei și României, integrarea competențelor verzi în sistemele EFP este mai mult decât o reformă educațională; Este un imperativ strategic care are potențialul de a transforma aceste regiuni în lideri în sectorul energiei verzi. Prin echiparea studenților și profesioniștilor cu abilitățile necesare pentru a excela în industria energiei regenerabile, programele VET pot contribui semnificativ la reducerea emisiilor de carbon, îmbunătățirea securității energetice și crearea de locuri de muncă de înaltă calitate care susțin dezvoltarea durabilă.

Călătoria către o economie verde este complexă și multilaterală, necesitând eforturi coordonate din partea guvernului, industriei, instituțiilor de învățământ și societății civile. Acest raport subliniază importanța colaborării și a responsabilității comune în atingerea acestor obiective. Lucrând împreună, părțile interesate pot depăși provocările identificate în prezentul raport și pot construi un sistem EFP care nu este doar rezilient și adaptabil, ci și capabil să conducă tranziția către energia verde în Balcanii de Vest, Grecia și România.
Pe măsură ce ne adâncim în constatările și recomandările strategice ale acestui raport, este important să recunoaștem contextul mai larg în care funcționează aceste regiuni. Balcanii de Vest, Grecia și România se află într-un moment crucial în traiectoriile lor economice și de mediu. Deciziile luate astăzi cu privire la integrarea competențelor verzi în programele EFP vor avea un impact de durată asupra capacității regiunii de a concura în economia globală, de a obține independența energetică și de a îndeplini obiectivele ambițioase stabilite de Pactul verde european. Acest raport servește drept ghid esențial pentru părțile interesate

în timp ce navighează prin această tranziție complexă, dar esențială, către un viitor durabil și prosper.

Context și context
Balcanii de Vest, Grecia și România sunt regiuni caracterizate prin patrimoniul lor cultural bogat, peisaje diverse și istorii socio-economice complexe. Cu toate acestea, aceste regiuni se confruntă, de asemenea, cu un set de provocări unice care le-au modelat traiectoriile de dezvoltare, în special în contextul eforturilor Uniunii Europene către un viitor verde și durabil. Pe măsură ce comunitatea globală acordă din ce în ce mai multă prioritate durabilității mediului și acțiunilor climatice, aceste țări se află la o răscruce critică, în care integrarea competențelor ecologice în sistemele de educație și formare profesională (EFP) nu este doar o opțiune, ci o necesitate pentru creșterea și dezvoltarea durabilă.

Pactul verde european și implicațiile sale
Pactul verde european, lansat de Uniunea Europeană în 2019, reprezintă o foaie de parcurs transformatoare pentru ca economia UE să devină sustenabilă prin transformarea provocărilor climatice și de mediu în oportunități în toate domeniile de politică. Acesta stabilește obiectivul ambițios de a transforma Europa în primul continent neutru din punct de vedere climatic până în 2050, cu obiective intermediare care includ o reducere cu 55 % a emisiilor de gaze cu efect de seră până în 2030, comparativ cu nivelurile din 1990. Acest acord nu este doar un set de reglementări de mediu; Este o strategie cuprinzătoare care integrează reformele economice, sociale și educaționale menite să promoveze o tranziție verde în toate statele membre și în țările învecinate.
Pentru Balcanii de Vest, Grecia și România, Pactul verde european prezintă atât oportunități, cât și provocări. Pe de o parte, oferă un cadru clar pentru tranziția către o economie durabilă, cu acces la finanțare, inovare tehnologică și schimb de cunoștințe. Pe de altă parte, aceste regiuni trebuie să se confrunte cu disparități economice semnificative, infrastructuri energetice moștenite și niveluri diferite de aliniere la politicile UE. Necesitatea de a moderniza sectoarele energetice, de a reduce dependența de combustibilii fosili și de a integra sursele regenerabile de energie a pus o presiune imensă asupra acestor țări pentru a se adapta rapid și a inova.

Peisajul economic și energetic al Balcanilor de Vest, Greciei și României
Balcanii de Vest - cuprinzând Albania, Bosnia și Herțegovina, Kosovo, Muntenegru, Macedonia de Nord și Serbia - împreună cu Grecia și România, sunt regiuni cu economii care s-au bazat istoric pe industriile mari consumatoare de energie, dintre care multe sunt înrădăcinate în cărbune și alți combustibili fosili. Aceste industrii au fost o sabie cu două tăișuri: deși au oferit locuri de muncă și stabilitate economică, au contribuit, de asemenea, la degradarea mediului și au devenit din ce în ce mai nesustenabile în contextul obiectivelor climatice globale.
În Balcanii de Vest, sectorul energetic se caracterizează printr-o infrastructură îmbătrânită, niveluri ridicate de intensitate energetică și o dependență semnificativă de centralele electrice pe bază de cărbune. În ciuda potențialului

energiei regenerabile - în special hidroenergie, eoliană și solară - aceste resurse rămân subutilizate din cauza unei combinații de bariere de reglementare, financiare și tehnice. Grecia, deși mai avansată în tranziția sa energetică, încă se confruntă cu probleme precum sărăcia energetică, dependența de lignit (un tip de cărbune) și necesitatea unei modernizări substanțiale a rețelei. În mod similar, România se află într-un moment critic, confruntându-se cu provocarea tranziției de la un sistem energetic dependent de cărbune la unul mai divers și mai durabil.
Aceste provocări energetice sunt agravate de realitățile socioeconomice ale regiunilor. Ratele ridicate ale șomajului, în special în rândul tinerilor, disparitățile economice dintre zonele urbane și cele rurale și consecințele instabilității politice din unele părți ale Balcanilor de Vest adaugă niveluri de complexitate tranziției verzi. În plus, sistemele EFP ale regiunilor, care sunt esențiale pentru dotarea forței de muncă cu competențele necesare pentru economia verde, sunt adesea depășite și nealiniate la nevoile industriei.

Rolul educației și formării profesionale (EFP)
Sistemele de educație și formare profesională (EFP) sunt poziționate în mod unic pentru a stimula tranziția verde prin dotarea forței de muncă cu competențele necesare pentru a sprijini industriile durabile și sectoarele energiei din surse regenerabile. În contextul Balcanilor de Vest, Greciei și României, sistemele EFP nu sunt doar instituții de învățământ, ci și catalizatori pentru dezvoltarea economică, mobilitatea socială și integrarea regională. Cu toate acestea, integrarea competențelor ecologice în programele EFP din aceste regiuni a fost inconsecventă, cu disparități semnificative în ceea ce privește disponibilitatea, calitatea și relevanța formării.
În Balcanii de Vest, programele EFP se confruntă adesea cu programe de învățământ învechite, resurse insuficiente și o lipsă de aliniere la nevoile în evoluție rapidă ale sectorului energiei verzi. Această nealiniere reprezintă o barieră semnificativă în calea capacității regiunii de a-și valorifica potențialul de energie regenerabilă și de a crea locuri de muncă de înaltă calitate în industriile verzi emergente. Grecia, în ciuda sistemului său VET mai avansat, se confruntă în continuare cu provocări legate de sărăcia energetică și de necesitatea modernizării continue a curriculumului pentru a ține pasul cu progresele tehnologice. În România, tranziția către o economie verde este împiedicată de o dependență puternică de cărbune și de un sistem VET care nu a îmbrățișat încă pe deplin cerințele sectorului energiei regenerabile.

Urgența integrării competențelor ecologice
Urgența integrării competențelor ecologice în sistemele EFP din aceste regiuni nu poate fi supraestimată. Pe măsură ce UE își accelerează eforturile de realizare a neutralității climatice, Balcanii de Vest, Grecia și România trebuie să se asigure că forța lor de muncă este pregătită să răspundă cerințelor economiei verzi. Acest lucru implică nu numai actualizarea programelor de învățământ și investiții în facilități de formare, ci și promovarea unei culturi a durabilității și inovării în cadrul instituțiilor de învățământ și al comunității mai largi.

Integrarea competențelor ecologice în programele VET este deosebit de importantă pentru sprijinirea cursanților antreprenori - cei care vor conduce sarcina în dezvoltarea de noi afaceri ecologice și stimularea creșterii economice durabile. Prin echiparea acestor cursanți cu abilitățile necesare, sistemele VET pot contribui la crearea unei generații de antreprenori care nu numai că sunt capabili să navigheze prin complexitatea economiei verzi, ci sunt, de asemenea, poziționați să inoveze și să creeze noi oportunități în domeniul energiei regenerabile, al eficienței energetice și al practicilor durabile.
În plus, integrarea cu succes a competențelor ecologice în programele EFP are implicații profunde pentru echitatea socială și stabilitatea regională. Pe măsură ce aceste regiuni trec de la combustibilii fosili la surse de energie mai durabile, este esențial să se asigure că beneficiile economiei verzi sunt împărțite în mod echitabil în toate sectoarele societății. Aceasta include abordarea nevoilor comunităților marginalizate, oferirea de oportunități pentru învățarea pe tot parcursul vieții și asigurarea faptului că toți cetățenii au acces la competențele și cunoștințele necesare pentru a participa la tranziția verde.

Principalele constatări

1. Situația actuală a sistemelor EFP din Balcanii de Vest, Grecia și România

Sistemele de educație și formare profesională (EFP) din Balcanii de Vest, Grecia și România se află într-un moment crucial, confruntându-se cu presiunile duble ale modernizării programelor de învățământ pentru a răspunde cerințelor economiei verzi, abordând în același timp provocările moștenite legate de infrastructura învechită, resursele limitate și colaborarea insuficientă a industriei. Rezultatele cercetării noastre extinse, incluzând atât cercetarea documentară, cât și cercetarea pe teren prin focus grupuri, relevă variații semnificative în starea sistemelor EFP în aceste regiuni, evidențiind atât progresul, cât și lacunele persistente.

Albania:

Sistemul EFP din Albania se confruntă în prezent cu provocările alinierii ofertelor sale educaționale la nevoile emergente ale economiei verzi. Deși există o recunoaștere din ce în ce mai mare a importanței competențelor ecologice, integrarea acestor competențe în programele EFP rămâne în fază incipientă. Dependența țării de energia hidroelectrică ca sursă primară de energie reprezintă o oportunitate unică pentru programele VET de a se concentra asupra energiei regenerabile, dar acest potențial este în mare măsură subexploatat.
Discuțiile din cadrul grupurilor tematice din Albania au evidențiat mai multe aspecte critice:

- **Relevanța curriculumului**: Formatorii VET și factorii de decizie politică au remarcat că programele existente sunt depășite și nu acoperă în mod adecvat tehnologiile moderne de energie regenerabilă, cum ar fi energia solară, eoliană și practicile de eficiență energetică. Există o nevoie urgentă de a actualiza programele de învățământ pentru a reflecta cele mai recente progrese și pentru a încorpora componente practice și practice de formare.

- **Constrângeri legate de resurse**: Lipsa unor facilități moderne, cum ar fi laboratoarele echipate cu tehnologie de ultimă oră, limitează sever capacitatea instituțiilor EFP de a oferi o formare eficientă. Formatorii au subliniat că fără aceste resurse, studenții nu pot dobândi experiența practică necesară pentru a reuși în sectorul energiei verzi.
- **Sprijin politic**: Există o nevoie clară de cadre politice mai puternice care să sprijine integrarea competențelor ecologice în programele EFP. Deși există o voință politică din ce în ce mai mare de a promova energia din surse regenerabile, acest lucru nu s-a tradus încă într-un sprijin tangibil pentru instituțiile EFP, cum ar fi finanțarea pentru îmbunătățirea infrastructurii și dezvoltarea profesională a formatorilor.

Bosnia și Herțegovina:
În Bosnia și Herțegovina, sistemul EFP se confruntă cu provocări semnificative legate atât de moștenirea structurilor educaționale învechite, cât și de subutilizarea resurselor abundente de energie regenerabilă ale țării. Sectorul energetic al țării se bazează în mare măsură pe cărbune, dar există un potențial semnificativ pentru energia hidroelectrică și energia din biomasă, care nu sunt valorificate pe deplin în programele EFP.
Principalele constatări ale discuțiilor din focus grup includ:

- **Deconectarea dintre educație și industrie**: Există un decalaj notabil între abilitățile predate în programele VET și nevoile industriei energiei verzi. Experții din industrie și-au exprimat frustrarea față de lipsa de colaborare dintre instituțiile de învățământ și sectorul privat, ceea ce duce la absolvenți care sunt prost pregătiți pentru cerințele forței de muncă.
- **Nevoia de dezvoltare profesională**: formatorii VET din Bosnia și Herțegovina au subliniat nevoia urgentă de dezvoltare profesională continuă. Mulți formatori nu sunt expuși la cele mai recente tehnologii și metode pedagogice din domeniul energiei regenerabile, ceea ce le împiedică capacitatea de a oferi o formare eficientă.
- **Deficiențe de infrastructură**: Similar Albaniei, lipsa facilităților moderne de formare este o barieră semnificativă. Formatorii au subliniat că, fără acces la echipamente și tehnologii moderne, studenții nu pot dobândi abilitățile practice necesare pentru ocuparea forței de muncă în sectorul energiei verzi.

Kosovo:
Kosovo a făcut mai multe progrese decât unii dintre vecinii săi regionali în integrarea competențelor ecologice în programele sale VET, în special prin introducerea de cursuri specializate în domeniul energiei regenerabile. Cu toate acestea, rămân provocări semnificative, în special în ceea ce privește infrastructura și disponibilitatea resurselor.
Perspectivele cheie din discuțiile focus grupului includ:

- **Provocări legate de infrastructură**: În timp ce unele instituții EFP din Kosovo au început să introducă competențe ecologice în programele lor, lipsa facilităților și a echipamentelor moderne rămâne un obstacol major.

Formatorii au subliniat că, fără acces la instrumente de formare adecvate, studenții nu sunt în măsură să se angajeze pe deplin cu materialul sau să dezvolte abilitățile practice necesare pentru piața muncii.

- **Implicarea și interesul studenților**: Există un nivel ridicat de interes în rândul studenților în urmărirea unei cariere în sectorul energiei verzi, condus de recunoașterea importanței crescânde a energiei regenerabile. Cu toate acestea, formatorii și-au exprimat îngrijorarea că acest entuziasm este dificil de menținut în absența resurselor adecvate și a oportunităților practice de formare.
- **Alinierea la standardele UE**: Factorii de decizie politică din Kosovo au subliniat importanța alinierii sistemului EFP al țării la standardele UE, în special în lumina aspirațiilor Kosovo de integrare europeană. Aceasta implică nu numai actualizarea programelor de învățământ, ci și asigurarea faptului că formatorii sunt echipați cu cunoștințele și abilitățile necesare pentru a preda eficient aceste programe actualizate.

Muntenegru:
Muntenegru a făcut progrese lăudabile în integrarea subiectelor legate de energia regenerabilă în sistemul său EFP, în special în domenii precum energia eoliană și solară. Cu toate acestea, țara continuă să se confrunte cu provocări semnificative legate de infrastructură, actualizări ale curriculumului și dezvoltarea profesională a formatorilor.
Discuțiile din focus grup au relevat următoarele puncte cheie:

- **Flexibilitatea și adaptarea curriculumului**: Există o nevoie puternică de programe mai dinamice și mai flexibile, care se pot adapta rapid la schimbările din sectorul energetic. Formatorii și experții din industrie au subliniat importanța încorporării celor mai noi tehnologii și practici din industrie în programele VET pentru a se asigura că absolvenții sunt pregătiți pentru piața energiei verzi care evoluează rapid.
- **Dezvoltare profesională pentru formatori**: Nevoia de dezvoltare profesională continuă a fost o temă recurentă în discuții. Formatorii au subliniat importanța de a rămâne la curent cu cele mai recente progrese în tehnologiile de energie regenerabilă, ceea ce este crucial pentru furnizarea de instruire relevantă și eficientă.
- **Viziune strategică și sprijin politic**: Factorii de decizie politică din Muntenegru au subliniat importanța unei viziuni strategice pe termen lung pentru sectorul EFP. Ei au solicitat elaborarea unei foi de parcurs naționale pentru educația în materie de competențe verzi, care să includă obiective clare, termene și mecanisme de finanțare pentru a sprijini tranziția către o economie verde.

Grecia:
Sistemul EFP al Greciei este relativ avansat în comparație cu vecinii săi din Balcanii de Vest, cu un accent puternic pe integrarea competențelor ecologice și pe sprijinirea obiectivelor ambițioase ale țării în materie de energie din surse

regenerabile. Cu toate acestea, provocări precum sărăcia energetică și necesitatea modernizării continue a curriculumului persistă.
Principalele constatări ale discuțiilor din focus grup includ:

- **Comunitățile energetice ca terenuri de formare**: Una dintre caracteristicile remarcabile ale sistemului VET din Grecia este rolul comunităților energetice în promovarea competențelor ecologice. Aceste proiecte de energie regenerabilă conduse de comunitate nu numai că contribuie la obiectivele energetice ale țării, ci oferă și oportunități practice de formare pentru studenții VET, contribuind la reducerea decalajului dintre educație și industrie.
- **Instruire practică și ucenicie**: Formatorii și experții din industrie din Grecia au subliniat importanța formării practice și practice în pregătirea studenților pentru o carieră în sectorul energiei verzi. Programele de ucenicie și colaborările cu companiile de energie regenerabilă au fost evidențiate ca fiind componente esențiale ale programelor VET eficiente.
- **Modernizarea continuă a curriculumului**: În ciuda progreselor înregistrate, există o recunoaștere a necesității actualizărilor curriculare continue pentru a ține pasul cu progresele tehnologice din sectorul energiei regenerabile. Formatorii au subliniat că programele de învățământ trebuie revizuite și revizuite periodic pentru a se asigura că rămân relevante și aliniate la nevoile industriei.

România:
Sistemul VET din România navighează în prezent prin tranziția complexă de la un sector energetic dependent de cărbune la un mix energetic mai durabil și mai diversificat. Deși s-au înregistrat unele progrese în integrarea competențelor ecologice în programele EFP, rămân lacune semnificative, în special în ceea ce privește alinierea ofertelor educaționale la nevoile sectorului energiei regenerabile.
Perspectivele cheie din discuțiile focus grupului includ:

- **Tranziția cărbunelui și dezvoltarea curriculumului**: Trecerea de la cărbune prezintă atât provocări, cât și oportunități pentru sistemul VET din România. Există o nevoie urgentă de a dezvolta programe de învățământ care să reflecte tranziția țării la energia regenerabilă, cu un accent deosebit pe tehnologiile solare, eoliene și biomasă.
- **Investiții în facilități de formare**: Similar cu alte țări din regiune, instituțiile VET din România nu dispun adesea de facilitățile și echipamentele moderne necesare pentru a oferi o formare eficientă în domeniul competențelor ecologice. Formatorii au subliniat importanța investițiilor în laboratoare de ultimă generație și accesul la instalații de energie regenerabilă din lumea reală.
- **Colaborarea politică și industrială**: Factorii de decizie politică și experții din industrie au subliniat importanța colaborării dintre guvern, instituțiile de învățământ și sectorul privat în stimularea integrării competențelor ecologice în programele VET. Aceasta include dezvoltarea de parteneriate public-privat care pot sprijini partajarea resurselor, a expertizei și a oportunităților de formare.

Sinteza constatărilor

Analiza stării actuale a sistemelor EFP din Balcanii de Vest, Grecia și România relevă un peisaj complex, marcat atât de progrese, cât și de provocări persistente. Deși există o recunoaștere din ce în ce mai mare a importanței integrării competențelor ecologice în programele EFP, ritmul reformei a fost inegal și persistă lacune semnificative în ceea ce privește relevanța curriculumului, disponibilitatea resurselor și colaborarea la nivelul industriei.

Principalele puncte comune din regiuni includ:

- **Nevoia de modernizare a curriculumului**: În toate țările, există o nevoie clară și urgentă de actualizare a programelor VET pentru a se alinia mai bine la cerințele economiei verzi. Aceasta include încorporarea celor mai noi tehnologii, standarde industriale și practici de sustenabilitate în programele educaționale.
- **Dezvoltarea profesională pentru formatori**: Importanța dezvoltării profesionale continue pentru formatorii VET a fost o temă consecventă în toate focus grupurile. Formatorii au nevoie de acces continuu la instruire și resurse pentru a fi la curent cu progresele în tehnologiile și metodele de predare a energiei regenerabile.
- **Provocări legate de infrastructură și resurse**: Lipsa unor facilități moderne de formare și a accesului la oportunități practice de învățare reprezintă o barieră semnificativă în toate regiunile. Fără aceste resurse, instituțiile VET se luptă să ofere formarea practică, care este esențială pentru pregătirea studenților pentru sectorul energiei verzi.
- **Sprijin politic și aliniere strategică**: Deși există o largă recunoaștere a importanței competențelor ecologice, punerea în aplicare a politicilor de sprijin a fost inconsecventă. Este nevoie de cadre politice mai puternice, care să ofere orientări, obiective și stimulente clare pentru integrarea competențelor ecologice în programele EFP.
- **Colaborarea cu industria**: Rolul colaborării industriei în stimularea integrării competențelor ecologice în programele VET a fost subliniat în toate regiunile. Parteneriatele public-privat sunt considerate esențiale pentru asigurarea faptului că programele VET răspund nevoilor industriei și pot pregăti în mod eficient studenții pentru ocuparea forței de muncă în sectorul energiei verzi.

Aceste constatări subliniază necesitatea critică a unei abordări coordonate și bazate pe colaborare pentru reformarea sistemelor EFP din Balcanii de Vest, Grecia și România. Prin abordarea provocărilor identificate în prezentul raport și prin punerea în aplicare a recomandărilor strategice prezentate în secțiunile următoare, aceste regiuni pot construi sisteme EFP care sunt reziliente, adaptabile și capabile să stimuleze tranziția către energia verde.

2. Lacunele curriculare și nevoia de modernizare

Modernizarea curriculei VET este o necesitate presantă în Balcanii de Vest, Grecia și România, deoarece aceste regiuni se străduiesc să-și alinieze sistemele educaționale la cerințele în evoluție rapidă ale economiei verzi. Starea actuală a

programelor VET din aceste țări reflectă un decalaj semnificativ în încorporarea celor mai recente progrese tehnologice, practici de durabilitate și standarde industriale critice pentru sectorul energiei regenerabile. Acest decalaj nu este doar o chestiune de conținut educațional, ci și o problemă mai largă de asigurare a faptului că programele VET rămân relevante, dinamice și receptive atât la schimbările economice locale, cât și la cele globale.

Relevanța curriculumului și alinierea industriei

Una dintre cele mai evidente probleme identificate în sistemele EFP din aceste regiuni este deconectarea dintre programele existente și nevoile practice ale industriei energiei verzi. Programele de învățământ din multe instituții VET continuă să se concentreze asupra sectoarelor energetice tradiționale, cu un accent insuficient pe tehnologiile de energie regenerabilă, cum ar fi energia solară, eoliană, biomasa și eficiența energetică. Această nealiniere creează o situație în care absolvenții sunt adesea slab pregătiți pentru a răspunde cerințelor pieței muncii, ceea ce duce la necorelarea competențelor care poate împiedica creșterea economiei verzi.

În **Albania**, de exemplu, actualele programe EFP sunt puternic depășite, cu o includere minimă a tehnologiilor moderne în domeniul energiei regenerabile. În ciuda dependenței Albaniei de energia hidroelectrică, nu se pune aproape deloc accent pe alte forme de energie regenerabilă, cum ar fi energia solară și eoliană, care au un potențial semnificativ în țară. Formatorii și-au exprimat frustrarea în timpul discuțiilor de focus grup cu privire la lipsa conținutului curriculumului care abordează abilitățile tehnice necesare pentru aceste sectoare emergente. Acest decalaj nu numai că limitează oportunitățile studenților de a dobândi abilități relevante, ci și limitează capacitatea programelor VET de a contribui în mod eficient la obiectivele de diversificare energetică ale țării.

În mod similar, în **Bosnia și Herțegovina**, programele EFP nu reflectă în mod adecvat potențialul țării în materie de energie din surse regenerabile. Accentul rămâne în continuare predominant pe metodele tradiționale de producere a energiei, cu o integrare insuficientă a tehnologiilor și practicilor ecologice. Acest lucru se întâmplă în ciuda potențialului semnificativ al țării pentru energia hidroelectrică și energia din biomasă. Experții din industrie din Bosnia și Herțegovina au subliniat nevoia urgentă de programe de învățământ care să fie mai strâns aliniate la cerințele industriei, în special în ceea ce privește competențele tehnice și experiența practică în proiectele de energie regenerabilă.

Integrarea tehnologiilor emergente

Integrarea tehnologiilor emergente în programele EFP este un alt domeniu critic în care există lacune semnificative. Pe măsură ce sectorul energiei regenerabile evoluează, există o cerere tot mai mare de expertiză în tehnologii avansate, cum ar fi rețelele inteligente, sistemele de stocare a energiei și gestionarea digitală a energiei. Cu toate acestea, aceste subiecte lipsesc adesea sau sunt subreprezentate în programele EFP din Balcanii de Vest, Grecia și România.

În **Kosovo**, deși s-au înregistrat unele progrese în introducerea cursurilor specializate în domeniul energiei regenerabile, programele de învățământ încă nu acoperă subiecte avansate care devin din ce în ce mai importante în peisajul energetic global. Formatorii din Kosovo au subliniat că abilitatea lor de a preda

aceste subiecte avansate este împiedicată de lipsa materialelor educaționale actualizate și de absența unor facilități moderne de instruire dotate cu tehnologia necesară.

Muntenegru se confruntă, de asemenea, cu provocări în ceea ce privește integrarea tehnologiilor emergente în programele sale VET. În ciuda angajamentului țării de a-și crește ponderea energiei regenerabile, programele rămân axate pe abilitățile tehnice de bază, cu puțin accent pe tehnologiile sofisticate care stimulează inovația în sectorul energiei verzi. Acest decalaj nu numai că limitează potențialul absolvenților EFP de a contribui la obiectivele energetice ale țării, ci și împiedică capacitatea Muntenegrului de a atrage investiții în proiecte de energie regenerabilă de vârf.

În **Grecia**, deși sistemul EFP este relativ avansat, este încă nevoie de actualizări continue ale programelor de învățământ pentru a ține pasul cu progresele tehnologice. Integrarea tehnologiilor de rețea inteligentă, a soluțiilor de stocare a energiei și a instrumentelor digitale pentru gestionarea energiei este crucială pentru pregătirea studenților pentru a lucra într-un sector energetic din ce în ce mai interconectat și digitalizat. Formatorii și experții din industrie din Grecia au subliniat importanța revizuirii și revizuirii periodice a programelor de învățământ pentru a se asigura că acestea rămân relevante și aliniate la cele mai recente tendințe din industrie.

Instruire practică și experiență practică

O temă recurentă în discuțiile din toate regiunile a fost importanța critică a formării practice și a experienței practice în programele VET. Decalajul dintre cunoștințele teoretice și aplicarea practică este deosebit de pronunțat în contextul competențelor verzi, unde elevii trebuie să se angajeze cu tehnologii și practici din lumea reală pentru a înțelege pe deplin complexitatea sectorului energiei regenerabile.

În **România**, lipsa oportunităților de formare practică este o barieră semnificativă în calea integrării eficiente a competențelor verzi în programele VET. În ciuda eforturilor țării de a trece de la cărbune la energie regenerabilă, programele VET nu oferă studenților suficiente oportunități de a lucra cu tehnologii moderne de energie regenerabilă. Formatorii și-au exprimat îngrijorarea că, fără acces la laboratoare de ultimă generație și instalații de energie regenerabilă, studenții nu pot câștiga experiența practică necesară pentru a reuși în economia verde.

Albania se confruntă cu provocări similare, unde absența unor facilități moderne de formare limitează sever capacitatea programelor VET de a oferi experiențe practice de învățare. Participanții la focus grup au subliniat necesitatea unor investiții substanțiale în infrastructură, inclusiv dezvoltarea laboratoarelor dotate cu cele mai noi tehnologii de energie regenerabilă. Acest lucru nu numai că ar spori calitatea educației, ci și ar asigura faptul că studenții sunt pregătiți pentru locuri de muncă la absolvire.

În **Bosnia și Herțegovina**, lipsa oportunităților de formare practică este agravată de colaborarea insuficientă dintre instituțiile EFP și sectorul privat. Experții din industrie au remarcat că, fără legături mai strânse cu industria, este puțin probabil ca programele VET să ofere studenților experiența din lumea reală necesară pentru a răspunde cerințelor sectorului energiei verzi. Există o nevoie puternică de

parteneriate public-privat care să poată facilita stagiile, uceniciile și formarea la locul de muncă, permițând studenților să își aplice cunoștințele în situații practice.

Rolul sprijinului politic și instituțional

Modernizarea programelor de învățământ profesional și tehnic nu poate avea loc într-un vid; Este nevoie de un sprijin politic și instituțional puternic pentru a conduce și susține schimbările. În Balcanii de Vest, Grecia și România, este nevoie de cadre politice mai robuste care să acorde prioritate integrării competențelor verzi în programele EFP. Aceasta include stabilirea unor obiective clare pentru actualizarea curriculumului, furnizarea de finanțare pentru dezvoltarea unor facilități moderne de formare și încurajarea colaborării dintre instituțiile de învățământ și industrie.

În **Muntenegru**, factorii de decizie politică au subliniat importanța unei abordări strategice a modernizării curriculumului. Este nevoie de o foaie de parcurs națională care să contureze obiective specifice pentru integrarea competențelor ecologice în programele EFP, susținute de termene și mecanisme de finanțare clare. Această viziune strategică este esențială pentru a se asigura că sistemul EFP se poate adapta la cerințele în schimbare rapidă ale economiei verzi și poate contribui în mod eficient la obiectivele de durabilitate ale țării.

Kosovo a făcut progrese în alinierea sistemului său EFP la standardele UE, dar este încă nevoie de un sprijin instituțional mai puternic pentru a asigura punerea în aplicare cu succes a reformelor curriculare. Aceasta include oferirea de oportunități de dezvoltare profesională pentru formatori, investiții în facilități moderne de formare și promovarea unei culturi a inovării în cadrul instituțiilor de învățământ.

În **Grecia**, rolul comunităților energetice a fost deosebit de eficient în promovarea competențelor ecologice prin oportunități practice de formare. Aceste inițiative conduse de comunitate oferă un model pentru modul în care guvernele locale, industria și instituțiile de învățământ pot colabora pentru a conduce modernizarea curriculumului și pentru a se asigura că programele VET sunt aliniate la nevoile sectorului energiei verzi.

Calea de urmat: recomandări pentru modernizarea curriculumului

Pentru a aborda lacunele curriculare identificate în prezentul raport, se propun următoarele recomandări:

- **Revizuirea cuprinzătoare a curriculumului**:
  - Efectuarea unei revizuiri aprofundate a programelor EFP existente în toate regiunile pentru a identifica conținuturile învechite și domeniile în care competențele ecologice sunt subreprezentate. Această revizuire ar trebui să implice colaborarea cu experți din industrie, educatori și factori de decizie politică pentru a se asigura că programele sunt aliniate la nevoile actuale și viitoare ale industriei.
- **Integrarea tehnologiilor emergente**:
  - Actualizarea programelor EFP pentru a include tehnologiile emergente, cum ar fi rețelele inteligente, sistemele de stocare a energiei și instrumentele digitale de gestionare a energiei. Aceste subiecte ar trebui integrate atât în componentele teoretice, cât și în cele practice ale curriculum-ului, oferind studenților o înțelegere

globală a celor mai recente progrese în sectorul energiei regenerabile.

Investiții în facilități de formare practică:

- Alocarea de fonduri pentru dezvoltarea laboratoarelor de ultimă generație și a instalațiilor de energie regenerabilă în cadrul instituțiilor VET. Aceste facilități ar trebui să fie echipate cu cea mai recentă tehnologie pentru a oferi studenților experiență practică în lucrul cu sistemele de energie regenerabilă.

Consolidarea parteneriatelor public-privat:

- Promovarea colaborării dintre instituțiile EFP și sectorul privat pentru a crea oportunități pentru stagii, ucenicii și formare la locul de muncă. Parteneriatele public-privat sunt esențiale pentru a se asigura că programele VET răspund nevoilor industriei și oferă studenților experiență în lumea reală.

Dezvoltare profesională continuă pentru formatori:

- Implementați programe de dezvoltare profesională continuă pentru formatorii VET pentru a vă asigura că aceștia sunt echipați cu cele mai recente cunoștințe și abilități. Aceasta include formarea în domeniul tehnologiilor emergente, al metodelor pedagogice moderne și al competențelor specifice industriei.

Sprijin politic și instituțional:

- Dezvoltarea și implementarea strategiilor naționale de modernizare a curriculumului care includ obiective clare, termene și mecanisme de finanțare. Factorii de decizie politică ar trebui să acorde prioritate integrării competențelor ecologice în programele VET și să ofere sprijinul necesar instituțiilor de învățământ pentru a atinge aceste obiective.

Prin abordarea acestor lacune curriculare și implementarea strategiilor recomandate, sistemele VET din Balcanii de Vest, Grecia și România pot fi transformate în cadre educaționale dinamice și receptive care pregătesc în mod eficient elevii pentru cerințele economiei verzi. Acest efort de modernizare nu este esențial doar pentru sprijinirea tranziției energetice a regiunii, ci și pentru asigurarea faptului că absolvenții sunt echipați cu abilitățile necesare pentru a stimula creșterea economică durabilă în anii următori.

3. Dezvoltare profesională pentru formatorii VET

Una dintre cele mai semnificative constatări ale focus grupurilor a fost nevoia critică de dezvoltare profesională continuă pentru formatorii VET. Fără oportunități de învățare continuă, formatorii se pot lupta să țină pasul cu progresele în tehnologiile și metodele de predare a energiei regenerabile. Acest lucru, la rândul său, limitează capacitatea lor de a pregăti în mod eficient studenții pentru o carieră în sectorul energiei verzi.

Formatorii din toate țările și-au exprimat dorința puternică pentru mai multe ateliere de formare, programe de schimb cu alte țări europene și acces la cele mai recente informații din industrie. Aceste oportunități de dezvoltare profesională sunt esențiale pentru a se asigura că formatorii au abilitățile și cunoștințele necesare

pentru a oferi o educație ecologică de înaltă calitate. În Kosovo și Albania, formatorii au menționat în mod specific necesitatea unor programe de dezvoltare profesională care să se concentreze pe instruirea practică, practică în domeniul tehnologiilor de energie regenerabilă.

4. Provocări legate de resurse și infrastructură

Lipsa facilităților moderne, a echipamentelor și a accesului la site-urile de proiect din lumea reală a fost o preocupare comună în toate focus grupurile. Instituțiile EFP din Balcanii de Vest, Grecia și România funcționează adesea cu resurse limitate, ceea ce le afectează capacitatea de a oferi formare practică și practică. Acest lucru este deosebit de problematic în contextul competențelor verzi, unde elevii trebuie să se angajeze cu tehnologii și practici de ultimă oră pentru a fi pe deplin pregătiți pentru piața muncii.

Participanții au subliniat necesitatea unor investiții semnificative în infrastructura VET, inclusiv dezvoltarea laboratoarelor de ultimă generație, accesul la instalații de energie regenerabilă în scopuri de instruire și instrumente moderne de predare, cum ar fi software-ul de simulare. În Muntenegru, de exemplu, necesitatea unei infrastructuri actualizate a fost evidențiată ca un factor esențial pentru îmbunătățirea calității programelor EFP.

5. Sprijin politic și aliniere strategică

Deși există o largă recunoaștere a importanței competențelor ecologice în sectorul EFP, punerea în aplicare a politicilor de sprijin a fost inconsecventă în întreaga regiune. Participanții la focus grup au solicitat cadre politice mai puternice, care să ofere orientări, obiective și stimulente clare pentru integrarea competențelor ecologice în programele VET. Aceste politici ar trebui să fie aliniate la strategiile naționale în domeniul educației și la obiectivele economice și de mediu mai ample, în special la cele legate de Pactul verde european și de Acordul de la Paris.

În România, factorii de decizie politică au discutat despre provocările tranziției de la cărbune la energia regenerabilă și despre necesitatea unui cadru politic cuprinzător pentru a sprijini această schimbare. În Bosnia și Herțegovina, participanții au subliniat importanța alinierii programelor VET la strategia energetică a țării și asigurarea existenței unor cadre de politică pentru a sprijini dezvoltarea competențelor ecologice.

6. Colaborarea cu industria și parteneriatele public-privat

Focus grupurile au subliniat rolul critic al colaborării dintre instituțiile VET și industria energiei verzi în stimularea integrării competențelor ecologice. Fără contribuția și sprijinul industriei, programele VET riscă să devină deconectate de cerințele reale ale pieței muncii.

Participanții au solicitat stabilirea unor parteneriate public-privat mai puternice, care pot facilita partajarea resurselor, a expertizei și a oportunităților de formare practică. Astfel de colaborări sunt esențiale pentru a se asigura că programele VET răspund nevoilor industriei și pot pregăti în mod eficient studenții pentru ocuparea forței de muncă în sectorul energiei verzi. În Grecia, de exemplu, succesul comunităților energetice în promovarea competențelor ecologice a fost atribuit

parteneriatelor puternice dintre administrațiile locale, industrie și instituțiile de învățământ.

7. Rolul comunităților energetice și al întreprinderilor sociale

În Grecia, conceptul de comunități energetice a apărut ca un model deosebit de reușit pentru promovarea competențelor ecologice. Aceste proiecte de energie regenerabilă conduse de comunitate nu numai că contribuie la obiectivele energetice ale țării, ci servesc și ca terenuri de formare practică pentru studenții VET. Focus grupurile au discutat despre potențialul de replicare a acestui model în alte țări din regiune, unde întreprinderile sociale și inițiativele comunitare ar putea juca un rol similar în sprijinirea tranziției către energia verde.

Participanții din Grecia au subliniat importanța comunităților energetice în promovarea unui sentiment de proprietate și responsabilitate în rândul studenților, precum și furnizarea de experiență în lumea reală în proiecte de energie regenerabilă. Acest model ar putea fi deosebit de eficient în Balcanii de Vest, unde inițiativele plasate sub responsabilitatea comunității au potențialul de a stimula atât dezvoltarea socială, cât și cea economică.

Recomandări strategice

Pe baza constatărilor atât din cercetarea documentară, cât și din cea de pe teren, sunt propuse următoarele recomandări strategice pentru a spori integrarea competențelor verzi în programele VET din Balcanii de Vest, Grecia și România:

Modernizarea curriculumului:

- Dezvoltarea și implementarea curriculei actualizate care reflectă cele mai recente tehnologii, standarde industriale și practici de sustenabilitate în sectorul energiei verzi. Aceste programe de învățământ ar trebui să fie flexibile și adaptabile, permițând integrarea rapidă a noilor evoluții pe măsură ce apar. Ar trebui acordată o atenție deosebită energiei solare și eoliene, eficienței energetice și construcțiilor durabile, deoarece aceste domenii sunt esențiale pentru tranziția energetică a regiunii.

Investiții în infrastructură:

- Alocați resurse semnificative pentru dezvoltarea facilităților de formare de ultimă generație, inclusiv laboratoare, instalații de energie regenerabilă și instrumente moderne de predare. Această investiție este esențială pentru a oferi studenților experiența practică și practică necesară pentru a reuși în sectorul energiei verzi. În România și Muntenegru, în special, există o nevoie urgentă de îmbunătățire a infrastructurii pentru a sprijini furnizarea de programe VET de înaltă calitate.

Dezvoltare profesională pentru formatori:

- Stabilirea programelor de dezvoltare profesională continuă pentru formatorii VET, inclusiv ateliere de formare, programe de schimb cu alte țări europene și acces la cele mai recente informații din industrie. Aceste programe ar trebui concepute astfel încât să se asigure că formatorii au abilitățile și cunoștințele necesare pentru a oferi o

educație de înaltă calitate privind competențele ecologice. În Kosovo și Albania, dezvoltarea profesională ar trebui să se concentreze pe furnizarea formatorilor cu instrumentele și resursele de care au nevoie pentru a oferi formare practică în domeniul tehnologiilor energiei regenerabile.

Consolidarea cadrelor de politică:

- Dezvoltarea și implementarea unor cadre politice mai puternice care să ofere orientări, obiective și stimulente clare pentru integrarea competențelor ecologice în programele VET. Aceste cadre ar trebui să fie aliniate la strategiile naționale în materie de educație și la obiectivele economice și de mediu mai ample, cum ar fi Pactul verde european și Acordul de la Paris. În România, de exemplu, este nevoie de politici care să sprijine tranziția de la cărbune la energie regenerabilă și să promoveze dezvoltarea competențelor verzi.

Parteneriate public-privat:

- Promovarea colaborării dintre instituțiile VET și industria energiei verzi prin parteneriate public-privat. Aceste parteneriate pot facilita schimbul de resurse, expertiză și oportunități de formare practică, asigurându-se că programele VET răspund nevoilor industriei. În Bosnia și Herțegovina, o colaborare sporită a industriei este esențială pentru alinierea programelor VET la nevoile sectorului energiei verzi.

Sprijin pentru comunitățile energetice și întreprinderile sociale:

- Încurajarea dezvoltării comunităților energetice și a întreprinderilor sociale ca modele de promovare a competențelor ecologice. Aceste inițiative conduse de comunitate pot servi drept terenuri practice de formare pentru studenții VET și pot contribui la tranziția mai largă către energia verde. Experiența Greciei în ceea ce privește comunitățile energetice oferă un model valoros care ar putea fi adaptat și implementat în alte țări din regiune.

Monitorizare și evaluare:

- Stabilirea sistemelor de monitorizare și evaluare continuă a programelor VET pentru a se asigura că acestea rămân aliniate la nevoile industriei și la obiectivele energetice naționale. Aceasta ar trebui să includă feedback regulat din partea părților interesate din industrie, precum și evaluări ale rezultatelor studenților și ale eficacității programului. Monitorizarea și evaluarea sunt deosebit de importante în Albania și Kosovo, unde programele EFP se află încă în stadiile incipiente ale integrării competențelor ecologice.

Consolidarea capacităților antreprenoriale:

- Integrarea formării antreprenoriale în programele VET, cu accent pe modelele de afaceri ecologice și practicile durabile. Acest lucru va dota studenții cu abilitățile necesare pentru a inova și a crea valoare în economia verde. În Balcanii de Vest, există o oportunitate semnificativă de a dezvolta capacități antreprenoriale care pot impulsiona tranziția regiunii către energia verde.

Cooperarea regională și schimbul de cunoștințe:

- Promovarea cooperării regionale și a schimbului de cunoștințe între instituțiile EFP, industrie și factorii de decizie politică din Balcanii de Vest, Grecia și România. Acest lucru poate facilita schimbul de bune practici, resurse și expertiză și poate contribui la construirea unui sistem EFP mai coerent și mai eficient în întreaga regiune. Proiectele de colaborare și inițiativele comune ar trebui încurajate pentru a consolida capacitatea colectivă a regiunii de a sprijini tranziția către energia verde.

Concluzie

Acest raport cuprinzător subliniază rolul esențial al educației și formării profesionale în sprijinirea tranziției către energia verde în Balcanii de Vest, Grecia și România. Prin abordarea provocărilor identificate în prezentul raport și prin punerea în aplicare a recomandărilor strategice prezentate mai sus, sistemele EFP din regiune pot fi transformate în motoare puternice ale dezvoltării economice durabile și ale creării de locuri de muncă verzi.

Rezultatele acestui raport vor contribui la dezvoltarea programului de formare care vizează consolidarea capacității formatorilor VET și echiparea cursanților antreprenori cu abilitățile necesare pentru a prospera în economia verde. Acest program va fi esențial pentru a se asigura că instituțiile VET din Balcanii de Vest și dincolo de acestea sunt pe deplin pregătite să răspundă cerințelor pieței muncii din secolul 21 și să contribuie la un viitor durabil și rezistent.

În concluzie, integrarea cu succes a competențelor ecologice în programele VET din întreaga regiune va necesita un efort coordonat și colaborativ, implicând guvernul, industria, instituțiile de învățământ și societatea civilă. Lucrând împreună, aceste părți interesate pot crea un sistem VET care nu numai că răspunde nevoilor pieței muncii de astăzi, ci și anticipează și se adaptează provocărilor și oportunităților viitorului. Acest lucru va fi esențial pentru a se asigura că Balcanii de Vest, Grecia și România pot participa pe deplin și pot beneficia de tranziția globală către energia verde.

Bosnian/Croatian/Serbian

SVEOBUHVATNI IZVEŠTAJ: Strateška analiza i preporuke

Uvod

Globalni pejzaž prolazi kroz duboku transformaciju vođenu hitnom potrebom za rešavanjem klimatskih promena, smanjenjem emisije ugljenika i prelaskom na održivu, zelenu ekonomiju. Evropska unija je preuzela vodeću ulogu u ovom poduhvatu svojim ambicioznim Zelenim dogovorom, koji ima za cilj da Evropu učini prvim klimatski neutralnim kontinentom od strane KSNUMKS-a. Ova transformativna agenda postavlja značajne zahtjeve svim sektorima privrede, posebno na energetiku, industriju i obrazovanje. Za zemlje Zapadnog Balkana, Grčku i Rumuniju – regione sa različitim ekonomskim izazovima i razvojnim potrebama – prelazak na zelenu ekonomiju je i neophodnost i prilika.

Sistemi stručnog obrazovanja i obuke (VET) su u srcu ove tranzicije. Oni igraju ključnu ulogu u pripremi radne snage sa potrebnim veštinama za podršku sektoru zelene energije, podsticanje inovacija i pokretanje održivog ekonomskog rasta. Na Zapadnom Balkanu, u Grčkoj i Rumuniji, gde je ekonomski razvoj usko povezan sa modernizacijom energetskih sistema i usklađivanjem sa ekološkim standardima EU, programi strukovnog obrazovanja i osposobljavanja moraju se brzo razvijati kako bi zadovoljili ove nove potrebe.

Međutim, put ka integraciji zelenih veština u nastavne planove i programe za strukovno obrazovanje i osposobljavanje u ovim regionima prepun je izazova. Nasleđe zastarelih obrazovnih sistema, ograničena infrastruktura, nedovoljna saradnja između obrazovnih institucija i industrije, i nedostatak usklađenosti sa savremenim ekonomskim zahtevima stvorili su značajne barijere. Zemlje Zapadnog Balkana, posebno, suočavaju se sa dvostrukim izazovom modernizacije svojih ekonomija dok se bave hitnim potrebama ekološke održivosti i energetske sigurnosti.

Ovaj sveobuhvatni izveštaj nastoji da reši ove izazove pružajući detaljnu analizu trenutnog stanja sistema strukovnog obrazovanja i osposobljavanja u Albaniji, Bosni i Hercegovini, Kosovu, Crnoj Gori, Grčkoj i Rumuniji. On se oslanja na opsežno istraživanje stola, kao i uvide prikupljene iz terenskih istraživanja koja uključuju fokus grupe sa VET trenerima, stručnjacima iz industrije, donosiocima odluka i kreatorima politike širom ovih regiona. Izveštaj je osmišljen da opremi zainteresovane strane sa sveobuhvatnim razumevanjem pitanja i da ponudi strateške preporuke za jačanje kapaciteta sistema strukovnog obrazovanja i osposobljavanja za podršku tranziciji zelene energije.

Fokus ovog izveštaja je posebno relevantan s obzirom na ključnu ulogu koju sektor strukovnog obrazovanja i osposobljavanja igra u oblikovanju buduće radne snage. Ovde navedeni uvidi i preporuke imaju za cilj da usmeravaju razvoj programa strukovnog obrazovanja i osposobljavanja koji odgovaraju potrebama zelene ekonomije, sposobni da podstaknu inovacije i usklađeni su sa širim ciljevima Evropskog zelenog dogovora i Pariškog sporazuma.

U kontekstu Zapadnog Balkana, Grčke i Rumunije, integracija zelenih veština u sisteme strukovnog obrazovanja i osposobljavanja je više od reforme obrazovanja; To je strateški imperativ koji ima potencijal da transformiše ove regione u lidere u sektoru zelene energije. Opremanjem studenata i profesionalaca sa veštinama potrebnim da se istaknu u industriji obnovljivih izvora energije, VET programi mogu značajno doprineti smanjenju emisije ugljenika, poboljšanju energetske bezbednosti i stvaranju kvalitetnih radnih mesta koja podržavaju održivi razvoj.

Put ka zelenoj ekonomiji je složen i višestruk, zahteva koordinirane napore vlade, industrije, obrazovnih institucija i civilnog društva. Ovaj izveštaj naglašava važnost saradnje i zajedničke odgovornosti u postizanju ovih ciljeva. Radeći zajedno,

zainteresovane strane mogu prevazići izazove identifikovane u ovom izveštaju i izgraditi sistem strukovnog obrazovanja i osposobljavanja koji nije samo otporan i prilagodljiv, već i sposoban da pokrene tranziciju zelene energije širom Zapadnog Balkana, Grčke i Rumunije.
Dok se upuštamo u nalaze i strateške preporuke ovog izveštaja, važno je prepoznati širi kontekst u kojem ovi regioni posluju. Zapadni Balkan, Grčka i Rumunija nalaze se u ključnom trenutku u svojim ekonomskim i ekološkim putanjama. Odluke koje su danas donesene u vezi sa integracijom zelenih veština u programe strukovnog obrazovanja i osposobljavanja imaće trajni uticaj na sposobnost regiona da se takmiči u globalnoj ekonomiji, postigne energetsku nezavisnost i ispuni ambiciozne ciljeve postavljene Evropskim zelenim dogovorom. Ovaj izveštaj služi kao ključni vodič za zainteresovane strane dok se kreću kroz ovu složenu, ali suštinsku tranziciju ka održivoj i prosperitetnoj budućnosti.

Pozadina i kontekst
Zapadni Balkan, Grčka i Rumunija su regioni koje karakteriše bogato kulturno nasleđe, raznovrsni pejzaži i složene društveno-ekonomske istorije. Međutim, ovi regioni se takođe suočavaju sa nizom jedinstvenih izazova koji su oblikovali njihove razvojne putanje, posebno u kontekstu napora Evropske unije ka zelenoj i održivoj budućnosti. Kako globalna zajednica sve više daje prioritet održivosti životne sredine i klimatskim akcijama, ove zemlje se nalaze na kritičnoj raskrsnici, gde integracija zelenih veština u sisteme stručnog obrazovanja i obuke (VET) nije samo opcija, već neophodnost za održivi rast i razvoj.

Evropski zeleni dogovor i njegove implikacije
Evropski zeleni dogovor, koji je Evropska unija pokrenula 2019. godine, predstavlja transformativni plan za održivost ekonomije EU pretvaranjem klimatskih i ekoloških izazova u mogućnosti u svim oblastima politike. Postavlja ambiciozan cilj da Evropa postane prvi klimatski neutralan kontinent do 2050. godine, sa posrednim ciljevima koji uključuju smanjenje emisije gasova sa efektom staklene bašte od 55% do 2030. godine, u poređenju sa nivoima iz 1990. godine. Ovaj dogovor nije samo skup propisa o zaštiti životne sredine; To je sveobuhvatna strategija koja integriše ekonomske, socijalne i obrazovne reforme usmjerene na podsticanje zelene tranzicije u svim državama članicama i susjednim zemljama.
Za Zapadni Balkan, Grčku i Rumuniju, Evropski zeleni dogovor predstavlja i mogućnosti i izazove. S jedne strane, nudi jasan okvir za prelazak na održivu ekonomiju, sa pristupom finansiranju, tehnološkim inovacijama i razmenom znanja. S druge strane, ovi regioni moraju da se bore sa značajnim ekonomskim razlikama, nasleđenim energetskim infrastrukturama i različitim nivoima usklađenosti sa politikama EU. Potreba za modernizacijom energetskih sektora, smanjenjem zavisnosti od fosilnih goriva i integracijom obnovljivih izvora energije stavila je ogroman pritisak na ove zemlje da se brzo prilagode i inoviraju.

Ekonomski i energetski pejzaž Zapadnog Balkana, Grčke i Rumunije

Zapadni Balkan – koji obuhvata Albaniju, Bosnu i Hercegovinu, Kosovo, Crnu Goru, Severnu Makedoniju i Srbiju – zajedno sa Grčkom i Rumunijom, su regioni sa ekonomijama koje su se istorijski oslanjale na energetski intenzivne industrije, od kojih su mnoge ukorenjene u uglju i drugim fosilnim gorivima. Ove industrije su bile mač sa dve oštrice: iako su obezbedile radna mesta i ekonomsku stabilnost, one su takođe doprinele degradaciji životne sredine i postale su sve neodrživije u kontekstu globalnih klimatskih ciljeva.

Na Zapadnom Balkanu, energetski sektor karakteriše starenje infrastrukture, visok nivo energetskog intenziteta i značajno oslanjanje na elektrane na ugalj. Uprkos potencijalu za obnovljive izvore energije - posebno hidroenergiju, vetar i solarnu energiju - ovi resursi ostaju nedovoljno iskorišćeni zbog kombinacije regulatornih, finansijskih i tehničkih barijera. Grčka, iako je naprednija u svojoj energetskoj tranziciji, i dalje se bori sa pitanjima kao što su energetsko siromaštvo, oslanjanje na lignit (vrsta uglja) i potreba za značajnom modernizacijom mreže. Rumunija je, slično tome, na kritičnoj prekretnici, suočavajući se sa izazovom prelaska sa energetskog sistema zavisnog od uglja na onaj koji je raznovrsniji i održiviji.

Ovi energetski izazovi su složeni sa socio-ekonomskim realnostima regiona. Visoke stope nezaposlenosti, posebno među mladima, ekonomske razlike između urbanih i ruralnih područja i nasleđe političke nestabilnosti u nekim delovima Zapadnog Balkana dodaju slojeve složenosti zelenoj tranziciji. Štaviše, sistemi strukovnog obrazovanja i osposobljavanja u regionima, koji su ključni za opremanje radne snage veštinama potrebnim za zelenu ekonomiju, često su zastareli i neusklađeni sa potrebama industrije.

Uloga stručnog obrazovanja i obuke (VET)

Sistemi stručnog obrazovanja i obuke (VET) su jedinstveno pozicionirani da pokreću zelenu tranziciju opremanjem radne snage vještinama potrebnim za podršku održivim industrijama i sektorima obnovljivih izvora energije. U kontekstu Zapadnog Balkana, Grčke i Rumunije, sistemi strukovnog obrazovanja nisu samo obrazovne institucije, već i katalizatori ekonomskog razvoja, socijalne mobilnosti i regionalne integracije. Međutim, integracija zelenih vještina u programe strukovnog obrazovanja i osposobljavanja u ovim regionima bila je nedosljedna, sa značajnim razlikama u dostupnosti, kvalitetu i relevantnosti obuke.

Na Zapadnom Balkanu, programi strukovnog obrazovanja i osposobljavanja često se bore sa zastarjelim nastavnim planovima i programima, nedovoljnim resursima i nedostatkom usklađenosti sa brzo razvijajućim potrebama sektora zelene energije. Ova neusklađenost predstavlja značajnu prepreku sposobnosti regiona da iskoristi svoj potencijal obnovljivih izvora energije i da stvori kvalitetna radna mesta u zelenim industrijama u nastajanju. Grčka, uprkos svom naprednijem sistemu strukovnog obrazovanja i osposobljavanja, i dalje se suočava sa izazovima vezanim za energetsko siromaštvo i potrebu za kontinuiranom modernizacijom nastavnog plana i programa kako bi se držao korak sa tehnološkim napretkom. U Rumuniji prelazak na zelenu ekonomiju ometa veliko oslanjanje na ugalj i sistem strukovnog obrazovanja i osposobljavanja koji tek treba da u potpunosti prihvati zahteve sektora obnovljivih izvora energije.

Hitnost integracije zelenih veština

Hitnost integracije zelenih vještina u sisteme strukovnog obrazovanja i osposobljavanja u ovim regionima ne može se precijeniti. Kako EU ubrzava svoje napore da postigne klimatsku neutralnost, Zapadni Balkan, Grčka i Rumunija moraju osigurati da njihova radna snaga bude spremna da ispuni zahteve zelene ekonomije. To uključuje ne samo ažuriranje nastavnih planova i programa i ulaganje u objekte za obuku, već i podsticanje kulture održivosti i inovacija u obrazovnim institucijama i široj zajednici.

Integracija zelenih veština u programe strukovnog obrazovanja i osposobljavanja posebno je kritična za podršku učenicima preduzetnicima - onima koji će voditi u razvoju novih zelenih preduzeća i pokretanju održivog ekonomskog rasta. Opremanjem ovih učenika potrebnim veštinama, sistemi strukovnog obrazovanja i osposobljavanja mogu pomoći u stvaranju generacije preduzetnika koji ne samo da su sposobni da se kreću kroz složenost zelene ekonomije, već su i pozicionirani da inoviraju i stvaraju nove mogućnosti u obnovljivim izvorima energije, energetskoj efikasnosti i održivim praksama.

Štaviše, uspešna integracija zelenih veština u programe strukovnog obrazovanja i osposobljavanja ima dalekosežne implikacije na socijalnu jednakost i regionalnu stabilnost. Kako ovi regioni prelaze sa fosilnih goriva na održivije izvore energije, neophodno je osigurati da se koristi od zelene ekonomije ravnopravno dijele u svim sektorima društva. To uključuje rješavanje potreba marginalizovanih zajednica, pružanje mogućnosti za cjeloživotno učenje i obezbeđivanje da svi građani imaju pristup vještinama i znanju potrebnim za učešće u zelenoj tranziciji.

Ključni nalazi

1. Trenutno stanje sistema strukovnog obrazovanja i osposobljavanja na Zapadnom Balkanu, u Grčkoj i Rumuniji

Sistemi stručnog obrazovanja i obuke (VET) na Zapadnom Balkanu, Grčkoj i Rumuniji nalaze se na ključnoj prekretnici, suočeni sa dvostrukim pritiscima modernizacije svojih nastavnih planova i programa kako bi se zadovoljili zahtevi zelene ekonomije, a istovremeno se bavili nasleđenim izazovima vezanim za zastarelu infrastrukturu, ograničene resurse i nedovoljnu saradnju sa industrijom. Nalazi iz našeg opsežnog istraživanja, uključujući i desk istraživanje i terensko istraživanje kroz fokus grupe, otkrivaju značajne varijacije u stanju VET sistema u ovim regionima, naglašavajući i napredak i trajne praznine.

Albanija:

Albanski sistem strukovnog obrazovanja i osposobljavanja trenutno se bori sa izazovima usklađivanja svoje obrazovne ponude sa novim potrebama zelene ekonomije. Iako postoji sve veće priznanje važnosti zelenih vještina, integracija ovih vještina u nastavne planove i programe strukovnog obrazovanja i osposobljavanja ostaje u povoju. Oslanjanje zemlje na hidroenergiju kao primarni izvor energije predstavlja jedinstvenu priliku za programe strukovnog obrazovanja i osposobljavanja da se fokusiraju na obnovljive izvore energije, ali ovaj potencijal je u velikoj meri nedovoljno iskorišćen.

Diskusije fokus grupa u Albaniji istakle su nekoliko kritičnih pitanja:

- **Relevantnost nastavnog plana i programa**: VET treneri i kreatori politike primetili su da su postojeći nastavni planovi i programi zastareli i ne pokrivaju adekvatno savremene tehnologije obnovljivih izvora energije kao što su solarna, vjetar i prakse energetske efikasnosti. Postoji hitna potreba za ažuriranjem nastavnih planova i programa kako bi odražavali najnovija dostignuća i uključili praktične, praktične komponente obuke.
- **Ograničenja resursa**: Nedostatak modernih objekata, kao što su laboratorije opremljene savremenom tehnologijom, ozbiljno ograničava sposobnost VET institucija da pruže efikasnu obuku. Treneri su naglasili da bez ovih resursa studenti nisu u mogućnosti da steknu praktično iskustvo potrebno za uspeh u sektoru zelene energije.
- **Podrška politici**: Postoji jasna potreba za jačim političkim okvirima koji podržavaju integraciju zelenih vještina u programe strukovnog obrazovanja i osposobljavanja. Iako raste politička volja za unapređenjem obnovljivih izvora energije, to tek treba da se pretvori u opipljivu podršku institucijama za strukovno obrazovanje i osposobljavanje, kao što su finansiranje poboljšanja infrastrukture i profesionalni razvoj trenera.
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Bosna i Hercegovina:
U Bosni i Hercegovini, sistem strukovnog obrazovanja i osposobljavanja suočava se sa značajnim izazovima vezanim za naslijeđe zastarjelih obrazovnih struktura i nedovoljnu iskorištenost bogatih obnovljivih izvora energije u zemlji. Energetski sektor zemlje u velikoj meri se oslanja na ugalj, ali postoji značajan potencijal za hidroenergiju i energiju biomase, koji se ne koriste u potpunosti u nastavnim planovima i programima za strukovno obrazovanje.
Ključni nalazi iz diskusija fokus grupa uključuju:

- **Prekid veze između obrazovanja i industrije**: Postoji značajan jaz između vještina koje se uče u programima strukovnog obrazovanja i osposobljavanja i potreba industrije zelene energije. Stručnjaci iz industrije izrazili su frustraciju zbog nedostatka saradnje između obrazovnih institucija i privatnog sektora, što rezultira diplomcima koji su loše pripremljeni za zahtjeve radne snage.
- **Potreba za profesionalnim usavršavanjem**: Stručni treneri u Bosni i Hercegovini istakli su hitnu potrebu za stalnim profesionalnim usavršavanjem. Mnogi treneri nemaju izloženost najnovijim tehnologijama obnovljivih izvora energije i pedagoškim metodama, što otežava njihovu sposobnost da pruže efikasnu obuku.
- **Infrastrukturni nedostaci**: Slično Albaniji, nedostatak modernih objekata za obuku predstavlja značajnu barijeru. Treneri su naglasili da bez pristupa savremenoj opremi i tehnologiji, studenti nisu u mogućnosti da steknu praktične veštine neophodne za zapošljavanje u sektoru zelene energije.
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Kosovo:
Kosovo je ostvarilo veći napredak od nekih svojih regionalnih suseda u integraciji zelenih veština u svoje programe strukovnog obrazovanja i osposobljavanja, posebno uvođenjem specijalizovanih kurseva iz obnovljivih izvora energije.

Međutim, značajni izazovi ostaju, posebno u pogledu infrastrukture i dostupnosti resursa.
Ključni uvidi iz diskusija fokus grupa uključuju:

- **Infrastrukturni izazovi**: Dok su neke VET institucije na Kosovu počele da uvode zelene veštine u svoje nastavne planove i programe, nedostatak savremenih objekata i opreme ostaje glavna prepreka. Treneri su istakli da bez pristupa odgovarajućim alatima za obuku, studenti nisu u mogućnosti da se u potpunosti uključe u materijal ili razviju praktične vještine potrebne za tržište rada.
- **Angažovanje i interesovanje učenika**: Postoji visok nivo interesovanja među studentima u ostvarivanju karijere u sektoru zelene energije, vođen prepoznavanjem sve većeg značaja obnovljivih izvora energije. Međutim, treneri su izrazili zabrinutost da je ovaj entuzijazam teško održati u nedostatku adekvatnih resursa i mogućnosti praktične obuke.
- **Usklađivanje sa standardima EU**: Kreatori politike na Kosovu naglasili su važnost usklađivanja sistema strukovnog obrazovanja i osposobljavanja zemlje sa standardima EU, posebno u svetlu težnji Kosova za integracijom u EU. To uključuje ne samo ažuriranje nastavnih planova i programa, već i obezbeđivanje da su treneri opremljeni znanjem i veštinama potrebnim za efikasno podučavanje ovih ažuriranih programa.
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Crna Gora:
Crna Gora je napravila hvalevrijedne korake u integraciji tema obnovljivih izvora energije u svoj sistem strukovnog obrazovanja i osposobljavanja, posebno u oblastima kao što su vjetar i solarna energija. Međutim, zemlja se i dalje suočava sa značajnim izazovima vezanim za infrastrukturu, ažuriranje nastavnog plana i programa i profesionalni razvoj trenera.
Diskusije fokus grupe otkrile su sledeće ključne tačke:

- **Fleksibilnost i prilagođavanje nastavnog plana i programa**: Postoji snažna potreba za dinamičnijim i fleksibilnijim nastavnim planovima i programima koji se mogu brzo prilagoditi promjenama u energetskom sektoru. Treneri i stručnjaci iz industrije naglasili su važnost uključivanja najnovijih tehnologija i industrijskih praksi u programe VET kako bi se osiguralo da su diplomci spremni za tržište zelene energije koje se brzo razvija.
- **Profesionalni razvoj za trenere**: Potreba za stalnim profesionalnim razvojem bila je tema koja se ponavljala u diskusijama. Treneri su istakli važnost praćenja najnovijih dostignuća u tehnologijama obnovljivih izvora energije, što je ključno za pružanje relevantne i efikasne obuke.
- **Strateška vizija i podrška politikama**: Kreatori politike u Crnoj Gori naglasili su važnost dugoročne strateške vizije za sektor strukovnog obrazovanja i osposobljavanja. Oni su pozvali na razvoj nacionalne mape puta za obrazovanje o zelenim veštinama, koja bi uključivala jasne ciljeve, rokove i mehanizme finansiranja za podršku prelasku na zelenu ekonomiju.
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Grčka:

Grčki sistem strukovnog obrazovanja i osposobljavanja je relativno napredan u poređenju sa svojim zapadnobalkanskim susedima, sa snažnim fokusom na integraciju zelenih veština i podršku ambicioznim ciljevima obnovljive energije u zemlji. Međutim, izazovi kao što su energetsko siromaštvo i potreba za kontinuiranom modernizacijom nastavnog plana i programa i dalje postoje.
Ključni nalazi iz diskusija fokus grupa uključuju:

- **Energetske zajednice kao poligon za obuku**: Jedna od istaknutih karakteristika grčkog VET sistema je uloga energetskih zajednica u promovisanju zelenih veština. Ovi projekti obnovljivih izvora energije pod vodstvom zajednice ne samo da doprinose energetskim ciljevima zemlje, već i pružaju praktične mogućnosti obuke za studente strukovnog obrazovanja, pomažući da se premosti jaz između obrazovanja i industrije.
- **Praktična obuka i pripravništvo**: Treneri i stručnjaci iz industrije u Grčkoj naglasili su važnost praktične, praktične obuke u pripremi studenata za karijeru u sektoru zelene energije. Programi pripravništva i saradnja sa kompanijama za obnovljive izvore energije istaknuti su kao bitne komponente efikasnih programa strukovnog obrazovanja i osposobljavanja.
- **Kontinuirana modernizacija nastavnog plana i programa**: Uprkos postignutom napretku, postoji prepoznavanje potrebe za tekućim ažuriranjima nastavnog plana i programa kako bi se držao korak sa tehnološkim napretkom u sektoru obnovljivih izvora energije. Treneri su naglasili da se nastavni planovi i programi moraju redovno pregledavati i revidirati kako bi se osiguralo da ostanu relevantni i usklađeni sa potrebama industrije.
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Rumunija:
Rumunski sistem strukovnog obrazovanja i osposobljavanja trenutno prolazi kroz složenu tranziciju iz energetskog sektora zavisnog od uglja u održiviji i raznovrsniji energetski miks. Iako je došlo do određenog napretka u integraciji zelenih vještina u programe strukovnog obrazovanja i osposobljavanja, ostaju značajni nedostaci, posebno u pogledu usklađivanja obrazovnih ponuda sa potrebama sektora obnovljivih izvora energije.
Ključni uvidi iz diskusija fokus grupa uključuju:

- **Tranzicija uglja i razvoj nastavnog plana i programa**: Udaljavanje od uglja predstavlja i izazove i mogućnosti za rumunski sistem strukovnog obrazovanja i osposobljavanja. Postoji hitna potreba da se razviju nastavni planovi i programi koji odražavaju prelazak zemlje na obnovljive izvore energije, sa posebnim fokusom na solarne, vjetroelektrane i tehnologije biomase.
- **Ulaganje u objekte za obuku**: Slično kao i u drugim zemljama u regionu, rumunskim institucijama za strukovno obrazovanje i osposobljavanje često nedostaju moderni objekti i oprema potrebna za pružanje efikasne obuke u zelenim veštinama. Treneri su naglasili važnost ulaganja u najsavremenije laboratorije i pristup stvarnim instalacijama obnovljivih izvora energije.
- **Politika i industrija Saradnja**: Kreatori politike i stručnjaci iz industrije istakli su važnost saradnje između vlade, obrazovnih institucija i privatnog

sektora u pokretanju integracije zelenih vještina u programe strukovnog obrazovanja i osposobljavanja. To uključuje razvoj javno-privatnih partnerstava koja mogu podržati razmjenu resursa, stručnosti i mogućnosti obuke.

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Sinteza nalaza

Analiza trenutnog stanja sistema strukovnog obrazovanja i osposobljavanja širom Zapadnog Balkana, Grčke i Rumunije otkriva složen pejzaž obeležen napretkom i stalnim izazovima. Iako postoji sve veće priznanje važnosti integracije zelenih vještina u nastavne planove i programe za strukovno obrazovanje, tempo reformi je neujednačen, a značajne praznine ostaju u pogledu relevantnosti nastavnog plana i programa, dostupnosti resursa i saradnje u industriji.

Ključne zajedničke osobine u regionima uključuju:

- **Potreba za modernizacijom nastavnog plana i programa**: U svim zemljama postoji jasna i hitna potreba za ažuriranjem nastavnih planova i programa za strukovno obrazovanje kako bi se bolje uskladili sa zahtjevima zelene ekonomije. To uključuje uključivanje najnovijih tehnologija, industrijskih standarda i praksi održivosti u obrazovne programe.
- **Profesionalni razvoj za trenere**: Važnost stalnog profesionalnog razvoja za VET trenere bila je konzistentna tema u svim fokus grupama. Trenerima je potreban stalan pristup obuci i resursima kako bi bili u toku sa napretkom u tehnologijama obnovljivih izvora energije i nastavnim metodama.
- **Izazovi infrastrukture i resursa**: Nedostatak modernih objekata za obuku i pristup praktičnim mogućnostima učenja predstavlja značajnu barijeru u svim regionima. Bez ovih resursa, VET institucije se bore da obezbede praktičnu obuku koja je od suštinskog značaja za pripremu studenata za sektor zelene energije.
- **Podrška politici i strateško usklađivanje**: Iako postoji široko priznanje važnosti zelenih vještina, implementacija politika podrške bila je nedosljedna. Postoji potreba za jačim političkim okvirima koji pružaju jasne smjernice, ciljeve i podsticaje za integraciju zelenih vještina u programe strukovnog obrazovanja i osposobljavanja.
- **Saradnja sa industrijom**: Uloga saradnje industrije u pokretanju integracije zelenih veština u programe strukovnog obrazovanja i osposobljavanja naglašena je u svim regionima. Javno-privatna partnerstva se smatraju od suštinskog značaja za obezbeđivanje da programi strukovnog obrazovanja i osposobljavanja odgovaraju potrebama industrije i mogu efikasno pripremiti studente za zapošljavanje u sektoru zelene energije.

Ovi nalazi naglašavaju kritičnu potrebu za koordiniranim i saradničkim pristupom reformi sistema strukovnog obrazovanja i osposobljavanja širom Zapadnog Balkana, Grčke i Rumunije. Rješavanjem izazova identifikovanih u ovom izvještaju i implementacijom strateških preporuka navedenih u narednim odeljcima, ovi regioni mogu izgraditi sisteme strukovnog obrazovanja i osposobljavanja koji su otporni, prilagodljivi i sposobni da pokreću tranziciju zelene energije.

2. Praznine u nastavnom planu i programu i potreba za modernizacijom

Modernizacija nastavnih planova i programa za strukovno obrazovanje je hitna potreba širom Zapadnog Balkana, Grčke i Rumunije, jer ovi regioni nastoje da usklade svoje obrazovne sisteme sa zahtevima zelene ekonomije koji se brzo razvijaju. Trenutno stanje nastavnih planova i programa strukovnog obrazovanja i osposobljavanja u ovim zemljama odražava značajno zaostajanje u uključivanju najnovijih tehnoloških dostignuća, praksi održivosti i industrijskih standarda koji su kritični za sektor obnovljivih izvora energije. Ovaj jaz nije samo pitanje obrazovnog sadržaja, već i šire pitanje obezbeđivanja da programi strukovnog obrazovanja ostanu relevantni, dinamični i reaguju na lokalne i globalne ekonomske promene.

Relevantnost nastavnog plana i programa i usklađivanje industrije

Jedno od najupečatljivijih pitanja identifikovanih u sistemima strukovnog obrazovanja i osposobljavanja u ovim regionima je nepovezanost između postojećih nastavnih planova i programa i praktičnih potreba industrije zelene energije. Nastavni planovi i programi u mnogim institucijama za strukovno obrazovanje i osposobljavanje i dalje se fokusiraju na tradicionalne energetske sektore, sa nedovoljnim naglaskom na tehnologije obnovljivih izvora energije kao što su solarna energija, vetar, biomasa i energetska efikasnost. Ova neusklađenost stvara situaciju u kojoj su diplomci često loše pripremljeni da zadovolje zahteve tržišta rada, što dovodi do neusklađenosti vještina koje mogu ometati rast zelene ekonomije.

U **Albaniji**, na primer, trenutni nastavni planovi i programi za strukovno obrazovanje i osposobljavanje su u velikoj meri zastareli, uz minimalno uključivanje modernih tehnologija obnovljivih izvora energije. Uprkos oslanjanju Albanije na hidroenergiju, malo je ili nimalo fokusa na druge oblike obnovljive energije, kao što su solarna i vjetar, koji imaju značajan potencijal u zemlji. Treneri su izrazili frustraciju tokom diskusija fokus grupa o nedostatku sadržaja nastavnog plana i programa koji se bavi tehničkim vještinama potrebnim za ove sektore u nastajanju. Ovaj jaz ne samo da ograničava mogućnosti za studente da steknu relevantne veštine, ali i ograničava sposobnost VET programa da efikasno doprinesu ciljevima energetske diverzifikacije zemlje.

Slično tome, u **Bosni i Hercegovini**, nastavni planovi i programi za strukovno obrazovanje i osposobljavanje ne odražavaju adekvatno potencijal obnovljive energije zemlje. Fokus ostaje pretežno na tradicionalnim metodama proizvodnje energije, sa nedovoljnom integracijom zelenih tehnologija i praksi. To je uprkos značajnom potencijalu zemlje za hidroenergiju i energiju biomase. Industrijski stručnjaci u Bosni i Hercegovini istakli su hitnu potrebu za nastavnim planovima i programima koji su bliže usklađeni sa zahtjevima industrije, posebno u pogledu tehničkih kompetencija i praktičnog iskustva u projektima obnovljivih izvora energije.

Integracija novih tehnologija

Integracija novih tehnologija u nastavne planove i programe za strukovno obrazovanje je još jedna kritična oblast u kojoj postoje značajne praznine. Kako se sektor obnovljivih izvora energije razvija, sve je veća potražnja za stručnošću u naprednim tehnologijama kao što su pametne mreže, sistemi za skladištenje energije i digitalno upravljanje energijom. Međutim, ove teme često nedostaju ili su

nedovoljno zastupljene u nastavnim planovima i programima strukovnog obrazovanja širom Zapadnog Balkana, Grčke i Rumunije.

Na **Kosovu**, iako je došlo do određenog napretka u uvođenju specijalizovanih kurseva iz obnovljivih izvora energije, nastavni planovi i programi i dalje ne pokrivaju napredne teme koje postaju sve važnije u globalnom energetskom pejzažu. Treneri na Kosovu istakli su da je njihova sposobnost da predaju ove napredne teme otežana nedostatkom ažuriranih obrazovnih materijala i odsustvom modernih objekata za obuku opremljenih potrebnom tehnologijom.

Crna Gora se takođe suočava sa izazovima u integraciji novih tehnologija u svoje programe strukovnog obrazovanja i osposobljavanja. Uprkos posvećenosti zemlje da poveća svoj udeo obnovljive energije, nastavni planovi i programi ostaju fokusirani na osnovne tehničke veštine, sa malim naglaskom na sofisticirane tehnologije koje pokreću inovacije u sektoru zelene energije. Ovaj jaz ne samo da ograničava potencijal diplomiranih studenata da doprinesu energetskim ciljevima zemlje, već i ometa sposobnost Crne Gore da privuče investicije u najsavremenije projekte obnovljivih izvora energije.

U **Grčkoj**, iako je sistem strukovnog obrazovanja i osposobljavanja relativno napredan, još uvijek postoji potreba za stalnim ažuriranjem nastavnih planova i programa kako bi se držao korak s tehnološkim napretkom. Integracija pametnih mrežnih tehnologija, rešenja za skladištenje energije i digitalnih alata za upravljanje energijom je ključna za pripremu studenata za rad u sve povezanijem i digitalizovanom energetskom sektoru. Treneri i stručnjaci iz industrije u Grčkoj naglasili su važnost redovnog pregleda i revizije nastavnih planova i programa kako bi se osiguralo da ostanu relevantni i usklađeni sa najnovijim trendovima u industriji.

Praktična obuka i praktično iskustvo

Tema koja se ponavlja u diskusijama u svim regionima bila je kritična važnost praktične obuke i praktičnog iskustva u programima strukovnog obrazovanja i osposobljavanja. Jaz između teorijskog znanja i praktične primene je posebno izražen u kontekstu zelenih veština, gde studenti treba da se uključe u stvarne tehnologije i prakse kako bi u potpunosti razumeli složenost sektora obnovljivih izvora energije.

U **Rumuniji**, nedostatak mogućnosti praktične obuke predstavlja značajnu prepreku efikasnoj integraciji zelenih vještina u programe strukovnog obrazovanja i osposobljavanja. Uprkos naporima zemlje da pređe sa uglja na obnovljive izvore energije, nastavni planovi i programi za strukovno obrazovanje ne pružaju studentima dovoljno mogućnosti za rad sa savremenim tehnologijama obnovljivih izvora energije. Treneri su izrazili zabrinutost da bez pristupa najsavremenijim laboratorijama i instalacijama za obnovljive izvore energije, studenti nisu u mogućnosti da steknu praktično iskustvo potrebno za uspeh u zelenoj ekonomiji.

Albanija se suočava sa sličnim izazovima, gde odsustvo modernih objekata za obuku ozbiljno ograničava sposobnost programa strukovnog obrazovanja da pruže praktična iskustva učenja. Učesnici fokus grupe istakli su potrebu za značajnim ulaganjima u infrastrukturu, uključujući razvoj laboratorija opremljenih najnovijim tehnologijama obnovljivih izvora energije. To ne samo da bi poboljšalo kvalitet obrazovanja, već i osiguralo da su studenti spremni za posao po završetku studija.

U **Bosni i Hercegovini**, nedostatak mogućnosti praktične obuke je kompliciran nedovoljnom saradnjom između institucija za strukovno obrazovanje i obrazovanje i privatnog sektora. Industrijski stručnjaci su primetili da bez bližih veza sa industrijom, VET programi verovatno neće pružiti studentima iskustvo u stvarnom svetu koje je potrebno da bi se zadovoljili zahtevi sektora zelene energije. Postoji velika potreba za javno-privatnim partnerstvima koja mogu olakšati stažiranje, pripravništvo i obuku na radnom mestu, omogućavajući studentima da primene svoje znanje u praktičnim okruženjima.

Uloga politike i institucionalne podrške

Modernizacija nastavnih planova i programa strukovnog obrazovanja i osposobljavanja ne može se odvijati u vakuumu; Potrebna je snažna politička i institucionalna podrška za pokretanje i održavanje promjena. Širom Zapadnog Balkana, Grčke i Rumunije, postoji potreba za robusnijim političkim okvirima koji daju prioritet integraciji zelenih veština u programe strukovnog obrazovanja i osposobljavanja. To uključuje postavljanje jasnih ciljeva za ažuriranje nastavnog plana i programa, obezbeđivanje sredstava za razvoj modernih objekata za obuku i podsticanje saradnje između obrazovnih institucija i industrije.

U **Crnoj Gori**, kreatori politike su naglasili važnost strateškog pristupa modernizaciji nastavnog plana i programa. Postoji potreba za nacionalnom mapom puta koja navodi specifične ciljeve za integraciju zelenih vještina u programe strukovnog obrazovanja i osposobljavanja, podržane jasnim rokovima i mehanizmima finansiranja. Ova strateška vizija je od suštinskog značaja za obezbeđivanje da se sistem strukovnog obrazovanja i osposobljavanja može prilagoditi brzo promjenjivim zahtjevima zelene ekonomije i efikasno doprinijeti ciljevima održivosti zemlje.

Kosovo je napravilo korake u usklađivanju svog sistema strukovnog obrazovanja i osposobljavanja sa standardima EU, ali i dalje postoji potreba za jačom institucionalnom podrškom kako bi se osigurala uspešna implementacija reformi nastavnog plana i programa. To uključuje pružanje mogućnosti profesionalnog razvoja za trenere, ulaganje u moderne objekte za obuku i podsticanje kulture inovacija u obrazovnim institucijama.

U **Grčkoj**, uloga energetskih zajednica je posebno efikasna u promovisanju zelenih veština kroz praktične mogućnosti obuke. Ove inicijative pod vodstvom zajednice pružaju model kako lokalne samouprave, industrija i obrazovne institucije mogu sarađivati kako bi pokrenule modernizaciju nastavnog plana i programa i osigurale da su programi strukovnog obrazovanja i osposobljavanja usklađeni sa potrebama sektora zelene energije.

Put naprijed: Preporuke za modernizaciju nastavnog plana i programa

Da bi se riješile praznine u nastavnom planu i programu identifikovane u ovom izvještaju, predlažu se sljedeće preporuke:

Sveobuhvatni pregled nastavnog plana i programa:

- Sprovesti detaljan pregled postojećih nastavnih planova i programa za strukovno obrazovanje i osposobljavanje u svim regionima kako bi se identifikovao zastareli sadržaj i oblasti u kojima su zelene veštine nedovoljno zastupljene. Ovaj pregled treba da obuhvati saradnju sa stručnjacima iz industrije, edukatorima i kreatorima

politike kako bi se osiguralo da su nastavni planovi i programi usklađeni sa trenutnim i budućim potrebama industrije.

Integracija novih tehnologija:

- Ažurirajte nastavne planove i programe za strukovno obrazovanje kako biste uključili nove tehnologije kao što su pametne mreže, sistemi za skladištenje energije i digitalni alati za upravljanje energijom. Ove teme treba da budu integrisane u teorijske i praktične komponente nastavnog plana i programa, pružajući studentima sveobuhvatno razumevanje najnovijih dostignuća u sektoru obnovljivih izvora energije.

Ulaganje u objekte za praktičnu obuku:

- Izdvojiti sredstva za razvoj najsavremenijih laboratorija i instalacija za obnovljive izvore energije u okviru VET institucija. Ovi objekti treba da budu opremljeni najnovijom tehnologijom kako bi studentima pružili praktično iskustvo u radu sa sistemima obnovljivih izvora energije.

Jačanje javno-privatnih partnerstava:

- Podsticati saradnju između VET institucija i privatnog sektora kako bi se stvorile mogućnosti za stažiranje, pripravništvo i obuku na radnom mestu. Javno-privatna partnerstva su od suštinskog značaja za obezbeđivanje da programi strukovnog obrazovanja odgovaraju potrebama industrije i pružaju studentima iskustvo u stvarnom svetu.

Kontinuirano profesionalno usavršavanje trenera:

- Implementirati tekuće programe profesionalnog razvoja za VET trenere kako bi se osiguralo da su opremljeni najnovijim znanjima i vještinama. To uključuje obuku u novim tehnologijama, savremenim pedagoškim metodama i kompetencijama specifičnim za industriju.

Politika i institucionalna podrška:

- Razviti i implementirati nacionalne strategije za modernizaciju nastavnog plana i programa koje uključuju jasne ciljeve, rokove i mehanizme finansiranja. Kreatori politike treba da daju prioritet integraciji zelenih veština u programe strukovnog obrazovanja i obrazovanja i pruže neophodnu podršku obrazovnim institucijama za postizanje ovih ciljeva.

Rješavanjem ovih nedostataka u nastavnom planu i programu i implementacijom preporučenih strategija, sistemi strukovnog obrazovanja na Zapadnom Balkanu, u Grčkoj i Rumuniji mogu se transformisati u dinamične i odgovorne obrazovne okvire koji efikasno pripremaju učenike za zahtjeve zelene ekonomije. Ovaj napor za modernizaciju nije od suštinskog značaja samo za podršku energetskoj tranziciji u regionu, već i za obezbeđivanje da su diplomci opremljeni veštinama potrebnim za pokretanje održivog ekonomskog rasta u godinama koje dolaze.

3. Profesionalno usavršavanje trenera strukovnog obrazovanja i osposobljavanja

Jedan od najznačajnijih nalaza fokus grupa bila je kritična potreba za stalnim profesionalnim razvojem za VET trenere. Bez kontinuiranih mogućnosti učenja,

treneri se mogu boriti da održe korak sa napretkom u tehnologijama obnovljivih izvora energije i nastavnim metodama. To zauzvrat ograničava njihovu sposobnost da efikasno pripreme studente za karijeru u sektoru zelene energije.
Treneri iz svih zemalja izrazili su snažnu želju za više radionica za obuku, programe razmene sa drugim evropskim zemljama i pristup najnovijim informacijama o industriji. Ove mogućnosti profesionalnog razvoja su od suštinskog značaja za obezbeđivanje da treneri imaju veštine i znanja neophodna za pružanje visokokvalitetnog obrazovanja o zelenim veštinama. Na Kosovu i u Albaniji, treneri su posebno pomenuli potrebu za programima profesionalnog razvoja koji se fokusiraju na praktičnu, praktičnu obuku u tehnologijama obnovljivih izvora energije.

4. Resursni i infrastrukturni izazovi
Nedostatak modernih objekata, opreme i pristupa stvarnim projektnim lokacijama bio je zajednička briga u svim fokusnim grupama. Institucije za strukovno obrazovanje i osposobljavanje na Zapadnom Balkanu, u Grčkoj i Rumuniji često rade sa ograničenim resursima, što otežava njihovu sposobnost da pruže praktičnu, praktičnu obuku. Ovo je posebno problematično u kontekstu zelenih vještina, gdje učenici moraju da se angažuju sa najsavremenijim tehnologijama i praksama kako bi bili u potpunosti spremni za tržište rada.
Učesnici su naglasili potrebu za značajnim ulaganjima u VET infrastrukturu, uključujući razvoj najsavremenijih laboratorija, pristup instalacijama za obnovljive izvore energije u svrhu obuke i savremene nastavne alate kao što je softver za simulaciju. U Crnoj Gori, na primer, potreba za ažuriranom infrastrukturom je istaknuta kao kritičan faktor u poboljšanju kvaliteta programa strukovnog obrazovanja i osposobljavanja.

5. Podrška politike i strateško usklađivanje
Iako postoji široko priznanje važnosti zelenih vještina u sektoru strukovnog obrazovanja i osposobljavanja, implementacija politika podrške bila je nedosljedna u cijelom regionu. Učesnici fokus grupe pozvali su na jače političke okvire koji pružaju jasne smjernice, ciljeve i podsticaje za integraciju zelenih vještina u programe strukovnog obrazovanja i osposobljavanja. Ove politike treba da budu usklađene sa nacionalnim obrazovnim strategijama i širim ekonomskim i ekološkim ciljevima, posebno onima koji se odnose na Evropski zeleni dogovor i Pariški sporazum.
U Rumuniji su kreatori politike razgovarali o izazovima prelaska sa uglja na obnovljive izvore energije i potrebi za sveobuhvatnim političkim okvirom koji bi podržao ovu promenu. U Bosni i Hercegovini, učesnici su naglasili važnost usklađivanja programa strukovnog obrazovanja i osposobljavanja sa energetskom strategijom zemlje i osiguravanja uspostave političkih okvira za podršku razvoju zelenih vještina.

6. Saradnja sa industrijom i javno-privatnim partnerstvima
Fokus grupe su istakle ključnu ulogu saradnje između VET institucija i industrije zelene energije u pokretanju integracije zelenih vještina. Bez doprinosa i podrške

industrije, VET programi rizikuju da postanu isključeni iz stvarnih zahteva tržišta rada.
Učesnici su pozvali na uspostavljanje jačih javno-privatnih partnerstava koja mogu olakšati razmjenu resursa, stručnosti i mogućnosti za praktičnu obuku. Takve saradnje su od suštinskog značaja za obezbeđivanje da programi strukovnog obrazovanja odgovaraju potrebama industrije i mogu efikasno pripremiti studente za zapošljavanje u sektoru zelene energije. U Grčkoj, na primer, uspeh energetskih zajednica u promovisanju zelenih veština pripisuje se snažnim partnerstvima između lokalnih samouprava, industrije i obrazovnih institucija.

7. Uloga energetskih zajednica i socijalnih preduzeća
U Grčkoj se koncept energetskih zajednica pojavio kao posebno uspešan model za promovisanje zelenih veština. Ovi projekti obnovljivih izvora energije pod vodstvom zajednice ne samo da doprinose energetskim ciljevima zemlje, već služe i kao praktični poligon za studente VET-a. Fokus grupe su razgovarale o potencijalu za repliciranje ovog modela u drugim zemljama u regionu, gde bi socijalna preduzeća i inicijative zajednice mogle da igraju sličnu ulogu u podršci tranziciji zelene energije.
Učesnici u Grčkoj naglasili su važnost energetskih zajednica u podsticanju osećaja vlasništva i odgovornosti među studentima, kao i pružanju stvarnog iskustva u projektima obnovljivih izvora energije. Ovaj model bi mogao biti posebno efikasan na Zapadnom Balkanu, gde inicijative pod vodstvom zajednice imaju potencijal da podstaknu i društveni i ekonomski razvoj.

Strateške preporuke
Na osnovu rezultata iz desk i terenskog istraživanja, predložene su sledeće strateške preporuke za unapređenje integracije zelenih veština u programe strukovnog obrazovanja i osposobljavanja širom Zapadnog Balkana, Grčke i Rumunije:

Modernizacija nastavnog plana i programa:
- Razviti i implementirati ažurirane nastavne planove i programe koji odražavaju najnovije tehnologije, industrijske standarde i prakse održivosti u sektoru zelene energije. Ovi nastavni planovi i programi treba da budu fleksibilni i prilagodljivi, omogućavajući brzu integraciju novih događaja kako se pojavljuju. Posebnu pažnju treba posvetiti solarnoj energiji i energiji vjetra, energetskoj efikasnosti i održivoj gradnji, jer su ove oblasti ključne za energetsku tranziciju u regionu.

Ulaganje u infrastrukturu:
- Izdvojiti značajne resurse za razvoj state-of-the-art objekata za obuku, uključujući laboratorije, obnovljive izvore energije, instalacije, i moderne nastavne alate. Ova investicija je od ključnog značaja za pružanje studentima praktičnog, praktičnog iskustva potrebnog za uspeh u sektoru zelene energije. Posebno u Rumuniji i Crnoj Gori postoji hitna potreba za poboljšanjem infrastrukture kako bi se podržala isporuka visokokvalitetnih programa strukovnog obrazovanja i osposobljavanja.

Stručno usavršavanje trenera:

- Uspostaviti tekuće programe profesionalnog usavršavanja za VET trenere, uključujući radionice za obuku, programe razmene sa drugim evropskim zemljama i pristup najnovijim informacijama o industriji. Ovi programi treba da budu osmišljeni tako da osiguraju da treneri imaju veštine i znanja neophodna za pružanje visokokvalitetnog obrazovanja o zelenim veštinama. Na Kosovu i u Albaniji, profesionalni razvoj treba da se fokusira na pružanje trenerima alata i resursa koji su im potrebni za pružanje praktične obuke u tehnologijama obnovljivih izvora energije.

Jačanje okvira politike:

- Razviti i implementirati jače okvire politike koji pružaju jasne smjernice, ciljeve i podsticaje za integraciju zelenih vještina u programe strukovnog obrazovanja i osposobljavanja. Ovi okviri treba da budu usklađeni sa nacionalnim obrazovnim strategijama i širim ekonomskim i ekološkim ciljevima, kao što su Evropski zeleni dogovor i Pariški sporazum. U Rumuniji, na primer, postoji potreba za politikama koje podržavaju prelazak sa uglja na obnovljive izvore energije i promovišu razvoj zelenih veština.

Javno-privatna partnerstva:

- Podsticanje saradnje između VET institucija i industrije zelene energije kroz javno-privatna partnerstva. Ova partnerstva mogu olakšati razmjenu resursa, stručnosti i mogućnosti za praktičnu obuku, osiguravajući da programi strukovnog obrazovanja i osposobljavanja odgovaraju potrebama industrije. U Bosni i Hercegovini, povećana saradnja industrije je od suštinskog značaja za usklađivanje programa strukovnog obrazovanja i osposobljavanja sa potrebama sektora zelene energije.

Podrška energetskim zajednicama i socijalnim preduzećima:

- Podsticanje razvoja energetskih zajednica i socijalnih preduzeća kao modela za promovisanje zelenih veština. Ove inicijative pod vodstvom zajednice mogu poslužiti kao praktični poligon za studente strukovnog obrazovanja i osposobljavanja i doprinijeti široj tranziciji zelene energije. Iskustvo Grčke sa energetskim zajednicama pruža vrijedan model koji bi se mogao prilagoditi i implementirati u drugim zemljama u regionu.

Monitoring i evaluacija:

- Uspostaviti sisteme za kontinuirano praćenje i evaluaciju programa strukovnog obrazovanja i osposobljavanja kako bi se osiguralo da oni ostanu usklađeni sa potrebama industrije i nacionalnim energetskim ciljevima. Ovo bi trebalo da uključuje redovne povratne informacije od zainteresovanih strana u industriji, kao i procene ishoda učenika i efikasnosti programa. Praćenje i evaluacija su posebno važni u Albaniji i na Kosovu, gde su programi strukovnog obrazovanja i osposobljavanja još uvek u ranoj fazi integracije zelenih veština.

Izgradnja preduzetničkih kapaciteta:

- Integrisati obuku preduzetništva u nastavne planove i programe za strukovno obrazovanje, sa fokusom na zelene poslovne modele i održive prakse. Ovo će opremiti studente veštinama potrebnim za inovacije i stvaranje vrednosti u zelenoj ekonomiji. Na Zapadnom Balkanu postoji značajna prilika da se razviju preduzetnički kapaciteti koji mogu da podstaknu zelenu energetsku tranziciju u regionu.

Regionalna saradnja i razmena znanja:

- Promovisanje regionalne saradnje i razmene znanja između institucija za strukovno obrazovanje, industrije i kreatora politika širom Zapadnog Balkana, Grčke i Rumunije. Ovo može olakšati razmjenu najboljih praksi, resursa i stručnosti i pomoći u izgradnji kohezivnijeg i efikasnijeg sistema strukovnog obrazovanja i osposobljavanja u cijelom regionu. Treba podsticati zajedničke projekte i zajedničke inicijative kako bi se ojačali kolektivni kapaciteti regiona za podršku tranziciji zelene energije.

Zaključak

Ovaj sveobuhvatni izveštaj naglašava ključnu ulogu stručnog obrazovanja i obuke u podršci zelenoj energetskoj tranziciji širom Zapadnog Balkana, Grčke i Rumunije. Rješavanjem izazova identifikovanih u ovom izvještaju i implementacijom gore navedenih strateških preporuka, sistemi strukovnog obrazovanja i osposobljavanja u regionu mogu se transformisati u snažne pokretače održivog ekonomskog razvoja i stvaranja zelenih radnih mjesta.

Nalazi iz ovog izveštaja će informisati razvoj programa obuke koji ima za cilj da izgradi kapacitete VET trenera i opremi učenike preduzetnika veštinama potrebnim za napredovanje u zelenoj ekonomiji. Ovaj program će biti od suštinskog značaja kako bi se osiguralo da institucije strukovnog obrazovanja i osposobljavanja na Zapadnom Balkanu i šire budu u potpunosti spremne da zadovolje zahteve tržišta rada 21. veka i doprinesu održivoj i otpornoj budućnosti.

U zaključku, uspešna integracija zelenih veština u programe strukovnog obrazovanja i osposobljavanja širom regiona zahtevaće koordinirane i zajedničke napore, koji uključuju vladu, industriju, obrazovne institucije i civilno društvo. Radeći zajedno, ove zainteresovane strane mogu stvoriti sistem strukovnog obrazovanja i osposobljavanja koji ne samo da zadovoljava potrebe današnjeg tržišta rada, već i predviđa i prilagođava se izazovima i mogućnostima budućnosti. Ovo će biti od suštinskog značaja kako bi se osiguralo da Zapadni Balkan, Grčka i Rumunija mogu u potpunosti učestvovati i imati koristi od globalne tranzicije na zelenu energiju.

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Co-funded by the European Union

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