ADDUPT

ADdressing skills mismatching in the green sector through Digital Upskilling of veT

Business needs' diagnosis in the green sector

Deliverable D2.4

By Center for Social Innovation – CSI Cyprus

Business needs' diagnosis in the green sector

Co-funded by the European Union

Deliverable information

Grant Agreement No.	
Project acronym	ADDUPT
Project title	ADDUPT_ADdressing skills mismatching in the green sector through Digital Upskilling of veT
Project timeframe and duration	1/1/2023 - 12/31/2025
Project reference number	ERASMUS-EDU-2022-CB-VET-101092398
WP	Work Package 2: Reinforcing the link between VET and the labour market
Task	T2.3
Deliverable	D2.4 Business needs' diagnosis in the green sector
Status	Third Draft
Version number	3.0
Deliverable responsible	Center for Social Innovation – CSI Cyprus
Dissemination level	0
Due date	22nd December 2023
Date of submission	22nd December 2023

Project coordinator

Name	
Organization	CENTRO SUPERIOR DE FORMACION EUROPA-SUR SA
Email	info@cesurformacion.com
Postal address	Tomás Heredia 12, 29001 Málaga

Version history

Version	Date	Author	Description
1.0	14.11.2023	Afrodite Theochare	Basic Structure

2.0.	15.12.2023	All partners	Partners feedback
3.0.	20.01.2024	Stella Karra	Final daft

Author list

Name	Organisation
Afrodite Theochare and Stella Karra	CSI Cyprus

Table of Contents

List of abbreviations 6

Context 7

Introduction 8

Executive Summary 9

Desk and Field Research 10

Summary 10

Objectives 10

Description 10

Results and conclusions 10

Experts Group consultation 12

Summary 12

Objectives 12

Description 12

Results and conclusions 13

The current situation 14

Description 14

Results and conclusions 14

Future Needs and Challenges 15

Description 15

Skills Mismatches Identification 18

Introduction 18

Stakeholders' analysis 19
Green Sector Employees analysis 25
Consultation Workshop 1 Guidelines 25
Consultation Workshop 2 Guidelines 29
Consultation Workshop 3 Guidelines 32
VET Education provision analysis..... 37
Graduates Consultation workshops..... 44
Guidelines Workshop 1 44
Guidelines Workshop 2 46
Guidelines Workshop 3 48
A comparative Analysis.....50
Comparative Analysis Guidelines..... 50
Conclusion.....55

List of abbreviations

Acronym	Description
VET	Vocational Education and Training
WP	Work Package
WB	Western Balkans
ICBFVET	International Cooperation and Business-Focused Vocational Education and Training

Context

The EU's enlargement agenda for the Western Balkans (WB) region identifies various areas that require attention, with the labour market situation being a major concern. While the region's economic recovery shows promising progress, a critical challenge persists in the form of significant mismatch between the skills and competencies offered and the demands of businesses. To address this issue, the ADDUPT project was initiated with a specific focus on **strengthening the link between Vocational Education and Training (VET) provision in the Western Balkans** and the **emerging green sector in their labour markets**.

The ADDUPT project has set forth several objectives aimed at strengthening the region's VET system and fostering a fruitful relationship with the dynamic green sector. Firstly, it seeks to develop a mechanism for diagnosing business needs in the green sector, thereby ensuring a timely and comprehensive alignment between VET provision and the evolving demands of environmentally conscious industries. The project also aims to provide an in-depth analysis of the green sector in the participating countries, namely Albania, Bosnia and Herzegovina, and Montenegro.

The project also emphasizes support for VET trainers and staff in the Western Balkans, aiming to establish flexible and interactive links between VET and the labour market. By building the capacity of WB-VET institutions to incorporate green labour market needs into their training provisions, the project seeks to enhance the employability potential of WB-VET learners and equip them with the skills required to thrive in the evolving green sector.

To achieve these goals, the ADDUPT project prioritizes the continuous professional development of VET teachers and trainers in the Western Balkans. This emphasis on training and upskilling aims to bolster the quality of the VET sector, ensuring it remains adaptive and responsive to the ever-changing demands of the labour market. While addressing the needs of the emerging green sector, the project also aims to foster a symbiotic relationship between VET institutions and businesses, aligning VET provision to the specific needs of the green sector.

Overall, the ADDUPT project represents a concerted effort to improve the quality of VET education and training in the Western Balkans, while addressing the specific needs of the emerging green sector. By bridging the skills gap and facilitating productive cooperation between VET and the labour market, this project strives to contribute to the sustainable growth and development of the Western Balkan region.

Introduction

This document stands as a crucial milestone within the ADDUPT project – the **"Business Needs' Diagnosis in the Green Sector".** It signifies the culmination of dedicated efforts in Work Package 2 (WP2), representing a significant step toward addressing the skills and competency gap in the labor markets of the Western Balkans (WB) region.

As part of the ADDUPT initiative, the focus here is on the final stage of the Mechanism's operation – verification. The Mechanism, developed collaboratively with project partners and labor market actors in the WB region, has undergone rigorous analysis and consultation phases. Now, the spotlight is on the publication of combined results and the synthesis of a comprehensive diagnosis of business needs in the green sector.

In the following pages, we present the outcomes of extensive research, consultation, and collaboration. The document provides an overall description of the current state of the green sector, encompassing activities, employment opportunities, and a detailed forecast of future needs and challenges. Moreover, it sheds light on current and future skills mismatches, laying the foundation for strategic interventions in Vocational Education and Training (VET) provision.

Led by CSI with valuable contributions from WB-partners and feedback from EU-partners, the Business Needs' Diagnosis serves as a compass guiding the development and implementation of the International Cooperation and Business-Focused Vocational Education and Training (ICBFVET) in WB-VET partners. This, in turn, contributes to the overarching goal of aligning VET provision with the evolving demands of the green sector.

Navigate with us through the findings, insights, and recommendations that will shape the trajectory of VET education in the Western Balkans. This document not only captures the essence of the current state of the green sector but also lays the groundwork for a more responsive and adaptive VET system, essential for the sustainable growth and development of the Western Balkan region.

Executive Summary

In response to the evolving demands of the green sector, a comprehensive analysis has been conducted, covering vocational education and training (VET) provision and graduate consultation. The VET Education Provision Analysis emphasizes the role of VET in addressing skill mismatches by providing hands-on, practical training. It explores key components, including industry focus, degree titles, courses, and skillsets. The focus on the green transition's impact on employment and the identification process for skills mismatches provides a systematic guide for VET providers.

Graduate Consultation Workshops, categorized by years' post-graduation, further examine the alignment of VET training with real-world demands. Detailed guidelines for workshop identification, questions, and facilitation are provided. These workshops aim to gather insights on skills application, career motivations, and mid-to-long-term reflections.

To enhance understanding and address mismatches, a comparative analysis section outlines guidelines for a nuanced evaluation. Key steps include contextual understanding, methodology definition, data integration from VET provision and graduates' workshops, and a comparative framework. Visual representation aids in communicating identified skill mismatches, allowing for precise analysis at sector, course, and lesson levels.

The guidelines emphasize stakeholder involvement, continuous improvement, and a dynamic feedback loop to refine VET programs. The Executive Summary provides a snapshot of the comprehensive approach to ensuring VET institutions remain responsive to industry needs, producing highly skilled graduates tailored to the demands of the green sector.

Desk and Field Research

Task 2.1 – Establishment of the Mechanism

Summary

Objectives

The primary objective of this comprehensive analysis, situated within the ADDUPT project, was to effectively address the challenges arising from skills mismatch within the Vocational Education and Training (VET) sector across Western Balkan partner countries—Albania, Bosnia and Herzegovina, and Montenegro. Through a meticulously crafted methodology involving both **field** and **desk research**, the analysis sought to offer a holistic understanding of the present state of the VET sector and the Green Sector labour market. A key aim is to establish an operational mechanism capable of accurately diagnosing business needs within the Green Sector. The overarching goal is to facilitate timely, targeted, and comprehensive adjustments in VET provisions, ultimately bridging the skills gap. The analysis aspired to contribute to the creation of a skilled and adaptable workforce, playing a significant role in fostering the growth and sustainability of the Green Sector in the Western Balkans. It targets various stakeholders encompassing VET organizations, trainers, learners, educational authorities, employers, and professional networks. Positioned as a vital resource, the analysis aims to inform decision-making, instigate policy changes, and promote collaboration to align educational offerings with the evolving demands of the Green Sector labour market.

Description

This compiled desk and field research, integral to the ADDUPT project, serves as a critical element in addressing the challenges within the Vocational Education and Training (VET) sector across Western Balkan partner countries—Albania, Bosnia and Herzegovina, and Montenegro. The research is strategically focused on the pervasive issue of skills mismatch between VET offerings and the dynamic needs of employers, specifically within the Green Sector labour market. Employing a sophisticated two-part methodology involving both field and desk research, the analysis delves comprehensively into crucial aspects such as technological advancements, Green Finance utilization, policies, key occupations, required skills, VET institution status, teaching methods, and partnerships. It is intended for a diverse range of stakeholders, including VET organizations, trainers, learners, representatives of local, national, and European educational authorities, employers in the Green Sector, chambers, professional associations, and educational and professional networks. Positioned as a valuable resource, the research is poised to inform decision-making, drive policy changes, and facilitate collaboration, ensuring effective alignment between VET provisions and the evolving demands of the Green Sector labor market.

Results and conclusions

The research findings from both desk research and field research parts underscore the growing significance of the green sector in the Western Balkans, particularly in Albania, Bosnia &

Herzegovina, and Montenegro. While each country faces unique challenges, they all share a **common commitment to promoting renewable energy, energy efficiency, waste management, and sustainable agriculture for economic development, energy security, and environmental protection.**

In Albania, notable economic progress has been made, with a considerable share of renewable energy in its energy mix, from hydropower. However, the over-reliance on fossil fuels, energy imports, and the variability of annual rainfall pose challenges to energy security and sustainability. To overcome these challenges and foster the growth of the renewable energy sector, the Albanian government recognizes the need to enhance vocational education and training (VET) institutions. Private sector engagement, cooperation with VET institutes, and the development of renewable energy training curricula are vital steps in addressing skill mismatches and nurturing a skilled workforce for the green sector.

In Bosnia & Herzegovina, the green sector is experiencing growth and demand, particularly in Renewable Energy, Energy Efficiency, and Waste Management. However, challenges related to job creation and the labour market persist. While the government has yet to enact specific legislation for the green sector, progress is evident in various industries. VET institutions play a crucial role in preparing students for the green sector, but improvements are needed to better align curricula with sector needs. Enhancing collaboration between VET institutes and employers, implementing work-based learning programs, and increasing curriculum flexibility are essential in bridging the skills gap and promoting green job growth.

Montenegro recognizes the value of education for building a knowledge-based society and has implemented reforms in all levels of education. While the greening of service activities, particularly in wholesale and retail trade, has shown promise, challenges remain in modernizing schools and supporting teachers' professional development. Close cooperation between educational institutions, the private sector, and the public sector is essential to update curricula and foster technical skills in emerging green technologies.

The field research part highlights the perspectives of VET representatives in the Western Balkans. **There is a growing interest in sustainability and environmental stewardship among VET representatives in Albania, Bosnia & Herzegovina, and Montenegro.** While efforts have been made to offer training programs in renewable energy and waste management, there is still room for improvement in aligning the VET curricula with the needs of the green sector. **Collaboration with green sector businesses is recognized as crucial for effective training programs, but further investment in equipment and research on sector needs is required.**

The comparative conclusion emphasizes that all three countries in the Western Balkans are witnessing growth in the green sector, focusing on Renewable Energy, Energy Efficiency, and Waste Management. Addressing the challenges of salary expectations, lack of training programs, brain drain, and limited awareness of green jobs is essential to nurture a skilled workforce. **Enhancing VET institutions, co-designing curricula with the green sector's**

needs, and providing professional development opportunities and internships are key factors in bridging the skills gap and promoting sustainable growth.

In conclusion, the comprehensive research underlines the need for a comprehensive approach to address the challenges and foster the opportunities in the green sector and VET institutions in the Western Balkans. By aligning education and training with the needs of the labour market and working effectively with businesses, Albania, Bosnia & Herzegovina, and Montenegro can create many opportunities for green job creation, economic growth, and environmental sustainability. By addressing the identified gaps and areas for improvement, these countries can collectively advance sustainability and environmental initiatives in the region and pave the way for a successful transition to a green economy.

Experts Group consultation

Task 2.2 – Organisation of expert group workshops

Summary

Objectives

The objectives of the expert group consultations in Albania, Bosnia and Herzegovina, and Montenegro were aligned with the broader goals of the workshop. The primary aim was to analyze the findings from each country, specifically focusing on the challenges associated with the skills mismatch between Vocational Education and Training (VET) programs and the demands of the labour market. The consultations sought to gather experts' opinions on the reports detailing the situation in each respective country, with a shared goal of proposing timely, targeted, and comprehensive adjustments in VET provisions. The continuous labor market analysis, collaborative strategies, and recommendations for systemic changes in education were all geared towards addressing the identified problems and fostering a more effective alignment between VET programs and the evolving needs of the workforce.

Description

The expert group workshop, organized by Western Balkan Countries and facilitated by partners such as Tirana Chamber of Commerce and Industry, Banja Luka Chamber of Commerce and Industry and Ceteor, and Green Home in Albania, Bosnia and Herzegovina, and Montenegro respectively, convened representatives from the labour market, green business, Vocational Education and Training (VET), and educational authorities. Taken place during the month of October 2023 and lasting approximately two hours, each workshop's objectives were to analyze country-specific findings and discuss challenges related to the skills mismatch between VET offerings and market demands. It also aimed to gather experts' opinions on the respective country reports, contributing to the overarching goal of proposing timely, targeted, and comprehensive adjustments in VET provisions. This workshop, integral to the ADDUPT project,

provided an in-depth analysis, guiding the design of future steps. To facilitate meaningful participation, partners identified suitable experts who received national reports in advance, along with pre-distributed questions to enhance workshop engagement.

Results and conclusions

The expert group consultations in Albania, Bosnia and Herzegovina, and Montenegro provide valuable insights into addressing the skills mismatch in Vocational Education and Training (VET) programs and the challenges in the green sector.

Albania focuses on continuous labor market analysis, collaboration with employers, flexible curricula, and teacher training to bridge the skills gap. Emphasizing public awareness and international best practices, they advocate for adapting VET programs to meet evolving job requirements. The importance of government support and funding is highlighted to ensure program relevance.

The green sector's breadth is emphasized in Bosnia and Herzegovina, suggesting a detailed examination of sub-sectors for targeted development. Recommendations include expanding research scope and a comparative analysis to align education with labor market needs. Systemic changes, legislative support, and incorporating green principles into education are seen as essential.

Montenegro struggles with a lack of understanding of 'green jobs,' urging clearer definitions and harmonization between the private and state sectors. Attention to tourism and hospitality, and the need for quality trained personnel in green education, are highlighted.

The consultations underscore the broadness and potential of the green sector, advocating for a future shaped by focused research, inclusivity, and systemic changes supported by legislation. However, there's a noted lack of understanding of 'green jobs,' requiring a collaborative effort to align education and industry for a sustainable future.

Challenges in VET programs include limited engagement, outdated curricula, and financial constraints. Recommendations involve regular consultations, collaboration, practical training, stakeholder engagement, and systematic changes. Criteria for evaluating VET programs include job success, relevant skills, employer satisfaction, and graduation rates.

Examples from Germany, Switzerland, South Korea, Nordic countries, and the Netherlands showcase effective VET programs. Common factors include business collaboration, adaptable structures, frequent updates, and practical training, serving as models for regions seeking adjustments.

Key takeaways for Bosnia and Herzegovina include the broadness of the green sector, the need for a detailed comparative analysis, and systemic changes with legislative support. Encouraging cooperation and incorporating green principles into education are recommended.

Montenegro emphasizes the necessity of clear definitions for 'green jobs,' harmonization in the private sector, and attention to tourism and hospitality. Strengthening capacities in green education is crucial.

In conclusion, the path forward involves a collaborative effort to align education and industry, creating a sustainable and green future. Challenges have corresponding solutions, and the recommendations ensure VET programs meet workforce needs. The success of various countries serves as inspiration for tailored adjustments.

The current situation

Description

In this section, we provide an inclusive overview of the present state within the Green Sector, carefully combining insights from our field research and expert consultations. We aim to offer a balanced description, encompassing various activities and employment opportunities prevalent in the sector. By extracting information confirmed through both field research and consultations, our intention is to present a measured and comprehensive understanding of the current situation in the Green Sector. This approach forms the basis for the subsequent insights and recommendations that follow in our analysis.

Results and conclusions

The expert group workshops held in WB countries contributed to an in-depth analysis and served as a valuable platform for open dialogue, the exchange of ideas, and the formulation of recommendations. The expert group analyzed findings that are summarized in the national report of each WB partner country and discussed if there was a lack of information in the report to address the challenges facing the VET sector in Albania, Bosnia and Herzegovina, and Montenegro. The current situation in the country indicates that it is questionable whether all jobs that employers mark as green meet the necessary criteria to be marked in this way, whether they are businesses, administrative jobs, service activities or other sectors. When it comes to educational institutions, and the possibility of introducing an educational program related to green jobs, it is necessary to first strengthen the capacities in terms of quality trained personnel

The workshop underscored that the green sector is an expansive and multifaceted domain, embracing an array of environmentally sustainable industries, initiatives and practices. From renewable energy production and sustainable agriculture to sustainable industry and waste management, the green sector's scope is incredibly wide. Furthermore, it encompasses an extensive array of professions and career opportunities that contribute to environmental preservation and a sustainable future.
Addressing the skills mismatch between Vocational Education and Training (VET) programs and the labor market is a complex topic with several challenges. These challenges have their corresponding solutions.

Some of the challenges are: Limited employer and industry engagement, Outdated, inflexible curricula, Limited labor market data access, Limited financial resources, Misconceptions about VET programs, and Lack of research in VET.

Some of the solutions for these challenges can be achieved through dedicated courses that equip students with useful skills. Moreover, fostering partnerships and collaboration with firms can ensure that VET institutions stay updated with the latest industry trends and innovations.

To better connect VET programs with the job market, we need strong partnerships with industries and employers. Making VET curricula flexible is key. This means using a flexible curriculum. This helps VET programs keep up with what industries need. VET programs must have the most current information about job market trends. This data helps VET institutions stay ahead of the game, predicting skills shortages and identifying emerging job roles.

Some of the crucial topics discussed during the workshops pointed out that:

Collaboration among VET institutions, employers, government agencies, and stakeholders is crucial for ongoing skill alignment, fostering economic growth, and ensuring a competitive workforce in a changing global economy. Proposing specific steps and strategies that can be implemented to achieve this adjustment to the Vocational Education and Training (VET) provision involves a structured approach with several key strategies.

The teachers and trainers who offer VET programs are super important. If they're hesitant to change, it can slow down the whole process. So, providing training for teachers to learn and grow is a great idea. Also, creating a culture of innovation within VET institutions can do wonders. When educators are motivated and know about the latest industry developments, they can guide students better. Not everyone knows how important VET programs are. To change that, awareness campaigns are the answer. These campaigns can clear up misunderstandings and show everyone how valuable VET is for preparing a workforce that meets today's job market needs. Overcoming these challenges requires a coordinated effort from VET institutions, governments, industries, and the community. Continuous evaluation ensures the effectiveness of these solutions and addresses emerging challenges.

Future Needs and Challenges

Description

In the upcoming section, we take a thoughtful approach to explore the future landscape within the Green Sector. We bring together insights from our proactive field research and the collective expertise shared during expert consultations. This analysis aims to present a nuanced forecast, capturing confirmed needs discerned through our strategic actions. Additionally, we address

challenges as articulated by the experts during consultations. By maintaining a balanced perspective between forecasted needs and acknowledged challenges, our approach seeks to provide a comprehensive and tempered outlook on the future trajectory of the Green Sector. This collaborative synthesis sets the stage for informed perspectives and targeted recommendations in our continued analysis.

Results and conclusions

During the workshops held in WB countries, it was acknowledged that a more detailed examination of individual sub-sectors and specific green jobs would be beneficial.

Future reports should dig into the specifics of each sub-sector, outlining the types of green jobs available, their skill requirements, and growth prospects. This comprehensive approach will provide a deeper insight into the multifaceted nature of the Green Sector and help in identifying targeted opportunities for development and education.

The suggestion is for future field research to increase the total number of respondents and experiences, as well as to include more representatives from different backgrounds who can offer valuable perspectives on the topic and ensure diversity in viewpoints and expertise. By doing so, the report can highlight the deficiencies in knowledge and skills. It would be strongly recommended to provide detailed skill gap analyses for each of the identified area of the green sector, aligning with labour market demands and the education system. In the 3 WBC transformation of formal education curricula is a rather complicated process, which needs systematic approach and authorities' approval. As of today, the need for systemic changes and legislative support in the transformation process is evident, particularly in areas like energy efficiency, where legislation has played a pivotal role in shaping training programs to meet market needs. It is necessary to advocate for systemic changes in various sectors, with legislative support, to align education with labour market requirements.

Not everyone knows how important VET programs are. To change that, awareness campaigns are the answer. These campaigns can clear up misunderstandings and show everyone how valuable VET is for preparing a workforce that meets today's job market needs. Overcoming these challenges requires a coordinated effort from VET institutions, governments, industries, and the community. Continuous evaluation ensures the effectiveness of these solutions and addresses emerging challenges. Shaping the green sector's future involves research, collaboration, and adapting education to meet workforce needs through strategies like regular consultation, collaboration, and capacity-building.

- The future of the sector will be shaped by focused research, inclusivity, and systemic changes, driven by legislative support.
- By expanding the data pool and engaging a diverse range of stakeholders, we can ensure a more comprehensive understanding of the green sector's requirements.
- The path forward involves a collaborative effort to align education and industry, creating a sustainable and green future.

- To ensure VET programs meet the needs of the workforce, it's crucial to engage trainers, employers, and students in the process. Here's how:
- Regularly consult with employers to understand changing skill requirements, and support trainers in staying updated.
- Collaborate with trainers and industry professionals to ensure curriculum relevance.
- Provide opportunities for students to combine theory and practice and collect their feedback.
- Establish recognized certifications and keep trainers updated with industry standards.
- Offer ongoing training opportunities for trainers.
- Enhance students' employability through soft skills training and career guidance.
- Gather insights from all stakeholders through surveys and maintain transparency in the adjustment process.
- When it comes to educational institutions and the possibility of introducing an educational program related to green jobs, it is necessary to first strengthen the capacities in terms of quality trained personnel.
- Encourage cooperation among all stakeholders to create a responsive education system.
- By involving trainers, employers, and students in adjusting VET programs, we ensure a more effective system that prepares graduates for evolving workforce.

Skills Mismatches Identification

Introduction

In this crucial section, we carefully examine both current and future skills mismatches within the Green Sector. Adopting a nuanced and skill-specific approach, our insights are derived from comprehensive field research and the collective expertise shared by industry professionals during consultations. This analysis aims to provide a thorough identification of skills mismatches, breaking down each skill with precision. Additionally, the following pages present a set of tools designed to assist businesses in diagnosing and identifying developmental needs. These tools include stakeholders' analysis, identification, mapping (location-wise), diagrammatic representation (industry, sector, job positions, skills needed), employees' background analysis, green sector employees' analysis, VET education provision analysis, and comparative analysis guidelines. These practical tools, ranging from workshops to diagrammatic representations, offer a comprehensive and varied toolkit for businesses and educational institutions. The detailed breakdowns provided in the subsequent pages guide users through the application of these tools, ensuring a nuanced understanding and facilitating effective analysis and conclusions.

Content

The following sections deliver a comprehensive overview of stakeholders' analysis and green sector employees' analysis, including consultation workshops for different experience levels. It also covers VET education provision analysis and graduates' consultation workshops, with detailed guidelines for each workshop. The stakeholder analysis covers identification, mapping, and diagrammatic representation of stakeholders, includes analysis of employees' backgrounds for insights into skill mismatches, and aims to support informed decision-making aligned with the green sector labor market.

The Green Sector Employees Analysis includes: 1) a consultation workshop 1 guideline of 1-2 years of experience and provides a detailed guide for VET providers, a systematic approach to identify employee profiles, degrees, positions, and future goals. The workshop facilitates meaningful discussions and concludes with actionable insights. 2) consultation workshop: 2 guidelines of 3–4 years of experience and focusing on employees with 3–4 years of experience, provides a structured approach to identify key elements, and stimulates discussions and guidelines for effective workshop dynamics and insights on analysis. and 3) consultation workshop: 3 guidelines for 5–6 years of experience concentrate on employees with 5–6 years of experience, a systematic approach for identification and engaging discussions, guidelines for workshop facilitation, and insights on analysis.

Furthermore, the VET Education Provision Analysis: An Introduction covers a detailed analysis of VET education provision in the green sector. It emphasizes the role of VET education in addressing skills mismatches. It provides a step-by-step guide for identification and a visual representation of key components, and it includes graduates' analysis, examining metrics such as volume, employment status, and geographical distribution.

The Graduates Consultation Workshops provide Guidelines Workshop 1 for 1-2 years after graduation, Guidelines Workshop 2 for 3–4 years after graduation, and Guidelines Workshop 3 for 5–6 years after graduation.

Stakeholders' analysis

Introduction

This section serves as a comprehensive guideline for conducting a thorough stakeholders' analysis within the Green Sector. It provides step-by-step instructions on the identification, mapping (location-wise), and diagrammatic representation of stakeholders, encompassing industry professionals, specific job positions, and the requisite skills. The toolkit further includes an in-depth analysis of employees' backgrounds, examining degrees, educational institutes, and work experience. By offering practical guidance on stakeholders' analysis, this section empowers users with the tools and methodologies needed to gain nuanced insights into the dynamic relationships within the Green Sector. The guidelines presented here aim to facilitate a structured and effective stakeholders' analysis, contributing to a deeper understanding of skills mismatches and supporting informed decision-making aligned with the evolving needs of the Green Sector labour market.

Identification

In this section, our objective is to guide VET providers through **a strategic approach to identify and map all relevant stakeholders** associated with the Green Sector. This comprehensive strategy encompasses stakeholders related to both the Green Sector and VET providers. By offering a structured approach to identify and map stakeholders, this guideline aims to empower VET providers to build a comprehensive understanding of the diverse stakeholder landscape within the Green Sector, ensuring a holistic analysis for effective collaboration and skill alignment.

1. **Setting the Framework for Identification:**

The first step in stakeholder identification within the Green Sector is establishing a clear framework. This involves defining the specific objectives of your analysis: Are you focusing on policy influence, market trends, educational alignment, or environmental impact? Understanding your end goal is crucial for identifying relevant stakeholders. Begin by segmenting the Green Sector into its key components: renewable energy, sustainable agriculture, green technology, and environmental advocacy. This segmentation will help in pinpointing stakeholders who have a direct or indirect impact on each area.

2. **Research and Discovery:**

Once the framework is set, embark on a comprehensive research process. Utilize a variety of sources such as industry reports, green sector publications, environmental forums, and

professional networks. Aim to identify a broad range of stakeholders, including government bodies, non-governmental organizations (NGOs), industry leaders, academic institutions, and community groups. Remember, stakeholders are not limited to those with positive interests; competitors and opposition groups can also have a significant impact and should be included in your analysis.

3. **Assessing Stakeholder Influence and Interest:**

After compiling a list of potential stakeholders, assess each based on their influence level and interest in the Green Sector. Influence refers to a stakeholder's power to effect changes or make decisions, while interest indicates how much a stakeholder cares about the sector's outcomes. Tools such as stakeholder mapping grids can be helpful here. This step helps prioritize stakeholders, allowing you to focus on those with high influence and interest first, as they will likely have the most significant impact on your objectives.

4. **Engaging and Prioritizing Stakeholders:**

The final step in the identification process involves engaging with the identified stakeholders to validate your research and understand their perspectives. This can be done through surveys, interviews, or focus groups. Based on the insights gathered, prioritize the stakeholders into categories such as key players, influencers, and observers. This prioritization will guide your stakeholder engagement and communication strategy in subsequent phases.

Mapping (location wise)

In a parallel fashion to the previous section, the subsequent part of this guide focuses on mapping identified stakeholders within the Green Sector and VET providers. This section serves as a practical guide, providing step-by-step instructions on how to systematically map stakeholders. It outlines a structured approach to visually represent the relationships and interactions between various stakeholders, including industry professionals, specific job positions, and the skills they require. By offering this mapping guide, VET providers can enhance their understanding of the intricate network of stakeholders, fostering effective collaboration and enabling precise alignment of skills with the needs of the Green Sector.

1. **Geographic Profiling of Stakeholders:**

Mapping stakeholders start with geographic profiling, where you locate stakeholders on a regional, national, or global scale. For the Green Sector, this involves identifying areas with high concentrations of renewable resources, regions with significant environmental challenges, and locations of major industry players. Geographic profiling helps understand the regional dynamics and how they influence stakeholders' decisions and actions.

2. **Visualizing Spatial Relationships:**

With geographic data, create visual maps to display the spatial relationships between stakeholders. Tools like Geographic Information Systems (GIS) can be used to create detailed

maps showing the location of key stakeholders such as regulatory bodies, educational institutions, green technology companies, and environmental NGOs. These maps should highlight areas of high stakeholder density and illustrate how geographic proximity may influence relationships and collaborations.

3. **Understanding Regional and Global Interactions:**

Mapping stakeholders also involves understanding how regional interactions fit into the global context. For instance, a local renewable energy company might be influenced by global environmental policies or trends in green technology. This step requires analyzing how local stakeholders interact with global entities and trends, allowing for a comprehensive understanding of the stakeholder landscape in the Green Sector.

4. **Updating and Utilizing the Map for Strategic Decisions:**

Stakeholder maps are not static; they should be regularly updated to reflect changes in the Green Sector, such as the emergence of new technologies or shifts in regulatory policies. Utilize these maps to make informed strategic decisions, identify potential collaborations, and anticipate challenges. For instance, a stakeholder map can help identify potential partners for joint ventures in renewable energy projects or regions where environmental advocacy might be needed.

Diagrammatic Representation (industry, sector, job positions, skills needed)

Continuing the guide's comprehensive approach, the following section focuses on Diagrammatic Representation, offering guidance on visually illustrating the intricate connections among stakeholders in the Green Sector. This section outlines a systematic method for creating diagrams that depict the relationships between stakeholders, industry sectors, specific job positions, and the corresponding skills needed. By adopting this guideline, VET providers can construct clear and insightful visual representations, facilitating a deeper understanding of the interdependencies within the stakeholder network. This visual tool becomes instrumental for VET institutions in precisely identifying the skills required by different job positions within specific industry sectors, aiding in the strategic alignment of education provisions with the evolving needs of the Green Sector.

Diagrammatic Representation guidelines can be done through the following tools:

Stakeholder Matrix is a tool used to help review the different stakeholders to decide how best to coordinate what they value. Each stakeholder or group may need a different strategy, and the matrix will help to identify the best strategy for each group.

- Create a matrix that visually represents the level of influence and interest of each stakeholder. This is often called a Power-Interest Grid.
- Network Diagram is a tool that helps to visualize the activities that need to be completed over the period of time.

- Use a network diagram to illustrate relationships and connections among stakeholders. Nodes represent stakeholders, and the lines between them show the nature of their interactions.
- Venn Diagram is used to illustrate the logical relationships between two or more sets of items by using overlapping circles or other shapes.
- Use a Venn diagram to show overlapping interests or common goals among different stakeholder groups.
- Organizational Chart is a diagram that visually conveys a organization's internal structure by detailing the roles, responsibilities, and relationships between individuals within an entity.
- Create an organizational chart to represent the hierarchy and key positions within each stakeholder organization.
- Spider Diagram is used to organize and display data in a logical and visual way. Its features include the main concept positioned in the middle of the diagram, with lines extending radially to link related ideas and sub-topics. More ideas branch out from there will result with a diagram resembling a spider.
- Develop a spider diagram to visually represent the skills needed for various job positions within stakeholder groups. Each "leg" of the spider represents a different skill.

Tips for Diagrammatic Representation:

Use colors and shapes to differentiate between stakeholder groups and highlight important information.

Include brief descriptions or labels for each stakeholder in the diagrams.

Regularly update the diagrams as the industry evolves and new stakeholders emerge.

By following these steps and employing visual representations, you can create a comprehensive stakeholder analysis in the green sector that provides valuable insights into the relationships and dynamics within the industry.

Employees background analysis

This section is dedicated to the analysis of employees' backgrounds, specifically those identified through the Stakeholders' Analysis. It serves as a comprehensive guide for VET providers on how to understand the educational and professional journeys of individuals associated with the Green Sector. By examining degrees, educational institutions, and work experiences, this guideline facilitates a nuanced understanding of the qualifications and career trajectories of stakeholders within the sector. This in-depth analysis aims to inform VET programs about the diverse backgrounds of individuals engaged in the Green Sector, aiding institutions in tailoring their offerings to align with the varied educational and professional pathways of stakeholders.

Conducting in-depth analysis of employees' backgrounds, especially those identified through stakeholder analysis in the green sector, requires a systematic approach. This information is

crucial for VET providers to understand the educational and professional journeys of individuals associated with the green sector. Here are the steps:

1. Data Collection
   - Identify Relevant Employees: Based on your stakeholder analysis, select a representative sample of employees from different stakeholder groups within the green sector.
   - Gather Background Information: Collect data on their educational qualifications, degrees, certifications, and work experiences.

2. Design a Survey or Interview Protocol
   - Develop a Questionnaire: Design a survey or interview questions that cover key aspects of their educational and professional backgrounds. Include questions about degrees obtained, institutions attended, areas of expertise, and relevant work experiences.
   - Consider Privacy and Consent: Ensure that the data collection process complies with privacy regulations and obtain informed consent from participants.

3. Data Analysis
   - Organize Data: Compile and organize the collected data in a structured format.
   - Utilize Data Analysis Tools: Use data analysis tools to identify patterns, trends, and correlations in educational and professional backgrounds.

4. Educational Background Analysis

- Explore Degrees and Majors: Examine the types of degrees and majors obtained by individuals in the green sector. Identify common educational pathways.
- Analyze Educational Institutions: Investigate the institutions from which individuals obtained their degrees. Look for patterns in reputable educational institutions.

5. Professional Experience Analysis

- Assess Work Experience: Analyze the types of work experiences individuals have had in the green sector. Identify the roles, responsibilities, and duration of their work.
- Recognize Career Progression: Look for patterns of career progression and transitions within the green sector. Identify any commonalities in career paths.

6. Skills and Competences

- Identify Key Skills: Determine the key skills and competencies that individuals have acquired through their education and work experiences.
- Match Skills to Industry Needs: Compare identified skills with industry requirements to understand alignment and identify potential gaps.

7. Create Visual Representations

- Infographics and Charts: Develop infographics and charts to visually represent educational and professional journeys. Use graphs to highlight trends and connections.
- Geographic Analysis: If relevant, create maps to visualize the geographic distribution of educational institutions and workplaces associated with the green sector

8. Report and Recommendations

- Compile Findings: Create a comprehensive report summarizing the analysis, including visual representations.
- Provide Recommendations: Offer insights and recommendations for VET providers based on identified trends and needs within

9. Feedback Loop

- Seek Feedback: Share the findings with key stakeholders, including individuals analyzed, employers, and educational institutions. Seek feedback to validate findings.
- Continuous Improvement: Use feedback to improve the analysis process and keep it up-to-date.

By following these steps, VET providers can gain a comprehensive understanding of the educational and professional backgrounds of individuals associated with the green sector. This information can be used to tailor education and training programs to better meet the industry's evolving needs.

Green Sector Employees analysis
Consultation Workshop 1 Guidelines

Workshop 1 – Employees of 1-2 years of working experience

Introduction

This section concentrates on the analysis of Green Sector employees, particularly those with 1-2 years of working experience, identified through the stakeholders' research and analysis. It provides a detailed guide for VET providers to conduct Consultation Workshop 1 efficiently. The introduction sets the context for comprehending employees in their early career stages within the Green Sector. The guidelines offer a systematic approach to identifying crucial aspects such as profiles, degrees, employment positions, and future career goals. Workshop questions are outlined to facilitate meaningful discussions, and guidelines for discussion and facilitation ensure a structured and productive session. The section concludes with a summary of outcomes, providing guidance on what to observe, how to conduct analysis, and draw meaningful conclusions from the workshop discussions.

Guidelines for Identification (profiles, degrees, position of employment status of employment, future career goals)

Workshop questions for discussion

Guidelines for discussion and facilitation

Summary of Outcomes (what to look out for, how to make an analysis and conclusions)

1. Preparation and Planning:

1.1 Defining Objectives:

The primary goal of this workshop is to comprehensively analyze and understand the experiences, challenges, and growth areas of employees who have gained 1-2 years of experience in the green sector. The specific objectives include:

- Exploration of early career trajectories: To understand the career paths and milestones of individuals within the initial phases of their journey in the green sector.
- Identification of skill development needs: To identify the skill sets that are crucial and in demand among employees with limited experience in the green sector.

- Understanding challenges and opportunities: To delve into the challenges faced and opportunities available for professional development within the sector.

Defining these objectives will guide the discussions and activities throughout the workshop, ensuring a focused exploration of key areas relevant to individuals with 1-2 years of experience in the green sector.

1.2 Participant Selection:

In selecting participants, a strategic approach will be adopted to ensure a diverse and comprehensive representation within the workshop. The selection process aims to encompass:

Diversity in roles and backgrounds: Participants will be chosen from various roles within the green sector.

Varied experiences: The workshop will include individuals with a range of experiences to present a holistic view of the sector, incorporating perspectives from newcomers to those nearing the two-year mark.

This approach guarantees a diverse pool of participants, providing an opportunity for a comprehensive discussion and analysis of experiences, challenges, and aspirations of employees with 1-2 years of experience in the green sector.

This framework for preparation and planning lays the groundwork for a focused and inclusive workshop aimed at examining the early experiences and growth areas of professionals in the green sector with limited work experience.

2. Workshop Structure:

Welcoming on the workshop dedicated to examining the experiences of employees within the green sector, specifically those who have amassed 1-2 years of valuable expertise. The main goal is to delve into, discuss, and glean insights into the initial career paths and areas of development within the vibrant landscape of sustainability and environmental practices.

2.1 Opening the Workshop

2.1.1 Introducing workshop objectives:

The objectives of this workshop are:

- Understanding early career trajectories: The aim is to delve into their initial experiences and career paths within the green sector, highlighting milestones and challenges encountered during the first 1-2 years of your professional journey.
- Identifying skill development needs: The focusing on recognizing and understanding the skill sets essential for success within the green sector during the initial years of your career.

- Fostering open discussions: Creating a platform for open and insightful discussions, encouraging active participation and the sharing of diverse experiences among all participants.

2.1.2 Creating an open environment for discussion:

This workshop thrives on the active involvement and valuable contributions. We encourage each participant to engage openly, sharing your thoughts, experiences, and aspirations. Their perspectives are crucial in shaping the discussions and will greatly contribute to our collective understanding of the early stages of a career within the green sector.

2.1.3 Encouraging expectations for productive discussions:

Before we proceed, we invite the participants to share their expectations during the discussions. What are the topics or aspects of the green sector that are most interested in exploring? Their input will guide us in tailoring our discussions to meet the needs and ensure a productive and fulfilling session.

Fostering an environment of collaboration, open dialogue, and knowledge-sharing as we analyze the experiences of employees in the green sector with 1-2 years of working experience.

This opening narrative sets the tone for the workshop, highlighting the objectives, encouraging active participation, and inviting participants to share their expectations for the discussions ahead, fostering an environment conducive to productive and meaningful conversations.

2.2 Discussion and group sessions:

2.2.1 Organizing Discussions:

The focus of discussion sessions aims to tackle significant topics within the green sector that are particularly relevant to individuals with 1-2 years of experience. We'll delve into various aspects of sustainability and environmental practices, aiming to shed light on the challenges and opportunities prevalent in this sector.

2.2.2 Encouraging participation:

We encourage each of you to actively participate by sharing your experiences, insights, and thoughts on the challenges and opportunities encountered during the early stages of your career in the green sector. Your input is crucial in shaping our understanding of the dynamics within this field and will contribute significantly to our discussions.

2.2.3 Key topics for discussion[1]:

Some key topics that we will explore during these sessions include:

Introduction to sustainability practices: Understanding the fundamental principles of sustainability and their application in your respective roles.

Challenges faced in the early career phase: Sharing experiences and insights on the hurdles encountered during the initial years in the green sector.

Opportunities for growth and development: Identifying and discussing avenues for professional growth and skill development within sustainability-related roles.

2.2.4 Format of discussion sessions:

These discussion sessions will be interactive and participatory. We'll be using a combination of open dialogues, group discussions, and potentially case studies to elucidate and tackle various facets of the green sector pertinent to professionals with 1-2 years of experience.

2.2.5 Objective of discussions:

The main objective of these discussions is to foster an environment where experiences, challenges, and insights can be freely shared and exchanged among participants. By leveraging the collective knowledge and diverse perspectives within the group, we aim to gain deeper insights into the early career experiences in the green sector.

[1] Annex 1

to elucidate and tackle various facets of the green sector pertinent to professionals with 1-2 years of experience.

3 Case analysis and brainstorming:

3.1 Utilizing case studies:

The delve into some practical insights through case studies and specific examples that illustrate the challenges and successes encountered within the green sector by employees with limited experience. These cases will serve as real-world examples, providing tangible scenarios to analyze and discuss during our session.

3.2 Understanding challenges and successes:

Through these case studies, we aim to identify both challenges faced, and successful strategies employed by professionals within the green sector during their early career phases. These real-life examples will provide valuable insights into overcoming obstacles and seizing opportunities within this field.

3.3 Facilitating brainstorming sessions:

Following the case analysis, we'll transition into brainstorming sessions. These sessions are designed to encourage innovative thinking and the generation of new ideas to address the challenges identified within the green sector for individuals with 1-2 years of experience.

3.4 Fostering creativity and collaboration:

During the brainstorming sessions, we encourage all participants to actively contribute their ideas, experiences, and potential solutions to the challenges presented in the case studies. By fostering an environment of creativity and collaboration, we aim to explore innovative approaches and strategies to tackle these challenges effectively.

3.5 Objective of brainstorming:

The main objective of these sessions is to harness the collective wisdom and diverse perspectives of participants. By engaging in brainstorming activities, we aspire to generate novel ideas and potential solutions that can be applied to real-world scenarios faced by professionals in the green sector.

This narrative material sets the stage for the utilization of case studies to understand challenges and successes within the green sector, followed by brainstorming sessions aimed at fostering creativity and finding innovative solutions to identified challenges.

4 Conclusion and action planning:

Summarizing the discussions and key ideas extracted from the workshop for employees with 1-2 years of experience in the green sector.

Developing an action plan that encapsulates the most important ideas and strategies derived from the discussions.

Ensuring the methodology remains flexible to allow participants to contribute freely and to create an environment conducive to discussion and collaboration in analyzing employees with 1-2 years of working experience in the green sector.

Consultation Workshop 2 Guidelines

Workshop 2 – Employees of 3-4 years of working experience

Introduction

This section focuses on the analysis of Green Sector employees with 3-4 years of working experience, derived from the stakeholders' research and analysis. It serves as a guide for VET providers to effectively conduct Consultation Workshop 2. The introduction contextualizes the examination of employees in this specific career stage within the Green Sector. The guidelines provide a structured approach to identify key elements such as profiles, degrees, employment positions, and future career goals. Workshop questions are crafted to stimulate meaningful discussions, while guidelines for discussion and facilitation ensure a productive session. The section wraps up with a summary of outcomes, offering insights on what to observe, how to conduct analysis, and draw meaningful conclusions based on the workshop discussions.

Guidelines for Identification (profiles, degrees, position of employment status of employment, future career goals)

Workshop questions for discussion

Guidelines for discussion and facilitation

Summary of Outcomes (what to look out for, how to make an analysis and conclusions)

This workshop aims to explore and evaluate the skill sets, challenges, and potential enhancements in this workforce segment, contributing to a better understanding of their role in the sustainability sector.

Objectives:

To comprehensively analyze the skill proficiencies of individuals working in the Green Sector for 3-4 years.

To identify and discuss the challenges faced by employees in this sector and propose potential solutions.

To explore opportunities for skill development and growth enhancement among these experienced professionals.

To evaluate the impact and role of 3-4 years' experience in fostering sustainability in the workplace.

Participant Selection:

Selecting the right participants for the workshop is crucial for ensuring its effectiveness. The following criteria will guide the selection process:

Experience: Individuals with 3-4 years of hands-on experience in the green sector will be given priority. This may include professionals engaged in renewable energy, sustainability, environmental sciences, or related fields.

Relevance: Preference will be given to applicants whose current or past roles directly relate to the workshop's theme. This includes individuals involved in policymaking, project management, research, or implementation within the green sector.

Diversity: A diverse pool of participants from different sectors within the green industry will enrich discussions and foster varied perspectives. This could encompass professionals from governmental bodies, NGOs, private corporations, and academic institutions.

Commitment: Applicants should demonstrate a commitment to actively participate and contribute constructively to the workshop sessions. Engagement and dedication to the workshop's objectives will be key selection factors.

Geographical Representation: Ensuring representation from various geographical locations, both urban and rural, will broaden the workshop's scope and ensure a comprehensive understanding of diverse challenges and opportunities.

Motivation: Applicants should articulate their motivation for attending the workshop, how they expect to benefit from the discussions, and how they intend to apply the acquired knowledge in their professional capacities.

The selection process will aim to curate a group of participants whose collective experience, expertise, and dedication will create a dynamic and impactful learning environment."

Workshop Structure:

Session 1: Profiling the Green Sector Workforce

Overview of the Green Sector: Trends, importance, and growth.

Understanding the significance of 3-4 years of experience in the field.

Profiling the skill sets and competencies expected in the Green Sector.

Session 2: Challenges and Opportunities

Identifying common challenges faced by employees in the Green Sector.

Brainstorming solutions and strategies to overcome these challenges.

Highlighting opportunities for career growth and advancement.

Session 3: Skill Development and Enhancement

Exploring avenues for ongoing professional development.

Workshops, certifications, and programs for skill enhancement.

Encouraging continuous learning and adaptability in the sustainability sector.

Session 4: Impact Evaluation

Assessing the impact of 3-4 years' experience on sustainability initiatives.

Recognizing the contributions and potential improvements in this experienced workforce.

Discussing ways to leverage their expertise for a more sustainable future.

Conclusion:

In conclusion, this workshop aims to provide a comprehensive analysis of employees with 3-4 years of experience in the Green Sector. By understanding their skill sets, addressing challenges, and exploring growth opportunities, we aim to bolster their contributions to sustainable practices and foster a more efficient, knowledgeable, and skilled workforce.

Consultation Workshop 3 Guidelines

Workshop 3 – Employees of 5-6 years of working experience in the green sector

Introduction

This section is dedicated to the analysis of Green Sector employees with 5-6 years of working experience, originating from the stakeholders' research and analysis. It functions as a guide for VET providers, detailing the structure of Consultation Workshop 3. The introduction contextualizes the examination of employees with an extended career trajectory in the Green Sector. The guidelines offer a systematic approach to identify essential elements like profiles, degrees, employment positions, and future career goals. Workshop questions are formulated to prompt engaging discussions, and guidelines for discussion and facilitation ensure effective workshop dynamics. The section concludes with a summary of outcomes, providing guidance on what to observe, how to conduct analysis, and draw meaningful conclusions from the workshop deliberations.

Guidelines for Identification (profiles, degrees, position of employment status of employment, future career goals)

Workshop questions for discussion

Guidelines for discussion and facilitation

Summary of Outcomes (what to look out for, how to make an analysis and conclusions)

This workshop has been meticulously designed to explore, discuss, and dissect the unique perspectives, challenges, and contributions of professionals who have dedicated significant time and expertise to sustainability and environmental practices.

The primary objective of this workshop is to delve into the experiences and insights of individuals who have spent substantial time navigating the complexities of the green sector. By fostering interactive discussions and collaborative engagements, we aim to gain a comprehensive understanding of the evolving dynamics within this specific segment of experienced professionals.

Throughout our sessions, will uncover the multifaceted aspects of their journey, examining their career trajectories, skill development, contributions, and the challenges they've encountered. Our goal is to extract invaluable insights that can guide organizations, policymakers, and individuals aiming to optimize workforce engagement, address sector-specific challenges, and enhance the impact of sustainable practices.

1.Importance of Analyzing Employees with 5-6 Years of Experience in the Green Sector:

The significance of analyzing employees with 5-6 years of experience in the green sector lies in the depth and breadth of insights they bring to the table. This cohort of professionals represents a crucial juncture in their careers, where they have traversed the initial learning phases and have likely gained substantial expertise and understanding within their roles.

Their experiences offer a unique perspective, poised between the enthusiasm of newcomers and the seasoned insight of industry veterans. Analyzing their journey becomes pivotal as it provides a nuanced understanding of the challenges they face, the skills they've honed, their aspirations, and the pivotal contributions they've made or aspire to make within the green sector.

Moreover, insights derived from this analysis can inform organizational strategies, policy formulation, and professional development programs. It can aid in creating more targeted and effective approaches to nurture and leverage the talent pool within the green sector, ultimately contributing to the sector's growth, innovation, and sustainability.

This workshop serves as a platform to unearth, discuss, and harness the wealth of knowledge and experiences of employees with 5-6 years of working experience in the green sector, aiming to drive meaningful advancements and improvements in the sector's dynamics.

2-Workshop Objectives:

2.1 The objectives and goals:

Objective 1: Explore career trajectories and contributions

Gaining insights into the career paths and milestones of employees with 5-6 years of experience in the green sector. Discussing and analyze their significant contributions, projects, and achievements within the sustainability landscape.

Objective 2: Identify skill development and adaptability

Examining the skill sets acquired and adapted by experienced professionals during their tenure in the green sector. Discuss their ability to embrace new technologies, methodologies, and evolving industry practices.

Objective 3: Understand challenges and learning experiences

Uncovering and analyze the challenges faced by professionals in the green sector after 5-6 years of experience. Identify the valuable lessons learned and experiences that have shaped their careers.

Objective 4: Discussing the impact and future aspirations

Evaluating the impact of their work on sustainability initiatives and environmental practices. Exploring their career aspirations and future goals within the green sector.

2.2 Detailed agenda with timings for each segment.

3-Participant Profile

This workshop is tailored for professionals who have accumulated 5-6 years of valuable experience within the diverse realms of the green sector. We aim to create a collaborative and inclusive environment where participants represent various roles, backgrounds, and expertise

within sustainability, environmental conservation, renewable energy, eco-friendly practices, and related fields. The ideal participant profile may include, but is not limited to:

Sustainability managers and analysts

Environmental consultants and engineers

Renewable energy specialists

Eco-design and green building professionals

Policy advisors in environmental regulations

Researchers and academicians in sustainability studies

NGO

Professionals from government agencies with environmental focus

We encourage individuals who have actively contributed to sustainable initiatives, faced challenges, and gained substantial experience in the green sector to join us. Their diverse perspectives and insights will enrich our discussions and contribute to a comprehensive analysis of the sector.

4-Workshop Structure

4.1 Detailed breakdown of workshop sessions and activities:

The workshop has been meticulously structured to encompass various interactive sessions and activities aimed at comprehensively analyzing the experiences, challenges, and contributions of employees with 5-6 years of experience in the green sector.

4.2 Opening session: Introduction and icebreakers

The workshop will commence with a warm welcome and introduction to set the tone for the sessions ahead. Icebreaker activities will be conducted to foster a comfortable and engaging atmosphere among participants.

4.3 Main discussion segments: Group discussions, case studies, brainstorming sessions

The heart of the workshop will revolve around interactive group discussions, analyzing case studies, and engaging brainstorming sessions. Participants will be divided into groups to delve into specific discussion topics related to career trajectories, skill development, challenges faced, and impact within the green sector. Relevant case studies will be presented to stimulate critical thinking and provide practical insights.

4.4 Analysis and strategy development

Following the discussion segments, there will be an analytical phase where participants will collectively analyze the key takeaways, challenges, and opportunities identified during the discussions. Strategies for further development and improvement within the sector will be developed collaboratively, incorporating the insights gained from the discussions.

4.5 Presentation of findings and action plan

The workshop will culminate with presentations summarizing the findings, key insights, and action plans derived from the discussions and analysis. Each group will showcase their perspectives, strategies, and proposed action plans, fostering an inclusive platform for sharing and learning from one another.

4.6 Conclusion and feedback

The workshop will conclude with a comprehensive summary of the workshop's outcomes, highlighting key takeaways and actionable points. Participants will be encouraged to provide feedback on their workshop experience, enabling continuous improvement for future sessions.

This structured breakdown of sessions and activities aims to create a dynamic and participatory environment where participants can actively engage, share experiences, analyze key aspects of their careers, and collaboratively develop strategies for the advancement of the green sector.

5.Discussion Questions and Activities

5.1 List of discussion questions and activities categorized by Workshop segments:

5.1.1 Personality and motivation:

- What personal characteristics do you consider crucial for success in the green sector after 5-6 years of experience?
- How has your motivation evolved throughout your career in the green sector, and what drives you in your current role?

5.1.2 Skill development and adaptability:

- Which skills have you found most valuable in your role within the green sector, and how have they evolved over time?
- How have you adapted to new technologies or methodologies in the green sector during your 5-6 years of experience?

5.1.3 Leadership and influence:

- Have you observed changes in leadership responsibilities or opportunities to influence decisions within the green sector?
- How can experienced employees contribute to mentoring newcomers or younger professionals in the sector?

5.1.4 Career trajectory and goals:

- What do you consider the defining points in your career within the green sector over the last 5-6 years?
- What are your aspirations and goals for your future career path in the green sector?

5.1.5 Impact and contributions:

- Can you share a significant project or initiative you've been a part of that made a notable impact within the green sector?
- How do you measure the impact of your work on sustainability initiatives or environmental practices?

5.1.6 Challenges and learning experiences:

- What are the major challenges you've faced in your role within the green sector, and how have you overcome them?
- What valuable lessons have you learned throughout your 5-6 years in the green sector that have shaped your approach to work?

Each category is designed to elicit discussions and reflections on specific aspects of the participants' experiences within the green sector. These questions will serve as prompts for focused discussions, enabling participants to share insights, experiences, and opinions related to various facets of their careers in sustainability.

6-Conclusion and next steps

6.1 Summary of key takeaways and insights from the workshop discussions:

Throughout this workshop, we have delved into the experiences, challenges, and contributions of professionals with 5-6 years of experience in the green sector. The discussions have yielded several key takeaways and insights:

Evolution of skills: Participants highlighted the evolving skill sets necessary for success within the dynamic landscape of the green sector.

Leadership and mentorship: Observations were made regarding changes in leadership roles and opportunities for mentorship within the sector.

Career trajectories and goals: Insightful discussions revealed defining moments in careers and aspirations for future growth within the green sector.

Impact and contributions: Notable projects and initiatives were shared, demonstrating significant impacts on sustainability and environmental practices.

Challenges and learning: Valuable lessons learned from overcoming challenges have shaped individuals' approaches and resilience within their roles.

6.2 Plans for implementing the action plan and suggestions for further steps:

Moving forward, it's imperative to translate the insights gained from this workshop into actionable strategies. The action plan formulated collaboratively by participants includes:

Skill development initiatives: Implementing training programs to address evolving skill requirements within the green sector.

Mentorship programs: Establishing structured mentorship opportunities to bridge the gap between experienced professionals and newcomers.

Knowledge sharing platforms: Creating forums for sharing best practices and impactful projects to inspire innovation.

Career development support: Offering avenues for career growth and opportunities aligned with individual aspirations.

VET Education provision analysis

Introduction

This section concentrates on the meticulous analysis of VET education provision, offering a detailed exploration of its key components. The introduction provides context, highlighting the critical role of VET education in addressing skills mismatches. The identification process is then outlined, providing VET providers with a step-by-step guide. A diagrammatic representation visually captures essential elements, including industry and sector focus, degree titles, courses offered, and the skillsets developed through these programs. The subsequent graduates' analysis critically examines crucial metrics, such as the volume of graduates per degree/specification, their employment status within the green sector, and their geographical distribution. This thorough examination equips stakeholders with valuable insights to enhance the effectiveness of VET education provision and align it more closely with the demands of the green sector.

Diagrammatic Representation (industry, sector, degree titles, courses provided, skillsets developed)

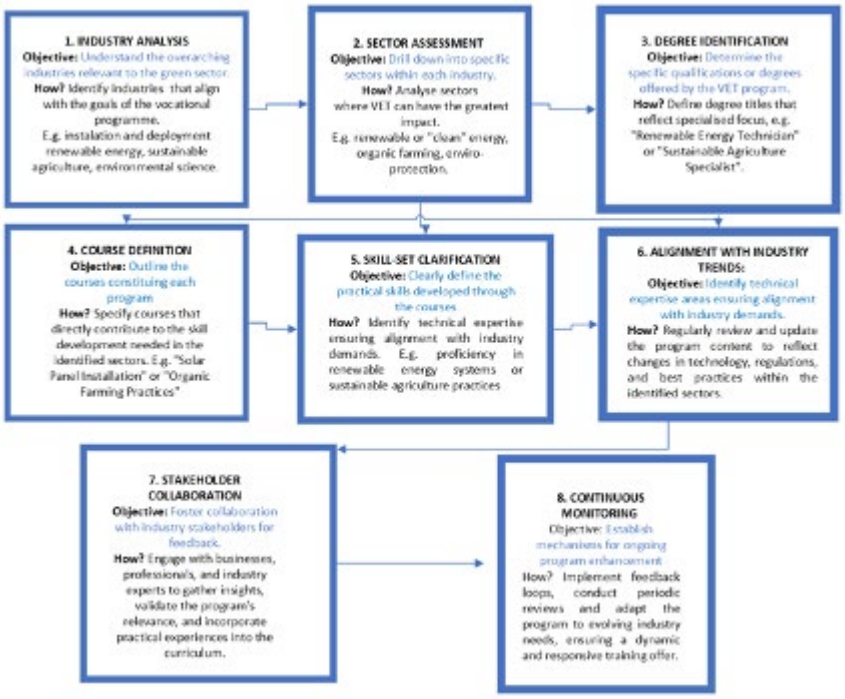
Vocational Education and Training (VET) is key to addressing the skills gap between the skills demanded by employers and those possessed by the workforce. VET achieves this by providing hands-on training tailored to specific sectors, ensuring that graduates are well equipped for the challenges of the real world. The adaptability of VET programs to address skills shortages keeps education in line with current labour market needs. By emphasizing practical application, VET equips graduates with both theoretical knowledge and effective workplace skills. Collaboration between VET institutions and industries reduces the likelihood of skills mismatches. Graduates of VET programs often enjoy greater employability due to their specialized skill sets. In addition, VET's diverse learning pathways accommodate individuals with varying levels of education, contributing to a more dynamic and adaptable workforce. In essence, VET plays a key role in equipping people with practical skills, reducing the skills gap and fostering a more efficient and aligned workforce. Labour shortage occur when the demand for workers qualified in a particular area of the labour market exceeds the supply of those workers. This can arise for a variety of interrelated reasons, such as insufficient labour supply in certain segments of the labour market or in certain geographical locations (quantitative shortages) or a discrepancy

between skills and qualifications sought by employers and those held by individuals seeking employment (Qualitative shortages)[1].

The green transition is expected to have an overall positive effect on employment, but there are considerable differences in expected impacts across sectors, regions, and skills groups. As the green and digital transitions are strongly interlinked and entail an economy-wide transformation, invests in adult learning, up-skilling and reskilling will be needed in most sectors to implement green solutions.[2]

Analysis of current employment trends, including labour and skills shortages in key sectors, is unclear as there is no agreed definition of 'green jobs'. Green Jobs refer to employment opportunities that contribute directly or indirectly to reducing the environmental impact of companies and the economy in general to sustainable levels. These jobs aim to maintain or restore the quality of the environment, whether in traditional sectors such as manufacturing and construction, or in emerging sectors such as renewable energy and energy efficiency. These job opportunities are associated with industries and activities that seek to reduce negative environmental impacts and promote sustainable practices.

The identification process of skills mismatches outlined for VET providers serves as a systematic guide to understanding and adapting to industry needs. The diagram below illustrates the flow of action from initial industry analysis to continuous improvement of the VET programme, showing the objectives and steps involved at each stage.



[1] Employment and Social Developments in Europe. Addressing labour shortages and skills gaps in the EU. Annual review 2023. Page 31

[2] Cedefop, 2021ª, Cedefop 2022c, Cedefop 2022f, Cedefop 2023ª.

Now, let´s explore the intricacies of this **skills mismatch's identification process** step-by-step:

Steps 1 & 2 Industry Analysis & Sector Assessment

- **Identify the employment trends in the labour market, in particular the sectors that contribute most to employment growth.**
- **Explore the skills needed** in the green sector you are interested in, e.g., renewable energy, organic farming, environmental protection, etc.
- **Analyse job vacancy data to identify the skills** that employers are looking for but that are difficult to find in candidates.
- **Pay close attention to occupational outlook reports**: analyse these reports to identify the projected demand for different occupations and the associated skill requirements in the green sector.
- Find data on labour supply and demand. You can **use a variety of sources**, including government agencies, research organisations and labour market databases.

Here are some key places to look for such data:

- World Bank: Open knowledge repository on diverse themes, including those on the future of work world-wide, resilience and productivity and world development.
- International Labour Organisation: Global multidisciplinary research gate on employment and social issues.
- OECD Policy Reviews of Vocational Education and Training (VET) – Learning for Jobs: Learning for Jobs is an OECD study of vocational education and training designed to help countries make their VET systems more responsive to labour market needs. It expands the evidence base, identifies a set of policy options and develops tools to appraise VET policy initiatives.
- Eurostat: The statistical office of the European Union (EU). Its mission is to provide the EU with statistics at European level that allow comparisons between countries and regions.
- Employment and Social Developments in Europe (ESDE) The annual Employment and Social Developments in Europe (ESDE) review provides an in-depth medium to long-term analysis of key employment and social issues and discusses related policy options.

- European Centre for the Development of Vocational Training Provides its users and stakeholders with Skills Intelligence, which summarises key findings from the Agency's research and analysis of skills and labour market trends. Skills intelligence brings together findings from different areas of CEDEFOP´s work and covers different aspects of the labour market, including skills, sectors or occupations.

Other resources:

- European Education Area
- European Vocational Training Association
- European Forum of and Technical Vocational Education and Training

Remember to check the national statistical offices, employment platforms and specialised sources (articles) about the topic in your country.

Examples of national data. The case of Spain:

Todo FP

Articles:

- https://www.fundacioncyd.org/el-informe-cyd-pone-de-manifiesto-el-desequilibrio-de-la-formacion-en-espana-y-la-falta-de-titulados-en-estudios-medios/
- https://fpaspasia.com/estadisticas-escolares-fp-2023-2024/

Statistics:

- https://www.educacionyfp.gob.es/servicios-al-ciudadano/estadisticas/no-universitaria/alumnado/fp/cursos/2021-2022.html
- https://www.ine.es/dynt3/inebase/es/index.htm?padre=7550&capsel=7552

Reports:

- https://www.educacionyfp.gob.es/dam/jcr:3fd4f22f-a477-479a-8e9a-b92f5e2344a6/nota-2021-2022.pdf

Steps 3, 4 and 5: Degree Identification, Courses Definition and Skills Clarification.

- Examine the curriculum and content of the VET programme thoroughly.
- Identify key areas of specialisation within the programme.
- Consult industry standards and emerging trends in the relevant field.
- Identify specific job roles or occupations that align with the programme´s focus.
- Define the focus of the VET programme based on its core components.
- Consider practical skills and knowledge that students will acquire.

- Clearly define the practical skills developed through the courses.
- Generate descriptive titles that accurately reflect the specialised focus.
- Use terms that are recognisable and align with industry terminology. E.g.: “renewable energy technician” or “sustainable agriculture specialist”.
- Choose titles that are attractive and easily understood by employers and prospective students.
- Use terms that convey the programmes relevance in the current job market.
- Ensure that the degree titles align with the potential career paths and job opportunities in the industry.
- Review the proposed degrees titles and seek feedback from industry experts, educators, and stakeholders.
- Ensure that the proposed degrees titles adhere to accreditation standards and guidelines.
- Confirm that they meet the criteria set by relevant educational authorities.

Diagrammatic representation of VET Programs.

Step 6. Alignment with industry trends:

- Regularly monitor technological and economic trends affecting the industry as they are constantly evolving due to technological breakthroughs and economic transformation.
- Staying informed about these changes is essential to understand the evolving landscape.
- Incorporate emerging technologies and economic changes into vocational programmes to ensure that graduates are well prepared for the changing landscape.

- Regularly review industry publications, reports and news sources.
- Attend conferences, webinars and workshops related to the targeted sectors.
- Foster partnerships with industry associations and experts to gain first-hand insight.

Incorporating Emerging Technologies:

- Integration of cutting-edge technologies ensures that graduates possess relevant and in-demand skills.
- Technological proficiency enhances graduate´s employability and adaptability in the workplace.
- Integrate hands-on, practical training in these technologies into the curriculum.

Step 7. Stakeholders Collaboration: Enhancing VET Programmes effectiveness.

Employer surveys: Skills needs assessment.

- Conduct surveys or interviews with employers to understand the skills they need in their workforce.
- Tailor assessments to capture industry specific needs and emerging skills demands.
- Establish structured mechanisms for employers to provide feedback on the skills of the VET graduates.
- Create user-friendly platforms or surveys to encourage regular and detailed input.

Collaboration with educational institutions.

- Facilitate regular communication channels between VET providers and employers to ensure alignment with industry needs.
- Foster partnerships that promote an ongoing exchange of information and insights.

Communication with VET providers:

- Develop and maintain effective channels for communication between VET providers and employers.

Conduct regular forums, workshops, or virtual meetings to foster a collaborative dialogue.

- Implement structures internship and apprenticeship programs that offer students practical exposure to real-world work environment.

- Design programmes in collaboration with employers to ensure relevance and alignment with industry sectors.

Graduate Tracking:

- Conduct surveys or interviews with VET graduates to determine the relevance of the skills they acquired during their training to their current job roles.
- Use feedback to refine and enhance VET programmes.
- Establish alumni networks to facilitate ongoing communication and feedback loops.
- Leverage alumni experiences to inform programme improvements and stay connected with industry developments.

Skills assessments:

- use competency assessments to evaluate the proficiency level of VET graduates in skills relevant to their chosen field.
- Conduct gap analysis to identify areas for improvement and align curriculum to accordingly.

Industry Advisory Committees:

- Form industry advisory committees comprising representatives to provide guidance on workforce skills.
- Ensure diverse representations with industry advisory committees to stay informed about evolving trends and changing skills requirements.
- Seek input on curriculum updates and programme enhancements.

Government reports and initiatives

National Skills Assessments:

- Refer to government reports and initiatives that assess the overall skills landscape and identify any mismatches.
- Use government insights to align VET programmes with national skills development priorities.
- Analyse national education and workforce development policies to gain insight into skills gaps and strategic directions.
- Align VET programmes objectives with overarching national/European policies.

By implementing these strategies, you can create a robust framework for stakeholder collaboration to ensure that VET programmes remain responsive to industry needs and produce highly skilled graduates.

References:

https://www.cedefop.europa.eu/en/tools/vet-in-europe/systems/spain-u2

https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/638431/IPOL_BRI(2019)638431_EN.pdf

https://op.europa.eu/webpub/empl/VET-skills-for-today-and-future/en/

https://www.ncver.edu.au/__data/assets/file/0008/10610/factors-influencing-demand-for-vet-courses-610.pdf

Graduates Consultation workshops

Guidelines Workshop 1

Workshop 1 – Graduates of 1-2 years after graduation

Introduction

This segment delves into the Consultation Workshop 1, focusing on graduates with 1-2 years of experience after completing their education. The introduction sets the stage, emphasizing the importance of gathering insights from this specific cohort. Guidelines for identification offer a systematic approach, detailing the key aspects to consider, such as profiles, degrees, and employment status, particularly within the green sector. Workshop questions are provided to facilitate meaningful discussions, guiding participants in exploring pertinent topics. Further guidelines for discussion and facilitation ensure the workshop's effectiveness, providing a structured framework for engaging participants. The summary of outcomes encapsulates what stakeholders should observe, analyze, and conclude from the workshop, serving as a valuable resource for refining educational strategies and improving graduates' alignment with the demands of the green sector.

Guidelines for Identification (profiles, degrees, status of employment green or not)

The guidelines for identification must be intricately tailored to ensure the assembly of a diverse and representative group of VET participants, thereby providing rich and valuable perspectives essential for diagnosing business needs in the green sector.

Seek graduates from various disciplines within the green sector (technical fields, environmental sciences, sustainable development, and related), while embracing diversity by actively encouraging participation from graduates in disciplines recognized as potentially contributive to the evolving green sector.

Focus on certifications or diplomas that participants have acquired: include those with basic diplomas, advanced certifications, and varying educational backgrounds to enrich the workshop with diverse perspectives. Engage graduates with certifications in specific green technologies or sustainable practices and encourage participation of those with certifications that may not traditionally fall under the green sector but exhibit potential for contribution.

In identifying participants, it's crucial to understand their current employment status and its alignment with their VET training. Seek graduates currently employed in roles directly related to their VET training within recognized green sectors. Include individuals whose roles may not be exclusively in the green sector but intersect with it. Include unemployed graduates or individuals who have never had the opportunity to join labor market upon graduation.

Workshop questions for discussion

Potential questions should be related to VET training alignment, skills application, career motivations and identification of gaps between education and labor market needs:

- How do you perceive the alignment of your VET training with your current role in the green sector? Are there specific skills from your VET education that you find particularly valuable in your current position?
- Do you perceive any gaps between the skills acquired during your VET training and the demands of the green sector job market? If yes, what specific skills do you believe are lacking? Was it easy to find a job in accordance to your background?
- For those in roles not exclusively in the green sector, how do you see the intersection of your VET skills with your current responsibilities? Whiich specific skills?

What could enhance the effectiveness of this workshop? Guidelines for discussion and facilitation

Create a facilitative environment, emphasizing diverse viewpoints. Encourage cross-disciplinary discussions, delicately navigating skills gaps, and summarizing key insights at the end of each discussion. Clearly communicate the objectives of each discussion topic to participants. Highlight the relevance of their insights in diagnosing business needs within the green sector. Guide discussions on participants' expectations for the future development of the green sector. Facilitate conversations on how VET can evolve to meet emerging needs and shape the sector's growth.

At the end of each discussion, summarize key insights and takeaways. Clarify any action items or follow-up activities and set the stage for the next topic. Stimulate participants to consider how the insights gained from discussions can inform actionable strategies. Encourage them to think about ways to apply these insights in their roles and the broader green sector.

Summary of Outcomes (what to look out for, how to make an analysis and conclusions)

Key outcomes to observe, analyse, and draw conclusions from are:

- Assess the alignment of employment with VET training;
- Examine participants' perceptions and identify gaps;
- Evaluate valuable skills and potential mismatches;
- Analyze contributions from diverse VET backgrounds;
- Assess the adaptability of skills across sectors;
- Investigate motivations for diverse career choices and skills that contribute to it;
- Assess the depth of analysis and self-awareness during discussions.

Consultation Workshop 1 outcomes form a foundation for refining education and addressing green sector demands. Analysis contributes to evolving vocational programs, ensuring relevance in a changing landscape.

Guidelines Workshop 2

Workshop 2 – Graduates of 3-4 years after graduation

Introduction

In this section, we delve into Consultation Workshop 2, dedicated to graduates with 3-4 years of experience post-graduation. The introduction sets the context, underscoring the significance of insights from this specific group. Guidelines for identification provide a structured approach, outlining key elements like profiles, degrees, and employment status, particularly within the green sector. Workshop questions are strategically crafted to prompt thoughtful discussions, guiding participants through relevant topics. Additional guidelines for discussion and facilitation ensure the workshop's efficacy, offering a clear framework for engaging participants. The summary of outcomes serves as a comprehensive guide, highlighting what stakeholders should observe, analyze, and conclude from the workshop. This resource proves invaluable for refining educational strategies and enhancing graduates' alignment with the dynamic requirements of the green sector.

Guidelines for Identification (profiles, degrees, status of employment green or not)

The guidelines for identification must be intricately tailored to ensure the assembly of a diverse and representative group of VET participants, thereby providing rich and valuable perspectives essential for diagnosing business needs in the green sector.

Seek graduates from various disciplines within the green sector (technical fields, environmental sciences, sustainable development, and related), while embracing diversity by actively encouraging participation from graduates in disciplines recognized as potentially contributive to the evolving green sector.

Focus on certifications or diplomas that participants have acquired: include those with basic diplomas, advanced certifications, and varying educational backgrounds to enrich the workshop with diverse perspectives. Engage graduates with certifications in specific green

technologies or sustainable practices and encourage participation of those with certifications that may not traditionally fall under the green sector but exhibit potential for contribution.

In identifying participants, it's crucial to understand their current employment status and its alignment with their VET training. Seek graduates currently employed in roles directly related to their VET training within recognized green sectors. Include individuals whose roles may not be exclusively in the green sector but intersect with it. Include unemployed graduates or individuals who have never had the opportunity to join labor market upon graduation.

Workshop questions for discussion

Potential questions should be related to VET training alignment, skills application, career development and identification of gaps between education and labor market needs:

- Reflect on your professional journey since graduating. How have you applied the skills acquired during your VET training in your current role? Share specific examples where your VET education has played a crucial role in your career growth.
- What challenges have you faced in the transition from graduation to a career?
- Are there specific skills or knowledge areas you feel are essential for overcoming mid-career challenges in the green sector?
- As you gain more experience, how do you balance specialization in your field with the need for adaptability in the dynamic green sector? Discuss instances where you've had to adapt or expand your skill set to meet the evolving demands of your role. How do you stay updated on industry trends and technological advancements within the green sector? Share insights on the importance of continuous learning and adaptation to stay relevant in your field.

Guidelines for discussion and facilitation

Create a facilitative environment, emphasizing diverse viewpoints. Encourage cross-disciplinary discussions, delicately navigating skills gaps, and summarizing key insights at the end of each discussion. Clearly communicate the objectives of each discussion topic to participants. Highlight the relevance of their insights in diagnosing business needs within the green sector. Guide discussions on participants' expectations for the future development of the green sector. Facilitate conversations on how VET can evolve to meet emerging needs and shape the sector's growth.

Summary of Outcomes (what to look out for, how to make an analysis and conclusions)

Key outcomes to observe, analyse, and draw conclusions from are:

- Assess the alignment of employment with VET training;

- Assessing participants' professional growth and skill application;
- Identifying mid-career challenges and strategies for overcoming them;
- Exploring the balance between specialization and adaptability; Examining awareness of industry trends and technological advancements.

Guidelines Workshop 3

Workshop 3 - Graduates of 5-6 years after graduation

Introduction

In this section, we focus on Consultation Workshop 3, targeting graduates with 5-6 years of experience post-graduation. The introduction contextualizes the workshop, emphasizing the unique perspectives offered by this specific cohort. Guidelines for identification present a systematic approach, detailing essential factors such as profiles, degrees, and employment status, especially within the green sector. Thoughtfully crafted workshop questions drive meaningful discussions, guiding participants through relevant themes. Additional guidelines for discussion and facilitation ensure the workshop's effectiveness, providing a structured framework for engaging participants. The summary of outcomes serves as a comprehensive resource, outlining key observations, analytical considerations, and conclusive insights. This guide proves instrumental in refining educational strategies and aligning graduates' skills with the evolving demands of the green sector.

Guidelines for Identification (profiles, degrees, status of employment green or not)

The guidelines for identification must be intricately tailored to ensure the assembly of a diverse and representative group of VET participants, thereby providing rich and valuable perspectives essential for diagnosing business needs in the green sector.

Seek graduates from various disciplines within the green sector (technical fields, environmental sciences, sustainable development, and related), while embracing diversity by actively encouraging participation from graduates in disciplines recognized as potentially contributive to the evolving green sector.

Focus on certifications or diplomas that participants have acquired: include those with basic diplomas, advanced certifications, and varying educational backgrounds to enrich the workshop with diverse perspectives. Engage graduates with certifications in specific green technologies or sustainable practices and encourage participation of those with certifications that may not traditionally fall under the green sector but exhibit potential for contribution.

In identifying participants, it's crucial to understand their current employment status and its alignment with their VET training. Seek graduates currently employed in roles directly related to their VET training within recognized green sectors. Include individuals whose roles may not

be exclusively in the green sector but intersect with it. Include unemployed graduates or individuals who have never had the opportunity to join labor market upon graduation.

Workshop questions for discussion

Potential questions should be related to VET training alignment, skills application, career development and identification of gaps between education and labor market needs:

- Assess the alignment of employment with VET training; Reflect on your career journey since graduation. How has your perception of your career goals evolved, and what milestones have you achieved? Share insights into the long-term impact of your VET training on your career progression.
- If applicable, discuss any leadership roles you have taken on and the skills required for effective leadership in the green sector. Reflect on your experiences as a mentor or mentee and how mentorship has contributed to your professional development.
- How have you navigated changes within the green sector over the past few years? Share examples of how you've adapted to industry shifts and emerging trends. Discuss the role of continuous learning in staying relevant and competitive in your field.
- Assess your overall career satisfaction. What aspects do you find most fulfilling, and are there areas you still aspire to explore or achieve in the green sector?

Guidelines for discussion and facilitation

Continue fostering a facilitative environment that encourages open discussion. Acknowledge the wealth of experience in the room and create opportunities for knowledge sharing. Facilitate discussions on the long-term trajectory of the green sector and participants' roles in shaping its future.

Summary of Outcomes (what to look out for, how to make an analysis and conclusions)

Key outcomes to observe, analyse, and draw conclusions from are:

- Assess the alignment of employment with VET training;
- Assessing long-term career reflections and achievements;
- Exploring leadership and mentorship experiences;
- Analyzing adaptability to industry changes and the role of continuous learning;
- Evaluating contributions to sustainability and environmental goals;
- Understanding career satisfaction and future aspirations;

Analysis of Workshop 3 outcomes contributes to refining educational strategies, addressing long-term career needs, and ensuring the continued alignment of vocational programs with the evolving demands of the green sector for graduates with 5-6 years of experience.

A comparative Analysis

Comparative Analysis Guidelines

Guidelines on how to make the comparative analysis (how to draw conclusions, how to identify the skills mismatches specifically related to the specific VET institution)

Introduction

In this section, we delve into the critical aspect of drawing conclusions through the Comparative Analysis Guidelines. The introduction provides context, emphasizing the significance of comparative analysis in evaluating skills mismatches related to specific VET institutions. Detailed guidelines furnish a comprehensive roadmap, offering insights into the methodology for drawing conclusions. The emphasis is on precision, ensuring a thorough examination of skills mismatches at various levels, including sectors, courses, and individual lessons. The guidelines extend to diagrammatic representation, aiding in visually capturing and communicating the identified skills mismatches. This section serves as an indispensable tool for VET institutions, empowering them to conduct nuanced analyses and make informed decisions for effective program adjustments in response to the evolving demands of the green sector.

Guidelines

1. **Contextual Understanding:**

   - Begin by establishing a clear understanding of the specific VET institution and its context within the green sector.
   - Identify the key sectors, courses, and individual lessons that are the focus of the analysis.

2. **Methodology for Comparative Analysis:**

   - Define a robust methodology that involves systematic data collection and analysis.
   - Utilize both quantitative and qualitative data to capture a holistic view of skill mismatches.
   - Consider factors such as industry trends, emerging technologies, and the evolving nature of green sector jobs.
   - Data Integration:

     Combine VET education provision and graduates' workshop data:

- Integrate data from the detailed VET Education Provision Analysis, which includes industry focus, degree titles, courses, and skillsets.
- Combine insights gathered from Graduate Consultation Workshops, spanning 1-2 years, 3-4 years, and 5-6 years post-graduation.

3. **Comparative Framework:**

- **Establish Key Comparative Metrics:**
  - Define metrics for comparison, including degree titles, courses, skills emphasized, and employment outcomes.
  - Develop a structured framework to assess the alignment of VET education provision with the needs expressed by graduates.

4. **Skills Mismatch Identification:**

- **Analyze Graduates' Perceptions:**

  - Explore workshop data for graduates' perceptions regarding the alignment of VET training with current roles and identified gaps in skills.
  - Utilize employment and social development data to understand broader trends and gaps in the green sector job market.

5. **Comparative Analysis Process:**

- **Cross-Examine Industry Analysis and Graduates' Perspectives:**

  - Compare industry analysis findings with graduates' perspectives to identify disparities.
  - Examine if the skills emphasized in VET programs align with the skills graduates find valuable in their current green sector roles.

6. **Visual Representation:**

- **Diagrammatic Illustration:**

  - Develop a visual representation (diagram or flowchart) to showcase identified skill mismatches.
  - Clearly depict the connections between VET program components, industry needs, and graduates' perspectives.

7. **Comparative Analysis Output:**

- **Conclusion Drawing:**

  - Draw conclusions on the effectiveness of VET programs in meeting green sector demands.
  - Highlight areas of alignment and areas with identified skill mismatches.

8. **Stakeholder Involvement:**

- **Engage stakeholders in the analysis:**
    - Facilitate collaboration between VET institutions, industry experts, and graduates.
    - Ensure diverse perspectives and incorporate feedback from all stakeholders for a comprehensive analysis.

9. **Continuous Improvement:**

- **Establish a feedback loop.**
    - Implement a continuous improvement mechanism.
    - Regularly revisit the comparative analysis to include new data, industry trends, and graduates' feedback.

10. **Diagrammatic Representation:**

- **Visual Communication:**
    - Develop a visual representation that aids in communicating identified skill mismatches.
    - Consider using dynamic diagrams or infographics for clarity and accessibility.

Guidelines on the diagrammatic representation of the skills mismatches (per sector, per course, per lesson)

Introduction

Effective diagrammatic representation of skill mismatches is crucial for conveying complex information in a visually accessible manner. The following guidelines aim to facilitate clear and meaningful graphical depictions of skills mismatches at various levels—per sector, per course, and per lesson—within Vocational Education and Training (VET) institutions.

Guidelines

1. Sector-Level Skills Mismatch Diagrams:

Objective: Provide an overview of skill mismatches across key sectors within the green industry.

Guidelines:

- Utilize pie charts or bar graphs to represent the percentage distribution of skill mismatches in each sector.

- Clearly label each sector and use distinctive colors for easy identification.
- Include annotations to highlight key findings and trends.
- Consider a layered approach, with the outer layer representing overall sector mismatches and the inner layers breaking down specific skill categories.

2. Course-Level Skills Mismatch Diagrams:

Objective: Illustrate skills mismatches within individual courses offered by the VET institution.

Guidelines:

- Choose horizontal or vertical bar charts to compare skill mismatches across different courses.
- Label each course and use contrasting colors for visual clarity.
- Employ stacked bar charts to represent different skill categories within each course.
- Include legends and captions to explain the significance of colors and categories.
- Use trend lines or arrows to indicate changes in skill mismatches over time.

3. Lesson-Level Skills Mismatch Diagrams:

Objective: Break down skills mismatches to the granularity of individual lessons within a course.

Guidelines:

- To take decision for interactive line charts or scatter plots to visualize skill mismatches per lesson.
- Assign unique symbols or markers for each lesson for easy differentiation.
- Include tooltips or labels on data points to provide specific information about each lesson.
- Use a color gradient to represent the intensity of skill mismatches.
- Consider overlaying trend lines or regression curves to identify patterns across multiple lessons.

4. Consistent Design Principles:

Guidelines:

- Maintain consistency in color schemes, fonts, and labels across all diagrams for a cohesive visual identity.
- Ensure that diagrams are appropriately scaled and proportioned for accurate interpretation.
- Incorporate the VET institution's branding elements for recognition.
- Aim for a clean and uncluttered layout to enhance visual appeal and comprehension.

5. Accessibility and Interactivity:

Guidelines:

- Ensure that diagrams are accessible to diverse audiences, including those with color vision deficiencies.
- Provide digital versions of diagrams with interactive features for a dynamic user experience.
- Include a key or legend that explains symbols, colors, and any interactive elements.

6. Narrative Integration:

Guidelines:

- Accompany diagrams with a concise narrative that explains the context, methodology, and key insights.
- Use annotations within the diagrams to highlight specific observations or recommendations.
- Integrate diagrams seamlessly into reports or presentations for a comprehensive analytical narrative.

Conclusion

As the global landscape evolves with an increasing emphasis on sustainability, the demand for a skilled workforce in the green sector intensifies. This conclusion synthesizes insights from VET Education Provision Analysis, Graduates Consultation Workshops, and Comparative Analysis Guidelines, providing a comprehensive understanding of how Vocational Education and Training (VET) institutions can effectively address skills mismatches. The meticulous analysis of VET education provision reveals a robust foundation that significantly contributes to minimizing skills mismatches within the green sector. The VET system's adaptability is a key highlight, fostering an environment where educational offerings align dynamically with industry needs. The practical focus embedded in VET programs ensures that graduates acquire hands-on experience, a critical aspect of meeting the demands of the green sector.

The collaboration between VET institutions and industry stakeholders emerges as a pivotal factor. This collaborative approach allows for real-time adjustments, ensuring that the education provided remains current and responsive to the evolving requirements of green sector jobs. The continuous improvement mechanisms embedded in VET institutions contribute to the ongoing refinement of programs, demonstrating a commitment to staying ahead of industry trends.

In conclusion, the VET Education Provision Analysis underscores the effectiveness of VET institutions in providing a tailored education that minimizes skills mismatches, laying a solid foundation for a workforce ready to tackle the challenges of the green sector.

The Graduates Consultation Workshops provide invaluable insights into the perceptions, motivations, and long-term reflections of graduates, forming a crucial bridge between education and the workforce. The segmentation of workshops based on post-graduation years offers a nuanced understanding of how VET education aligns with career progression over time.

The tailored questions posed during these workshops elicit responses that not only highlight the successes but also shed light on the challenges faced by graduates. The workshops reveal the intricate intersection of VET skills with real-world scenarios, providing clarity on the gaps that may exist between educational experiences and workplace demands.

These insights, obtained directly from the experiences of graduates, serve as a compass for refining educational strategies. The emphasis on continuous learning and adaptability, echoed by workshop participants, emphasizes the importance of instilling a mindset of lifelong learning within the educational framework. The engagement of diverse perspectives, including those of employed, unemployed, and never-employed graduates, enriches the understanding of the varied career trajectories within the green sector.

In conclusion, the Graduates Consultation Workshops act as a compass for VET institutions, guiding them toward program adjustments that are not only timely but also aligned with the evolving needs of graduates in the green sector.

The Comparative Analysis Guidelines serve as a strategic tool for VET institutions to delve deeper into the dynamics of skills mismatches. By combining insights from both VET Education

Provision Analysis and Graduates Consultation Workshops, a holistic dataset is created, offering a nuanced perspective on skills misalignments at various levels.

The guidelines outline a structured methodology that emphasizes contextual understanding, diverse data integration, and stakeholder involvement. The comparative framework established through these guidelines allows for a precise examination of skills mismatches at the sector, course, and lesson levels. The importance of engaging stakeholders, including industry experts and graduates, ensures that the analysis is comprehensive and reflective of real-world needs.

The visual representation of skills mismatches, as suggested by the guidelines, adds a layer of accessibility to the complex data. By employing diagrams and charts, the analysis becomes more digestible, aiding in the effective communication of identified skill gaps. The emphasis on consistent design principles, accessibility, and interactivity ensures that the comparative analysis remains a living document, responsive to ongoing changes in industry trends and educational approaches.

In conclusion, the Comparative Analysis Guidelines empower VET institutions to navigate the intricate landscape of skills mismatches, providing a roadmap for informed decisions and effective program adjustments. The continuous improvement mechanisms integrated into the guidelines underscore the iterative nature of this process, highlighting the need for perpetual vigilance and adaptation in the pursuit of aligning VET education with the evolving demands of the green sector.

AGDUPT

ADdressing skills mismatching in the green sector through Digital Upskilling of VeT

Coordinator
CENTRO SUPERIOR DE FORMACION EUROPA-SUR SA
Spain

Albanian Center for Education Care and Training (ACT CENTER)
Albania

Centar za ekonomski, tehnoloski i okolinski razvoj - CETEOR Sarajevo
Bosnia and Herzegovina

ZELENI DOM-GREEN HOME UDRUZENJE
Montenegro

EUROTRAINING EDUCATIONAL ORGANIZATION
Greece

CESIE
Italy

CHAMBER OF COMMERCE & INDUSTRY TIRANA
Albania

Chamber of Commerce and Industry of Banja Luka Region
Bosnia and Herzegovina

CSI CENTER FOR SOCIAL INNOVATION LTD
Cyprus

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Grant Agreement No 101092398