esg⁴PMChange

The ESG Imperative for the Project Management World:
Alliance for Developing and Empowering Changemakers

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Deliverable 2.1
State-of-the-Art report on ESG project management in Europe

WP 2 - Market scanning and professional profile formulation

WP 2.1

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TABLE WITH ACRONYMS

Acronym	Full Form
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive
DEI	Diversity, Equity, and Inclusion
ESG	Environmental, Social, and Governance
ESG PM	ESG Project Management
HEIs	Higher Education Institutions
MOOCs	Massive Open Online Courses
OERs	Open Educational Resources
OHS	Occupational Health and Safety
SASB	Sustainability Accounting Standards Board
SDGs	Sustainable Development Goals
SFDR	Sustainable Finance Disclosure Regulation
SIA	Social Impact Assessment
SPM	Sustainable Project Management
VETs	Vocational Education and Training Providers

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EXECUTIVE SUMMARY

The **ESG4PMChange** project addresses the urgent need to integrate Environmental, Social, and Governance (ESG) principles into project management (PM) education and professional practice. It responds to European policy developments such as the European Green Deal and the Corporate Sustainability Reporting Directive (CSRD), as well as growing labor market demand for project managers equipped with sustainability competencies.

The primary goal is to develop a standardized ESG Project Management (ESG PM) competency framework and establish an educational ecosystem that aligns with the skills required in today's sustainability-driven job market. This report, titled "State-of-the-Art Report on ESG Project Management in Europe," presents the first key deliverable of the project and lays the foundation for all subsequent outputs.

Objectives – Understand the current landscape of ESG in project management.

Through **desk research**, the report maps ESG and Sustainable Project Management (SPM) concepts, highlighting overlaps, distinctions, and relevant European and global policy frameworks. It analyzes how ESG is being integrated across sectors and identifies barriers and opportunities for adoption.

1. **Identify labor market needs and trends**.
   The **job advertisement analysis** examines 191 job postings across 26 countries to determine which ESG and sustainability competencies are most in demand. It uncovers sector-specific trends and required technical and soft skills.
2. **Assess skill gaps and training demands**
   The **online survey of professionals** offers insight into current ESG PM capabilities, challenges, and future expectations. It confirms a mismatch between market needs and available training, particularly in sector-specific applications of ESG principles.
3. **Gather stakeholder perspectives to guide curriculum design**
   Focus groups with HEIs, VET providers, and industry representatives provide qualitative validation of findings, emphasizing the need for practical, interdisciplinary training and institutional support for ESG integration.

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Methodology

The report is structured around four core research components:

- **Desk Research** on ESG, sustainability policies, project management frameworks, and educational standards in Europe.
- **Job Advertisement Analysis** using a systematic review of job platforms to quantify ESG skill demand across roles and industries.
- **Online Survey** targeting project professionals to capture ESG competency levels, training gaps, and anticipated skill evolution.
- **Focus Groups** to contextualize findings and identify best practices and systemic challenges in educational and business environments.

Tools and Forthcoming Deliverables (based on findings)

- A **Competency Framework** aligned with frameworks like GPM P5 and ESCO to define core ESG PM skills.
- A **Learning Framework and Living Labs**, combining theory and practice for students and professionals.
- A **Digital Hub** of MOOCs and Open Educational Resources (OERs) to scale access to ESG PM education.
- A **Micro-Credential System** to recognize acquired ESG competencies in a modular and flexible format.

Anticipated Impact

The report's findings directly inform the design of training programs and tools that:

- Address **critical skill gaps** in ESG project management across key sectors such as energy, finance, construction, and public administration.
- Support **curriculum development** in HEIs and VETs with practical, interdisciplinary ESG content.
- Enable **professionals and learners** to gain recognition for ESG competencies through micro-credentials.
- Influence **policy and institutional practice** by demonstrating how ESG competencies contribute to sustainable growth, regulatory compliance, and social responsibility.

The report establishes the knowledge base and justification for the ESG4PMChange project's future actions, ensuring that project managers are empowered as sustainability leaders in a transforming European landscape.

INTRODUCTION

The ESG4PMChange project represents a pioneering initiative to integrate Environmental, Social, and Governance (ESG) principles into project management education and training. This innovative effort brings together 14 Consortium partners across Europe, including:

- **Higher Education Institutions (HEIs): 5 institutions contributing expertise in education, research, and project management methodologies.**
- **Vocational Education and Training Providers (VETs): 3 organizations specializing in skill development and certification.**
- **Professional Association: The PM² Alliance, a leader in project management standards and practices.**
- **Enterprises: 5 business actors, including one social enterprise, offering industry perspectives and practical insi**ghts.

The project addresses the increasing need for ESG-focused project management skills, ensuring that professionals are equipped to lead projects that are environmentally sustainable, socially responsible, and economically viable. The initiative leverages the collective expertise of its partners to foster innovation, bridge knowledge gaps, and develop sustainable business practices across Europe and beyond.

Core Components of the Project:

1. Standardized Competency Framework: At its heart, ESG4PMChange develops a competency framework that aligns educational offerings with the job market's demand for ESG-focused project management skills. The framework ensures that professionals can integrate ESG principles into their work effectively, creating a standardized foundation for future ESG project management roles.
2. Innovative Learning Framework and Living Labs: The project introduces the ESG4PMChange learning framework, which integrates both theoretical knowledge and practical application through Living Labs. These labs provide real-world project settings where learners—students and professionals—can apply ESG principles, bridging the gap between education and industry needs.
3. Digital Resource Hub and MOOCs: To enhance accessibility and scalability, ESG4PMChange establishes a digital resource hub, incorporating Massive Open Online Courses (MOOCs) and Open Educational Resources (OERs). These resources provide high-quality, flexible learning opportunities for ESG project management.
4. Micro-Credential Framework: A pioneering micro-credential framework is developed to formally recognize ESG project management competencies. This

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framework aligns with educational and industry standards, ensuring a structured pathway for professional recognition and development in the field.

5. Targeted Stakeholder Engagement: The project engages stakeholders at multiple levels:
   Individual Level: Students, educators, and project management professionals.
   Institutional and Systemic Levels: HEIs, VET providers, businesses, and policymakers.

This multi-level engagement fosters a cohesive and sustainable approach to capacity building, ensuring the project's impact extends across sectors and regions.

The report "State-of-the-Art report on ESG project management in Europe" includes the results of the research planned and described in "Research Protocol for State-of-the-Art report on ESG project management in Europe". The results have been divided into following parts:

1. DESK RESEARCH

The research have taken into account the following areas of interest:

- ES**G in general in Europe**
- **Sustainability in general in Europe**
- **ESG and Sustainable PM in Europe**
- **Compete**ncies within Sustainable PM and ESG

The objective was to conduct a comprehensive analysis of Sustainability and ESG as concepts, and their integration into Project Management. The analysis was focused on both demand-side trends (job market needs) and supply-side factors (educational programs and certifications), providing insights into competencies required for Sustainable Project Management (SPM) and ESG Project Management (ESG PM).

2. JOB ADVERTISEMENT ANALYSIS

The objective of this part was to identify the required competencies and skills for Sustainable Project Management (SPM) and ESG Project Management (ESG PM) roles across industries. The analysis has been focused on differences in skill demand by sector, project lifecycle phases, and management levels, while providing actionable insights into market demands.

3. ONLINE SURVEY WITH INDUSTRY PROFESSIONALS

The objective was to collect industry insights into SPM and ESG PM skill requirements, gaps, and aligning findings with the desk research and job ad findings pinpointing additional ESG and SPM competency needs and educational gaps.

4. FOCUS GROUPS

This component was devoted to collecting insights from Higher Education Institutions (HEIs), VETs, and industry experts on SPM and ESG PM skill requirements, gaps, and their role in advancing project management as a discipline.

1. DESK RESEARCH

1.1 Introduction

The integration of Environmental, Social, and Governance (ESG) principles into project management is transforming the way organizations operate and deliver value. As industries face increasing pressures from stakeholders, regulators, and market demands, ESG principles have become a cornerstone of sustainable business practices. In Europe, policies like the European Green Deal and global frameworks such as the United Nations Sustainable Development Goals (SDGs) are driving the adoption of ESG-aligned practices, making it essential for organizations to integrate these principles into their project management frameworks.

This chapter examines the interplay between ESG and project management, exploring how project managers leverage established standards and innovative approaches to ensure sustainability across project lifecycles. Frameworks like the GPM P5 Standard and Sustainability Competence Standards provide structured methodologies for embedding ESG into project planning, execution, and evaluation. These frameworks emphasize key dimensions such as environmental impact reduction, social equity, and transparent governance practices, offering a pathway for projects to achieve measurable ESG outcomes.

Additionally, the chapter highlights challenges faced by industries in implementing ESG principles, including financial constraints, regulatory complexities, and organizational resistance to change. However, it also explores opportunities for innovation, such as the use of artificial intelligence, blockchain technology, and renewable energy solutions to drive ESG performance. By aligning project objectives with ESG goals, organizations not only ensure regulatory compliance but also build resilience, enhance stakeholder trust, and create long-term value.

This analysis aims to profile project managers who navigate the evolving landscape of ESG in project management. From exploring industry-specific applications to addressing the need for measurable metrics and competency development, the chapter underscores the critical role of project management in achieving sustainability at scale and points the most important characteristics of ESG-focused project manager.

1.2 Sustainability as a Broader Concept

The integration of sustainability into policies and practices not only addresses climate change but also fosters innovation, resilience, and equitable growth. Sustainability trends and practices across Europe are increasingly shaped by comprehensive frameworks such as the European Green Deal, the United Nations Sustainable Development Goals – SDGs, and

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strategic initiatives from regional and institutional actors (European Commission, 2023; UNEP, 2022).

These frameworks establish a strategic overview that aligns industrial practices with societal goals, emphasizing the need for a transition to a low-carbon economy and sustainable resource management. The European Green Deal, in particular, aims to make Europe the first climate-neutral continent by 2050, necessitating significant changes in various sectors, including energy, transportation, and agriculture (D'Adamo & Gastaldi, 2022). This alignment of policies with sustainability objectives not only drives innovation but also fosters a competitive edge among industries that adopt sustainable practices (Milios, 2021). The interplay between these frameworks not only influences industrial practices but also aligns with broader societal goals, fostering a transition towards sustainability that is both inclusive and equitable (Chamusca, 2023; Perevoznic, 2024).

The Foundations of Sustainability

Sustainability has emerged as a central paradigm in global development, encompassing environmental, economic, and social dimensions. The concept of sustainability was first defined in 1987 by the Brundtland Commission through the sustainable development definition: "a development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Our Common Future report).

Sustainability as a broader concept is viewed as a comprehensive process of exploration, learning and experience. Therefore, the concept is considered not only from the point of view of "what" (what sustainable development is?), but also "how" - by means of which organizational principles applied to learning processes in society, sustainable development can be achieved. Sustainable development is also interpreted as a "regulatory idea" that requires appropriate institutions to become effective in various areas of society.

In the literature two main characteristics of sustainability are defined (Abrahammson, 1997):

1. Sustainable development as ***a people-centered approach*** that aims to improve the quality of human life. It is based on the protection of nature, as nature has the capacity to provide life-sustaining resources and services. In this perspective, sustainable development means improving the quality of human life while living within the limits of ecosystems' capacity to sustain life.
2. Sustainable development as ***a normative concept***, that defines standards of judgement and behavior that must be respected as the society seeks to satisfy its needs of survival and well-being".

The concept of sustainability postulates that it is possible to ensure the long-term stability of the economy and environment through integration of economic, environmental and social concerns in the decision making process. It is a dynamic and adaptive concept that evolves with changing global contexts, technological advancements, and emerging societal needs. This makes sustainability a concept that can be applied, and tailored, to many sectors and adaptable to various cultural and economic contexts.

Europe's Sustainability Strategy and Global Leadership - Policies and Regulatory Frameworks

Europe has positioned itself as a global leader in sustainability, guided by frameworks such as the European Green Deal (European Commission, 2019). This ambitious plan aims to make

Europe the first climate-neutral continent by 2050, with intermediate goals like reducing greenhouse gas emissions by 55% by 2030 compared to 1990 levels. The European Green Deal outlines a comprehensive roadmap that integrates clean energy, sustainable agriculture, biodiversity preservation, and circular economy principles.

The UN SDGs also serve as a foundational reference for European sustainability strategies (UN, 2015). Member states align their national policies with these global goals, focusing on areas such as poverty eradication, quality education, gender equality, and responsible consumption and production. The interplay between the European Green Deal and the SDGs creates a cohesive framework that guides sustainability efforts across multiple scales. Strategic sustainability policies in Europe are designed to integrate environmental considerations into economic planning and decision-making. The European Commission has emphasized the importance of a circular economy, which aims to minimize waste and promote the reuse of resources. This approach is reflected in various policy instruments, including the Circular Economy Action Plan, which encourages industries to adopt sustainable practices that reduce their environmental footprint (Chamusca, 2023; Pianta & Lucchese, 2020).

Furthermore, sustainability policies in Europe are deeply intertwined with societal goals. Addressing climate change and environmental degradation enhances public health, reduces economic inequalities, and promotes social cohesion (UNEP, 2022). Initiatives like the Just Transition Mechanism aim to ensure that no region or community is left behind in the shift towards a sustainable economy (European Commission, 2021). The emphasis on social equity within sustainability frameworks, such as the INHERIT model, highlights the need for policies that are accessible to all societal segments, thereby preventing sustainability initiatives from becoming exclusive to wealthy groups (Godfrey et al., 2020). By integrating sustainability with societal goals, Europe fosters a holistic approach that addresses both immediate and long-term needs and recognizes the interconnectedness of environmental, social, and economic factors (Ionescu et al., 2020).

1.3 ESG as a Narrower Context than SPM

The integration of **Environmental, Social, and Governance (ESG)** principles into business operations and project management is a critical development in Europe. Driven by stringent regulatory frameworks, evolving consumer demands, and investor expectations, ESG has become essential for companies seeking long-term sustainability. This chapter outlines the policy landscape, sectoral adoption, and the drivers and barriers influencing ESG implementation across Europe. Additionally, specific case studies highlight how different industries are implementing ESG frameworks in practice.

ESG – The Basics

ESG factors represent non-standardized issues that influence sustainability on different levels. First used in 2004 United Nations Global Compact report, *"Who Cares Wins"*[1]. Since its introduction, ESG as a concept gained much traction across different industries, leading to differentiation of ESG factors across those industries, depending on specific properties of business and stakeholders.

1. UN Global Compact (2004), *Who Cares Wins*

	Environmental factors	Social factors	Governance factors
Definition	Factors affecting the natural world. It includes use (consummation or interaction) of natural resources, both renewable and non-renewable	Factors that affect the lives of humans. They include local communities, human and non-human capital etc.	Issues that are stemming from legislations, common practices in industries and interests of other stakeholder groups.

As there is currently no universal standard for defining specific E, S, or G factors, there is a possibility that they can differentiate depending on standard providers or even overlap with one another. Even with existence of multiple ESG data providers, ESG issues for particular entity depend on the specifics of industry, stakeholders and investors. Example of scope of ESG issues can be seen by illustration done by PRI[2] and FTSE Russell (2018).

Environmental

- Climate change
- Resource depletion
- Waste
- Pollution
- Deforestation

Social

- Human rights
- Modern slavery
- Child labour
  Working conditions
- Employee relations

Governance

- Bribery and corruption
- Executive pay
- Board diversity and structure
- Trade association, lobbying and donations
- Tax strategy

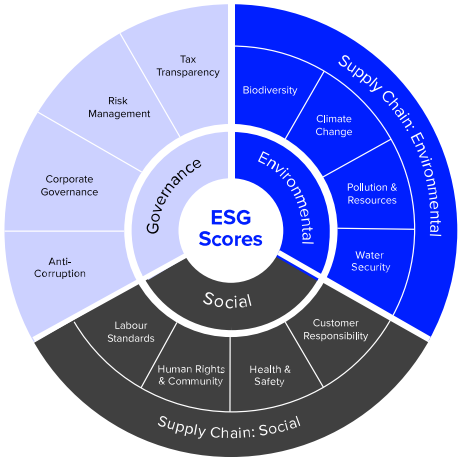

Figure 1. The anatomy of ESG

2. PRI (2020), *What is responsible Investment?*

Although much talked about nowadays, the concept of ESG has been around for some time. The beginnings of ESG can be traced back to the broad principles of Corporate Social Responsibility (CSR), a business concept that influences companies to conduct business in an ethical way. While during most of the 20th century most companies associated CSR with philanthropy, modern approaches recognize that principle-based behavior can have positive impact on business models.

John Elkington introduced Triple-bottom line accounting theory (Elkington, 1994), which expanded traditional accounting framework, focused only on "bottom line" (i.e. profit), to encompass two other non-material areas, social impact and environment. The 3 Ps of the triple bottom line are: profit, people and planet. The goal of the concept was to advance the sustainability into business practices of the company by providing the framework for inclusion of social and environmental costs into full costs of doing business. However, due to the misuse of the Tripple-bottom line by providing only accounting results and omitting economic results, author revised the theory (Elkington, 2018).

Reasons for ESG integration

There are several reasons for ESG integration. The following are considered as most important ones:

- ***Risk perspective*** – Bottom line remains the most important indicator in business and until recently integration of ESG factors was seen as a nuisance and as a possible drag on profitability. However, long-term investors are actively seeking disclosures on relevant risk factors so they can better understand future demands and emerging risks, aiming to convert this information into market-beating returns.

- ***Impact perspective*** – Investments should serve society besides providing financial return. Investments with positive impact should be pursued, while those with negative impact should be avoided. Positive impact investments are those investments that are influencing ESG factors in a positive manner, while negative impact investments are investments in so called "sin" industry (alcohol, tobacco, arms, gambling and pornography).

- ***Economics perspective*** – Global megatrends in resource depletion could lead to higher production costs, with Financial Stability Board identifying climate change as a potential systemic risk. If not addressed properly, these trends could lead to weakening economies and creation of economic bubbles. Social issues cost can also require significant funds, mostly in developing countries, but it can be seen that developed countries are also susceptible to these costs, with income inequality being recognized as the most important one. UN Sustainable Development Goals (SDGs) is a framework for all UN members to work towards aligning with global priorities.

- ***Regulatory perspective*** – With policy interventions rising exponentially in 21st century, ESG integration can help to predict policy changes and mitigate risk of being put under scrutiny from legislators. Being under investigation could have important implications on reputation of business, which could impact its flexibility and partnerships.

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- ***Fiduciary perspective*** – Managers, as agents of business owners, should work towards the benefit of their employers. Those benefits are usually defined in financial terms, and as such fiduciaries used misconceptions that ESG factors are not financially material in order to avoid their integration. Freshfields report (2005) argued that integration of ESG considerations into an investment analysis so as to more reliably predict financial performance is clearly permissible and is arguably required in all jurisdictions. Further development encourages fiduciaries to incorporate ESG factors into decision-making processes in order to add value to their beneficiaries, because failing to incorporate long-term value drivers can be seen as a failure of fiduciary duties.

European ESG Policies and Regulatory Frameworks

Europe has taken a leading role in establishing regulatory frameworks that promote the adoption of ESG principles across various sectors. Among the most significant regulatory advancements is the EU Taxonomy for Sustainable Activities, a comprehensive classification system designed to identify which economic activities qualify as environmentally sustainable (European Commission, 2020). This taxonomy is essential for directing investments towards green projects and supporting businesses in aligning their operations with the EU's broader sustainability objectives, particularly the ambitious target of achieving net-zero emissions by 2050. By providing clear criteria, the taxonomy aims to reduce greenwashing and ensure that financial resources are channelled effectively toward projects that genuinely contribute to environmental sustainability.

Complementing the EU Taxonomy is the Corporate Sustainability Reporting Directive (CSRD), which came into effect in 2021. This directive has significantly enhanced transparency in corporate sustainability practices by mandating large companies to disclose detailed and standardized information about their ESG initiatives (European Commission, 2021). The CSRD increases accountability and ensures that investors, consumers, and regulators have access to reliable and comparable ESG data. Together, these regulations are key components of the EU's Sustainable Finance Action Plan, which seeks to integrate sustainability factors into the financial system and redirect capital flows toward projects and businesses aligned with ESG goals (European Commission, 2020).

At the global level, the United Nations Principles for Responsible Investment (PRI) have played a pivotal role in encouraging the financial sector to incorporate ESG factors into investment decisions. The PRI framework demonstrates that ESG integration not only contributes to better financial performance but also supports long-term sustainability (United Nations PRI, 2021). Institutional investors, inspired by the PRI, have embraced ESG considerations in their decision-making processes, leading to the mainstreaming of ESG principles in business and investment practices.

This widespread adoption of ESG principles by investors and asset managers marked a paradigm shift, as they began to realign risk assessments and projections to account for ESG factors. This shift resulted in the identification of sustainable growth opportunities and the reallocation of capital towards more sustainable ventures. Large financial information providers responded by creating a variety of ESG indices and scores across industries, enabling more informed and standardized assessments of corporate sustainability performance.

However, the rapid expansion of ESG reporting faced challenges, particularly due to a lack

of standardization in methodologies and frameworks. This issue was partially addressed by the introduction of several key regulatory and reporting standards in recent years. These include the Sustainability Accounting Standards Board (SASB) Standards, the EU Taxonomy for Sustainable Activities, and the Sustainable Finance Disclosure Regulation (SFDR). These frameworks have collectively improved the comparability, reliability, and consistency of ESG disclosures, ensuring that entities across industries adhere to rigorous reporting standards.

In summary, Europe's proactive stance on ESG regulation, coupled with global initiatives like the PRI, has fundamentally transformed how businesses and investors approach sustainability. By fostering transparency, standardization, and accountability, these frameworks not only support the EU's climate and sustainability goals but also enable businesses and financial institutions to thrive in a rapidly evolving market landscape shaped by ESG priorities.

Trends in ESG Adoption Across Key Sectors

ESG principles are increasingly being adopted across a range of sectors in Europe, each integrating these practices in different ways depending on the sector's environmental and social impact.

- ***Energy Sector*** plays a pivotal role in Europe's sustainability efforts, especially with the transition from fossil fuels to renewable energy sources. According to Zioło, Bąk, and Spoz (2023), renewable energy companies have made substantial progress in incorporating ESG criteria into their business models, which is essential for attracting green investments and improving long-term sustainability. The EU's focus on renewable energy as part of its **Green Deal** has accelerated this shift, with companies increasingly using **environmental ESG scores** to attract capital (Zioło et al., 2023). Conversely, **traditional energy companies**, which rely on fossil fuels, face significant challenges in adopting environmental ESG practices. They often struggle to transition quickly enough to meet EU sustainability goals, and their financial returns are more heavily influenced by **governance** and **social ESG scores** during times of crisis (Boldeanu et al., 2022).
- ***Financial Sector*** has also seen significant ESG integration. **European banks** are increasingly considering ESG factors in their investment decisions, particularly as ESG ratings become a key measure of corporate performance. Bataea, Dragomir, and Ionescu-Feleaga (2020) found that banks with higher ESG ratings often experience lower financing costs and greater access to sustainable investment opportunities. These institutions are more attractive to investors looking to align their portfolios with sustainability goals. The **PRI** has played a key role in supporting this shift, encouraging financial institutions to integrate ESG factors into their investment portfolios and ensuring that ESG considerations are central to decision-making (United Nations PRI, 2021).
- ***Construction Sector*** has also begun to embrace ESG principles, especially in the area of **green building standards** and **energy-efficient construction**. Companies in this sector are integrating **environmental** and **social** ESG factors to meet growing market demand for sustainable buildings. These companies are pursuing **green certifications** such as **LEED** and **BREEAM**, which reflect a commitment to reducing environmental impact through energy efficiency and resource management.
- ***Manufacturing Sector*** nowadays is trying to adapt the principles of ESG for environmental sustainability, reduced wastage, and fair labor practices. The focus in this sector lies

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in sustainable production methodologies, energy efficiency, and carbon emission reductions. Companies are embracing circular economy principles and striving for minimal environmental footprints.

- In ***Agriculture and Food Sector*** production is becoming increasingly receptive to ESG adoption. It involves the use of sustainable farming practices, animal welfare policies, and proper labor standards. Companies are primarily focusing on pesticide reduction, soil improvement, and good water management techniques.
- Within ***Retail and Consumer Goods Sector***, ESG strategies are being adapted by retail and consumer goods companies. The result is a shift to ethical and sustainable products due to growing consumer demand. Brands are sourcing materials responsibly, reducing their carbon footprint and ensuring fair labor practices in their supply chains. Transparency in sourcing and product lifecycle management is one of the main goals for attracting socially conscious consumers.

Drivers of and Barriers to ESG Adoption in Europe

A number of aspects are driving companies to apply ESG principles to their operations with the long-term benefits associated with doing so. Some of the key **factors driving the adoption of ESG principles in Europe are as follows:**

- ***Regulatory pressure*** - some of the main drivers toward the adoption of ESG principles in Europe include growing set of regulatory frameworks that has compelled the integration of ESG. As highlighted by Abate, Basile, and Ferrari (2023), regulatory pressure such as the EU Taxonomy and CSRD has encouraged companies to integrate ESG practices into their core operations in order to comply with new sustainability requirements.
- ***The growing demand from consumers*** for sustainable products and services has also driven companies to implement ESG practices. There is a growing preference on the market for companies that show environmental and social responsibility. Investors are increasingly seeking companies with strong ESG performance, as these companies are seen as more stable and less likely to face long-term risks (Abate et al., 2023).
- ***Long-term value*** - ESG adoption is recognized to provide long-term viability, and companies that adopt sustainability practices are confident to grow and strengthen their competitive position through lower risk, improved operational efficiency and innovation.

However, several barriers hinder the widespread adoption of ESG principles:

- One major obstacle is the lack of standardized ESG competencies for project managers, which makes it difficult for organizations to implement ESG criteria in their operations (Meng & Shaikh, 2023).
- Furthermore, the high transition costs associated with adopting ESG practices present a significant challenge, particularly for small and medium-sized enterprises (SMEs). These companies may struggle to bear the financial burden of transitioning to sustainable practices.
- In sectors like traditional energy, where companies are heavily reliant on fossil fuels, there is resistance to change, as these businesses have long-established practices that prioritize short-term profits over long-term sustainability goals (Meng & Shaikh, 2023).

Case Study Examples: ESG Integration in Practice

Case Study 1. **Impact of ESG on Renewable vs. Traditional Energy Companies During the COVID-19 Pandemic**

One detailed case study from Boldeanu et al. (2022) explores the impact of ESG factors on European electricity companies during the COVID-19 pandemic. The study aimed to assess how ESG pillar scores (environmental, social, and governance) affected the stock market returns of renewable and traditional electricity companies. This is particularly relevant as the pandemic introduced significant market volatility and led to a major decrease in electricity consumption, which influenced the financial returns of these companies.

The researchers employed an event study approach to evaluate the stock price reactions following the announcement of the pandemic by the World Health Organization (WHO) on March 11, 2020. The study distinguished between renewable energy firms, such as wind and solar energy companies, and traditional energy companies, which include fossil fuel-based firms.

Their findings revealed that renewable energy companies were more heavily impacted by the crisis compared to their traditional counterparts, but with a notable difference: environmental ESG scores positively influenced the stock returns of renewable firms, while governance ESG scores had a negative effect. For traditional energy companies, the study found that governance scores had a more favorable impact on stock returns compared to environmental factors. These findings suggest that the financial performance of companies during the pandemic was not only influenced by the crisis itself but also by the specific ESG scores that reflected their sustainability efforts and governance practices.

This case study highlights that ESG factors are sector-specific, and their influence on financial performance can vary depending on the industry in question. Renewable companies benefit more from environmental ESG performance, while traditional companies see stronger returns from governance-related ESG factors. The study emphasizes that investors are increasingly considering ESG scores when evaluating the financial resilience of companies during times of crisis (Boldeanu et al., 2022).

Case Study 2. **Adoption of ESG Principles in European Banks**

Another significant case study comes from Bataea et al. (2020), which explores how European banks have integrated ESG criteria into their investment strategies. This study examined the role of ESG principles in influencing the financial performance and risk management of banks across Europe. The authors found that European banks have increasingly adopted ESG factors as part of their core strategies due to both regulatory pressure and market demand for responsible investment practices.

The research highlighted how banks with high environmental and social scores experienced lower financing costs, enabling them to attract capital more efficiently. Governance scores were particularly important for reducing risk, as companies with strong governance were perceived as less likely to engage in unethical practices that could lead to financial instability or reputation damage. Moreover, Bataea et al. (2020) emphasized that high ESG ratings led to greater investor confidence and better access to capital, which were crucial for improving the overall financial stability of these banks.

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This study is an important example of how the financial sector is integrating ESG factors into its business models to enhance both financial performance and sustainability. Banks in Europe are increasingly using ESG criteria not only to manage risk but also as a means of gaining a competitive advantage in attracting sustainable investments. As the authors suggest, integrating ESG into financial decision-making is no longer a secondary concern but a central component of strategic planning in European financial institutions (Bataea, Dragomir, & Ionescu-Feleaga, 2020).

1.4 ESG in Project Management (ESG PM)

The integration of Environmental, Social, and Governance (ESG) principles into project management has gained significant traction in recent years. This shift highlights the growing recognition that project management is not solely about delivering projects on time, within budget, and within scope but also about aligning with broader sustainability and governance objectives. ESG in project management ensures that sustainability and ethical considerations are embedded at every stage of the project lifecycle, driving long-term value for organizations and society alike (GPM, 2024a; GPM 2023).

The integration of ESG principles into Project Management (PM) has emerged as a crucial strategy for companies aiming to ensure long-term sustainability, meet regulatory demands, and satisfy consumer and investor expectations. ESG PM refers to embedding these principles into the entire project lifecycle—from planning to execution and evaluation. This chapter discusses the growing demand for ESG-focused project management roles across various industries and how project management practices are evolving to incorporate sustainability.
This chapter aims to provide a comprehensive overview of how ESG principles can be systematically applied within project management. The objectives include:

- Exploring frameworks and standards for ESG in project management, such as the GPM P5 Standard and Sustainability Competence Standards (GPM, 2024a; GPM 2023; GPM, 2024b).
- Identifying strategies for embedding ESG in project planning, execution, and monitoring.
- Highlighting challenges and barriers to integrating ESG principles into project processes (Wood, 2023; GPM 2024a)
- Showcasing real-world examples and case studies of successful ESG implementation.
- Analyzing the future of ESG in project management, including emerging trends and technologies (GPM, 2024a; GPM 2023; GPM, 2024b).

By focusing on ESG in project management, this chapter seeks to guide project managers, organizational leaders, and stakeholders in addressing pressing global issues while achieving sustainable, ethical, and impactful project outcomes.

Importance of ESG in Modern Project Management

The evolving role of project management is reflective of the broader global challenges such as climate change, social inequities, and governance risks. ESG-driven project management has emerged as a necessary response to these challenges, ensuring that project objectives align with sustainable development goals (SDGs) and organizational ESG strategies. This approach not only enhances operational resilience but also strengthens the reputation of organizations committed to sustainability (Wood, 2023; GPM 2024a; GPM 2023).

Project managers today are responsible for more than just achieving technical and financial

success. Their roles have expanded to include assessing the broader impact of their projects on people, the planet, and prosperity. By integrating ESG principles, organizations can mitigate risks, build stronger stakeholder trust, and create a competitive advantage in the marketplace (GPM, 2024a; GPM 2023; GPM, 2024b).

Growing Demand for ESG-Focused Project Management Skills

The demand for project managers with expertise in ESG principles is rapidly increasing across various sectors. Companies are recognizing the strategic importance of integrating sustainability into project operations and execution. Several industries, such as energy, construction, and finance, are particularly influenced by the adoption of ESG practices, which creates a high demand for skilled professionals capable of managing these complex, multi-faceted projects.

The energy sector is a key driver of the demand for ESG PM skills. As energy companies transition towards renewable energy sources, the role of project managers becomes critical. Zioło et al. (2023) highlight how energy companies are increasingly integrating sustainability criteria into their business models to meet EU climate goals and attract green investments. Renewable energy projects, such as solar and wind power installations, require project managers with both technical knowledge of the energy systems and regulatory expertise to ensure that the projects comply with EU environmental regulations and contribute to carbon neutrality targets.

In addition to technical and regulatory expertise, project managers in the energy sector need to have a deep understanding of environmental impact assessments and ESG risk management to mitigate the risks associated with large-scale energy projects. This is crucial as companies in the energy sector face mounting pressure to demonstrate environmental responsibility while achieving economic and social outcomes that align with global sustainability frameworks.

In the construction sector, ESG principles are becoming increasingly important as the demand for green building certifications grows. Projects in this sector are often required to meet environmental standards such as LEED (Leadership in Energy and Environmental Design) and BREEAM (Building Research Establishment Environmental Assessment Method). Meng & Shaikh (2023) point out that project managers in construction must not only ensure that their projects meet deadlines and stay within budget but also that they comply with sustainable building practices. This includes the energy efficiency of buildings, resource conservation, and meeting environmental impact reduction goals.

Project managers must also address the social impact of construction projects, which includes factors such as worker safety, community engagement, and social equity. As urban development becomes more focused on sustainability, construction project managers are increasingly responsible for ensuring that their projects contribute to the well-being of local communities, reduce environmental footprints, and meet the growing demand for green building technologies.

In the finance sector, the integration of ESG principles into investment portfolios is creating a rising demand for project managers skilled in sustainable finance. Bataea, Dragomir, & Ionescu-Feleaga (2020) discuss how financial institutions are increasingly incorporating ESG criteria into their investment strategies. This includes evaluating the environmental, social, and governance risks of financial projects and ensuring that investment portfolios align with sustainable development goals (SDGs). Project managers in the finance sector must be able

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to develop frameworks for managing sustainable investments, green bonds, and socially responsible investments.

Financial institutions are actively seeking professionals who can manage ESG-focused investment projects, ensuring compliance with regulatory standards and meeting the growing demand from impact investors. These project managers must possess the skills to evaluate ESG risks alongside financial performance, balancing sustainability goals with the economic objectives of the projects (Bataea et al., 2020).

The Role of Project Management in ESG

Project management is uniquely positioned to drive the integration of Environmental, Social, and Governance (ESG) principles into organizational strategies and operations. By embedding ESG considerations into project life cycles, project managers ensure alignment between organizational goals, stakeholder expectations, and global sustainability standards. This alignment plays a critical role in addressing modern challenges such as climate change, resource scarcity, and social inequality (GPM, 2024a; GPM 2023; GPM, 2024b).

Integrating ESG into Project Life Cycles

Integrating ESG principles requires a systematic approach that begins with project planning and continues through execution, monitoring, and closure. ESG objectives should be included in the project charter, work breakdown structure, and risk management plans to ensure that sustainability and governance considerations are consistently prioritized (GPM, 2024a; GPM 2023).

Project managers must adopt tools and frameworks like the GPM P5 Standard, which assesses sustainability through five dimensions: Product, Process, People, Planet, and Prosperity. This framework ensures that projects are evaluated not only for financial outcomes but also for their impact on stakeholders and the environment (GPM 2023).

Alignment Between Organizational ESG Goals and Project Outcomes

The success of ESG in project management depends on the alignment of project objectives with broader organizational sustainability goals. Supporting organizations in broadening their focus beyond profitability requires assisting teams in integrating ESG objectives into the project scope. In doing so, Project Managers need to appreciate that ESG objectives are not one-size-fits-all but should be tailored depending on the nature of the project (Spiteri, 2023). For instance, organizations that commit to reducing greenhouse gas emissions or improving diversity and inclusion must embed these targets into their project portfolios. This alignment ensures that projects contribute to achieving measurable ESG outcomes and support compliance with regulatory requirements (GPM, 2024a; GPM, 2024b).

The Project Manager's Role as a Change Agent

Project managers are at the forefront of implementing ESG practices, acting as change agents within their organizations. Their responsibilities include:

- Championing the integration of ESG considerations into project decision-making processes.
- Engaging stakeholders to align their expectations with project objectives.
- Advocating for the adoption of tools and methodologies that support sustainability,

such as the GPM Sustainability Competence Standard (GPM, 2024b).
- Ensuring that ESG-related risks and opportunities are identified and managed effectively (GPM, 2024a; GPM 2023).

By proactively addressing these roles, project managers not only enhance project outcomes but also foster a culture of sustainability and accountability across organizations.

1.5 Incorporating ESG Principles into Project Management Practices

To unleash the real power of ESG initiatives, organizations must set the right targets and track where they're delivering — or faltering. The increasing attention on ESG presents opportunities but also raises the stakes for project leaders quantifying the impact of ESG initiatives. Project managers are well positioned to use their skills to identify opportunities to move the needle on ESG initiatives — and quantify that impact through effective measurement (PMI, 2023).

As ESG PM skills become more in demand, established project management frameworks like PMI, PRINCE2, and PM² have adapted to include ESG principles. These methodologies have evolved to reflect the increasing importance of sustainability, ensuring that project managers can manage projects in a way that aligns with environmental, social, and governance objectives.

PMI's Talent Triangle has introduced sustainability as a key competency for project managers, reflecting the importance of integrating ESG principles into every phase of the project lifecycle. As sustainability becomes a core focus in project management, PMI provides project managers with tools and frameworks to incorporate ESG criteria into their projects, from the planning phase through to project execution and closure.

The PM² methodology, developed by the European Commission, is another example of how ESG is being integrated into project management practices. PM² includes specific guidelines for managing ESG risks and ensuring that sustainability is embedded in public sector and infrastructure projects. This methodology encourages project managers to assess the environmental and social impacts of their projects and ensure compliance with the EU's broader sustainability goals, particularly carbon-neutrality and green energy initiatives.

1.6 Frameworks and Standards for ESG in Project Management

The integration of Environmental, Social, and Governance (ESG) principles in project management requires robust frameworks and standards to guide project managers and organizations in achieving sustainable outcomes. These frameworks provide practical tools and methodologies to align project activities with broader ESG goals, enabling consistency, accountability, and measurable progress (GPM, 2024a; GPM 2023; GPM, 2024b).

The GPM P5 Standard: Product, Process, People, Planet, Prosperity

The GPM P5 Standard is a globally recognized framework designed to integrate sustainability into project management. It evaluates sustainability across five key dimensions:
- Product: Ensuring project outputs are durable, recyclable, and environmentally responsible.
- Process: Embedding efficiency, effectiveness, and fairness in project execution.
- People: Promoting ethical practices, diversity, and stakeholder well-being.
- Planet: Mitigating environmental impact through resource conservation and pollution

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prevention.
- Prosperity: Evaluating financial feasibility and long-term economic benefits (GPM 2023).

The P5 Standard aligns with the United Nations Sustainable Development Goals (SDGs) and serves as a comprehensive tool for assessing the sustainability impacts of projects throughout their lifecycle (GPM, 2024a; GPM 2023).

Key Elements of the GPM Sustainability Competence Standard

The GPM Sustainability Competence Standard outlines the skills and knowledge required for project managers to lead ESG-driven initiatives effectively. Key competencies include:
- Ethical leadership and decision-making.
- Stakeholder collaboration and engagement.
- Assessing and responding to sustainability impacts.
- Sustainable procurement practices (GPM, 2024b).

By equipping project managers with these competencies, organizations can enhance their ability to deliver projects that align with ESG objectives while addressing global sustainability challenges.

ESG Metrics and KPIs in Project Management

To measure the success of ESG integration in projects, organizations rely on key performance indicators (KPIs) and metrics such as:
- Reduction in greenhouse gas emissions (Scope 1, 2, and 3).
- Waste minimization and resource efficiency.
- Diversity and inclusion metrics in project teams.
- Financial returns aligned with sustainability goals (GPM, 2024a; GPM, 2024b).

Standardizing ESG metrics enables organizations to compare performance across projects and demonstrate their commitment to sustainability to stakeholders.

1.7 Strategies for ESG Implementation in Project Management

Integrating Environmental, Social, and Governance (ESG) principles into project management requires a strategic and systematic approach. By embedding ESG considerations into project planning, execution, and evaluation, organizations can achieve both their sustainability goals and broader business objectives. The following strategies outline best practices for implementing ESG in project management (GPM, 2024a; GPM 2023; GPM, 2024b).

Embedding ESG Principles in Project Planning

The foundation of ESG integration begins with careful project planning. ESG objectives should be explicitly included in project charters, scopes, and schedules. For instance:
- Conducting pre-project ESG impact assessments to identify risks and opportunities early in the project lifecycle (GPM 2023; GPM, 2024b).
- Establishing ESG-related milestones and deliverables within the project timeline, such as carbon reduction targets or community engagement activities.
- Ensuring alignment between project-level ESG objectives and broader organizational goals (GPM, 2024a).

Risk Management Through an ESG Lens

Incorporating ESG considerations into risk management enhances an organization's ability to anticipate and mitigate challenges. Key practices include:

- Identifying ESG-related risks, such as regulatory non-compliance, environmental degradation, and reputational damage.
- Embedding ESG risks into existing risk management frameworks rather than treating them as standalone concerns.
- Utilizing tools like the GPM P5 Standard to assess and address sustainability risks across the five dimensions of Product, Process, People, Planet, and Prosperity (GPM 2023; GPM, 2024b).

Stakeholder Engagement and Communication for ESG Projects

Effective stakeholder engagement is critical to the success of ESG-driven projects. Project managers should:

- Establish transparent communication channels with stakeholders, including local communities, investors, employees, and regulators.
- Organize workshops, surveys, and forums to gather stakeholder feedback and align their expectations with project goals.
- Proactively address community concerns and demonstrate the project's commitment to creating shared value (GPM, 2024a; GPM, 2024b).

Incorporating Circular Economy and Regenerative Practices

Adopting circular economy principles and regenerative practices can enhance the environmental and social impact of projects. Strategies include:

- Reducing waste and promoting resource efficiency by designing for reuse, recycling, and recovery.
- Prioritizing regenerative practices, such as restoring natural habitats and implementing sustainable land use strategies.
- Leveraging technologies like renewable energy systems to minimize a project's carbon footprint (GPM 2023; GPM, 2024b).

By integrating these strategies into their workflows, project managers can ensure that ESG considerations are not merely add-ons but intrinsic to the success of the project.

1.8 Challenges and Barriers to ESG Integration in Projects

Despite the growing emphasis on Environmental, Social, and Governance (ESG) principles in project management, organizations and project managers face numerous challenges in embedding these practices into their workflows. These barriers can stem from a lack of awareness, limited resources, and systemic constraints, all of which hinder the effective implementation of ESG frameworks (Wood, 2023; GPM, 2024a; GPM 2023; GPM, 2024b). The most important issues are the following:

Resistance to Change in Project Teams and Organizations.

A major barrier to ESG integration is organizational resistance to change. Many teams and

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leaders view ESG practices as add-ons rather than integral to project success. Challenges include:

- Cultural resistance to adopting new sustainability practices.
- Lack of senior leadership commitment to ESG priorities, which can undermine the motivation of project teams (Wood, 2023; GPM 2024a).
- Misalignment between ESG goals and traditional project success metrics, such as cost, time, and scope (GPM 2023; GPM, 2024b).

Measuring and Reporting ESG Success in Projects.

Quantifying and reporting ESG performance remains a significant hurdle for many organizations. The challenges in this area include:

- The absence of standardized metrics and reporting frameworks, making it difficult to measure progress consistently.
- Limited availability of reliable data to track ESG impacts, particularly for Scope 3 greenhouse gas emissions.
- The time-intensive nature of ESG reporting, which requires collaboration across multiple departments (GPM, 2024a; GPM, 2024b).

There are clear positive outcomes for businesses who successfully report on ESG, but there are serious challenges to overcome before decision makers feel prepared for the road ahead (Workiva, 2022).

Financial and Technological Limitations. Implementing ESG practices often requires upfront investment in technology, tools, and training, which can strain organizational budgets. Specific limitations include:

- Insufficient funds allocated to ESG-related initiatives within project budgets.
- The high cost of adopting advanced technologies, such as renewable energy systems or data analytics platforms, to support ESG goals (Wood, 2023; GPM 2023).
- Limited technical expertise within project teams to utilize sustainability tools effectively (GPM, 2024b).

Addressing Scope 1, 2, and 3 Emissions in Projects. Managing and reducing carbon emissions across the three scopes remains a significant challenge for project managers. These include:

- Scope 1 emissions: Direct emissions from the project's activities, such as fuel combustion.
- Scope 2 emissions: Indirect emissions from purchased electricity and energy use.
- Scope 3 emissions: All other indirect emissions, including those from supply chains, which are often the hardest to track and address (GPM, 2024a; GPM 2023).

The complexity of calculating and mitigating emissions at these levels often requires advanced tools and cross-departmental collaboration, which many organizations lack.

Regulatory Uncertainty. Rapidly evolving ESG regulations and frameworks add another layer of complexity. Project managers often struggle to keep up with shifting requirements, leading to compliance risks. For instance, organizations working across multiple jurisdictions

face conflicting or unclear regulations, making it difficult to align their ESG strategies (GPM, 2024a; GPM, 2024b).

1.9 Developing Competencies for ESG PM

The successful integration of Environmental, Social, and Governance (ESG) principles into project management relies heavily on the knowledge, skills, and competencies of project teams. By investing in ESG-specific training and development, organizations can empower their teams to deliver sustainable and impactful projects while aligning with organizational goals (GPM, 2024a; GPM 2023; GPM, 2024b).

As industries demand ESG PM professionals, it is essential to map out the competencies required for both SPM and ESG PM roles. These competencies encompass hard skills, soft skills, and strategic skills, all of which must align with the various stages of the project management lifecycle.

Competency Mapping: Hard, Soft, and Strategic Skills

Hard skills for ESG PM include expertise in sustainable development practices, green certifications, ESG risk management, and knowledge of environmental regulations. For example, project managers in the energy sector must have a solid understanding of renewable energy technologies, carbon emissions standards, and the EU's climate change goals (Zioło et al., 2023). These hard skills are critical to ensuring that ESG principles are successfully integrated into the project lifecycle.

Soft skills are also crucial, particularly in managing stakeholder engagement, team leadership, and communication. Project managers must engage with diverse groups, including governments, private investors, local communities, and non-governmental organizations (NGOs) to ensure that the social dimensions of ESG are effectively addressed. Meng & Shaikh (2023) emphasize that project managers must be skilled in navigating complex social dynamics and ensuring that community interests are prioritized in ESG projects.

Strategic skills are essential for aligning ESG goals with the broader organizational strategy. Project managers must be capable of developing long-term sustainability strategies, managing sustainability metrics, and evaluating both financial and ESG outcomes (Abate, Basile, & Ferrari, 2023). They must also make data-driven decisions to balance economic viability with environmental and social impact, ensuring the successful execution of sustainable projects across industries.

Ethical Leadership and Diversity in ESG Projects

Strong leadership is critical for driving ESG initiatives. Ethical leaders who prioritize transparency, accountability, and inclusion inspire their teams to adopt ESG principles. This involves: Promoting diversity and inclusion within project teams to encourage innovation and representation of different perspectives (GPM, 2024a; GPM 2023). Leading by example by embedding sustainability into decision-making processes and project priorities (GPM, 2024b). Advocating for the integration of ESG values at every level of the organization, from individual projects to corporate strategy (GPM 2024a).

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Collaboration Across Stakeholders for ESG Success

Collaboration between internal and external stakeholders is a cornerstone of ESG competency development. Project managers should:

- Facilitate open communication with stakeholders, including local communities, suppliers, and regulatory bodies, to align project objectives with ESG goals (GPM, 2024a; GPM, 2024b).
- Organize workshops and forums to gather feedback and insights from diverse groups, ensuring that projects address the needs of all affected parties (GPM 2023).
- Engage with ESG specialists and consultants to bring in expertise on sustainability practices, regulatory compliance, and risk mitigation (GPM, 2024a; GPM, 2024b).

Measuring ESG Competency Development

To ensure that ESG competencies are effectively embedded in project teams, organizations should establish clear metrics for evaluating progress. This includes:

- Tracking participation in ESG training programs and certifications.
- Monitoring team performance in achieving ESG-related project outcomes.
- Regularly reviewing and updating ESG training materials to align with evolving standards and regulations (GPM 2023; GPM, 2024b).

By prioritizing ESG competency development, organizations can enhance their ability to deliver projects that align with sustainability objectives, contribute to global goals, and create long-term value for all stakeholders.

Training and Capacity Building for ESG-Focused Project Management

Building ESG competencies begins with equipping project managers and team members with the necessary tools and knowledge to embed sustainability into their workflows. Key steps include:

- Providing ESG Training: Organizations should deliver structured training programs that focus on sustainability frameworks like the GPM P5 Standard and ESG reporting standards (GPM 2023; GPM, 2024b).
- Integrating ESG into Certifications: Incorporating ESG modules into project management certifications and qualifications ensures that professionals are adequately prepared to manage ESG-related challenges (GPM, 2024b).
- Knowledge Sharing: Encouraging cross-functional collaboration and knowledge sharing within teams promotes a culture of sustainability and innovation (GPM, 2024a).

Educational Programs and Certifications for ESG and SPM Professionals

Several European competency frameworks such as ESCO, EQF, and GPM SCS define the competencies necessary for SPM and ESG PM roles. These frameworks ensure that professionals in the field have the qualifications to effectively integrate ESG principles into their projects. Educational institutions in Europe are increasingly offering ESG-focused project management programs, with universities incorporating sustainability principles into their curricula. Meng & Shaikh (2023) note that sustainability modules are now common in many project management degree programs, with a growing focus on green building certifications, ESG risk management, and sustainable finance. Furthermore, PMI and GPM Global have updated their certifications to include ESG elements, recognizing the rising importance of

sustainability in project management practices.

Despite these advancements, there is a notable gap in sector-specific ESG training. Many programs still fail to address the practical application of ESG principles in key industries such as energy, construction, and finance, where ESG considerations have the most significant impact.

Mismatches Between Market Demand and Educational Offerings

Despite the increasing availability of ESG PM training, significant skill gaps persist. Meng & Shaikh (2023) argue that many educational programs focus on the theory of ESG principles rather than providing practical experience in managing ESG-focused projects. There is a need for sector-specific certifications that offer hands-on experience in managing green energy projects, sustainable construction, and social governance initiatives.

Moreover, as Bataea et al. (2020) highlight, while green certifications and ESG risk management are well-covered, aspects of social governance, such as social equity and community involvement, remain underrepresented in educational curricula. Closing these gaps will be crucial to fully prepare future ESG PM professionals to manage projects across various sectors and industries.

1.10 Future Trends and Opportunities for ESG in PM

As the focus on sustainability and governance continues to grow, Environmental, Social, and Governance (ESG) principles are becoming essential elements in project management. Emerging trends and opportunities signal a future where ESG integration is no longer optional but fundamental to project success (GPM, 2024a; GPM 2023; GPM, 2024b). The most important trends are the following:

Evolution of ESG Standards in Project Management. The future of ESG in project management will be shaped by the continuous evolution of frameworks and standards. Organizations will increasingly adopt and refine tools like:

- The GPM P5 Standard, which provides a structured approach to integrating ESG into all phases of project management (GPM 2023).
- New reporting requirements and global frameworks, such as the Corporate Sustainability Reporting Directive (CSRD) in Europe, which demand higher levels of transparency and accountability in ESG reporting (GPM, 2024b).

Project managers will need to stay updated with these standards to ensure alignment with regulatory and stakeholder expectations.

Emerging Technologies Supporting ESG in Projects. Technological advancements are creating new opportunities for ESG integration in projects:

- Artificial Intelligence (AI) and Data Analytics: AI-driven tools can help project managers monitor ESG metrics, forecast environmental impacts, and optimize resource usage (GPM 2024a; GPM 2023).
- Blockchain Technology: Blockchain ensures transparency and traceability in supply chains, enabling organizations to demonstrate compliance with ESG standards.
- Renewable Energy Solutions: Advancements in clean energy technologies, such as solar and wind, will allow projects to reduce carbon footprints and achieve net-zero emissions (GPM 2023).

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The Role of Artificial Intelligence and Data Analytics in ESG Reporting. AI and data analytics are becoming critical tools for managing ESG-related data. Project managers can leverage these technologies to:

- Automate ESG reporting and improve data accuracy.
- Identify trends and risks associated with sustainability objectives.
- Enhance decision-making by providing real-time insights into project performance and ESG metrics (GPM, 2024a; GPM, 2024b).

Growing Demand for Regenerative Practices. As sustainability practices mature, there is a growing shift toward regenerative project management. This approach goes beyond sustainability by focusing on restoring and replenishing natural and social systems:

- Projects will increasingly adopt circular economy principles, such as designing for reuse, recycling, and waste reduction.
- Regenerative practices in infrastructure projects, such as restoring natural habitats and ecosystems, will become more prevalent (GPM 2023; GPM, 2024b).

Expanding ESG Competencies in the Workforce. The future of ESG in project management will also depend on building a skilled workforce capable of addressing complex sustainability challenges. Organizations will focus on:

- Incorporating ESG-specific modules into project management certifications and training programs.
- Developing cross-disciplinary teams that bring expertise from fields such as environmental science, social equity, and governance (GPM, 2024b).

By embracing these trends and opportunities, project managers will be better equipped to lead projects that deliver not only financial value but also meaningful contributions to society and the environment.

CONCLUSIONS

1.11 Conclusions

The integration of ESG principles into project management represents a paradigm shift in how organizations approach sustainability and governance. As highlighted in this chapter, ESG-driven project management has the potential to address some of the most pressing global challenges, including climate change, social inequalities, and governance inefficiencies. By leveraging established frameworks such as the GPM P5 Standard and Sustainability Competence Standards, project managers can embed sustainability into their workflows, ensuring that projects deliver not just technical and financial success but also environmental and social value.

Despite significant progress, challenges remain. Financial barriers, such as the high upfront costs of implementing ESG tools and technologies, continue to deter widespread adoption. Additionally, the lack of standardized ESG metrics and reporting frameworks complicates efforts to measure and communicate progress. Organizational resistance to change further underscores the need for leadership and cultural shifts to prioritize ESG at the core of project management practices.

However, the opportunities presented by ESG-driven project management are substantial. Emerging technologies like artificial intelligence and blockchain offer new ways to streamline ESG data collection, enhance transparency, and optimize resource efficiency. Moreover, adopting regenerative practices, such as promoting circular economies and designing for resilience, can amplify the environmental and social impacts of projects. These innovations, coupled with evolving regulatory landscapes such as the European Green Deal, will continue to push organizations toward more sustainable project management practices.

As project managers increasingly take on the role of change agents, their ability to lead ESG-aligned projects will define the future of sustainability in business. Developing ESG competencies, fostering collaboration among stakeholders, and adopting innovative tools will be essential for overcoming existing barriers. By embedding ESG principles throughout the project lifecycle, organizations can achieve regulatory compliance, enhance brand reputation, and contribute to a more equitable and sustainable future.

Ultimately, the successful integration of ESG into project management is not just about meeting regulatory or market demands. It is about redefining the purpose and impact of projects in a way that aligns with the needs of society and the planet. This holistic approach ensures that project management becomes a powerful driver of sustainability, delivering long-term benefits for organizations and stakeholders alike.

The integration of Environmental, Social, and Governance (ESG) principles into project management is no longer

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an option but a necessity for organizations seeking to achieve sustainable growth and long-term resilience. This report has demonstrated that ESG considerations, when systematically embedded into project management practices, not only address pressing global challenges but also create value for organizations, stakeholders, and society as a whole (GPM, 2024a; GPM 2023; GPM, 2024b).

Key Insights that have been drawn from the analysis conducted are the following:

- ESG Frameworks and Standards: Tools like the GPM P5 Standard and Sustainability Competence Standard provide structured methodologies for integrating ESG principles into every stage of the project lifecycle (GPM 2023; GPM, 2024b).
- Strategies for ESG Implementation: Effective practices, such as early integration of ESG goals, stakeholder engagement, and risk management through an ESG lens, are crucial for achieving successful outcomes (GPM, 2024a; GPM 2023).
- Challenges and Barriers: Organizations must overcome barriers such as resistance to change, lack of standardized metrics, and financial constraints to fully realize the benefits of ESG-driven project management (Wood, 2023; GPM, 2024a; GPM 2023; GPM, 2024b).
- Future Trends: Advancements in technology, such as AI and data analytics, and the adoption of regenerative practices are reshaping the role of ESG in project management, providing new opportunities for innovation and impact (GPM, 2024a; GPM 2023; GPM, 2024b).

To effectively harness the potential of ESG in project management, organizations must prioritize:

- Capacity Building: Investing in ESG-specific training and certifications to develop a workforce capable of addressing sustainability challenges.
- Continuous Improvement: Regularly reviewing and refining ESG practices to align with evolving standards, technologies, and stakeholder expectations.
- Collaboration and Accountability: Establishing transparent communication channels and fostering partnerships among stakeholders to ensure the alignment of project goals with ESG objectives (GPM, 2024a; GPM 2023; GPM, 2024b).

Project managers play a pivotal role as change agents in driving ESG integration, leading efforts to create sustainable, ethical, and impactful projects. By adopting best practices and leveraging innovative tools, organizations can align their projects with global sustainability goals while achieving operational excellence.

The future of ESG in project management is promising, with a growing recognition of its importance in shaping a more sustainable and equitable world. Organizations that embrace this paradigm shift will not only enhance their competitive advantage but also contribute meaningfully to the well-being of the planet and society.

2. JOB ADVERTISEMENT ANALYSIS

2.1 Introduction and methodology

In the contemporary business landscape, the significance of sustainability and Environmental, Social, and Governance (ESG) factors has gained increasing prominence, particularly within project management roles. This report presents an analysis of job advertisements pertinent to sustainability and ESG roles, aiming to offer insights into current trends, requirements, and necessary qualifications for professionals in this evolving field.

The methodology for this study involved a structured approach to collect and analyze job ads related to sustainability and ESG roles within project management. Data collection was conducted from December 20, 2024, to January 17, 2025. During the data search process, job search platforms such as Indeed, Monster, Glassdoor, Euro jobs, Environmental Job, and LinkedIn were utilized. The search methodology involved identifying key terms in job titles, followed by a detailed analysis of each listing.

This analysis focused on 15 descriptors: Job title, Country/Region, Sector/Industry, Seniority level, Years of experience, Required level of education, Required field of education, Certifications, Key competencies, Technical skills, Responsibilities, Role level, Type of employment, Previous experience, and Job posting link.

The gathered data was then recorded in a database maintained in an Excel spreadsheet.

Inclusion and Exclusion Criteria

All job ads that contain connections between sustainable development and project management were considered. Additionally, listings that include descriptions of the specific position, including key competencies and responsibilities, were included. Any job ads not in English were excluded from consideration.

Research String

The methodology employed in this research aims to systematically explore the intersection of sustainability and environmental, social, and governance (ESG) factors within the context of project, program, and portfolio management.

The search string employed combines a broad range of terms related to sustainability and project management issues: *(Sustainability || ESG || Environmental || Social) & (project || program || portfolio) & (manager|| coordinator||)*

In accordance with the previously defined criteria, a total of 191 job postings were identified across 26 countries.

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Overview of the research process

The search started on the Indeed platform, where the highest number of job ads was identified. When conducting the search, it is necessary to select a country from the provided list and then perform the search based on keywords. Primarily, European countries were chosen, followed by listings from the U.S. and other non-European countries.

By entering the aforementioned keywords in the search, the platform displayed a larger number of results, recognizing all listings that contained any of the specified terms. For example, there were over 1,000 listings for the UK and U.S., but only the first 3 to 4 pages showed relevant ads.

Nearly 45% of the job listings were sourced from the Indeed platform. After that, Monster, Glassdoor, Euro jobs, Environmental Job and LinkedIn platforms were reviewed, where a smaller number of listings were identified. Entering keywords into the search section on all platforms initially produced a significantly larger number of listings, but refining the search using those keywords significantly narrowed down the results.

2.2 Analysis by descriptors

Job Title

The **Job Title** lists a total of 191 unique positions within the sustainability sector, highlighting a range of responsibilities, specializations, and levels of seniority. Key insights from the job titles are as follows:

1. **Diversity of Titles**: The job titles demonstrate a wide variety of roles, reflecting the interdisciplinary nature of sustainability. Positions range from **Project Coordinator** to **Global Sustainability Manager**, indicating the different functions involved in sustainability initiatives, such as project management, compliance, research, and strategic oversight.
2. **Management Focus**: Many titles, such as **Sustainability Project Manager**, **Program Manager**, and **Project Manager**, emphasize management roles. This suggests that sustainability efforts require strong leadership and organizational skills to oversee projects and ensure successful implementation.
3. **Specialized Roles**: The presence of titles like **ESG Manager**, **Decarbonisation Project Manager**, and **Sustainability Manager** indicates the increasing demand for specialized expertise in environmental, social, and governance criteria. These roles highlight the importance of compliance and strategy in sustainability practices.
4. **Entry-Level to Senior Roles**: The table includes positions ranging from **entry-level** roles (e.g., **Program Manager I**) to **senior-level** positions (e.g., **Senior Project Manager**, **Director & Solution Lead**). This broad range indicates that organizations are looking to build a comprehensive team of sustainability professionals at various experience levels.
5. **Sector Representation**: The diversity in job titles across different industries—such as agriculture, energy, biotechnology, and consulting—demonstrates that sustainability is a priority across multiple sectors. Each industry brings unique challenges and opportunities, necessitating tailored approaches.
6. **Emerging Positions**: Titles such as **Sustainability Project Manager for Collective Action** and **Cloud ESG Project Manager** reflect emerging trends and the evolving landscape of sustainability roles. These titles indicate a response to current challenges such as climate change and digital transformation.

The analysis reveals a dynamic and expanding job market in sustainability, characterized by a diverse array of positions and specialized roles. This diversity highlights the critical need for strong project management skills, expertise in ESG practices, and the ability to work collaboratively across sectors. The inclusion of various seniority levels suggests that organizations are committed to building robust sustainability teams, capable of driving impactful initiatives and addressing environmental challenges. Overall, these findings point to significant opportunities for job seekers in the sustainability field as businesses increasingly prioritize sustainability in their operational strategies.

Country/Region

The **Country/Region** dataset reveals valuable insights into the geographic distribution of job opportunities in the sustainability sector. Below is a breakdown of the job postings by country/region, along with relevant percentages and implications.

Table 1. Country/Region Analysis

Country/Region	Number of Postings	Percentage (%)
USA	96	50%
Belgium	34	18%
Denmark	19	10%
Canada	10	5%
Germany	8	4%
France	8	4%
Sweden	7	4%
Other	9	5%
Total	191	100%

Dominance of the USA

USA

With **50%** of the total job postings (96 positions) located in the **USA**, this indicates a substantial market for sustainability roles. The high volume of positions suggests that the USA is at the forefront of sustainability initiatives, spurred by regulatory requirements, corporate responsibility, and societal demands for environmental action.

Strong Presence in Belgium

BELGIUM

Belgium accounts for **18%** (34 postings), positioning it as a significant center for sustainability jobs in Europe. This could be attributed to the country's proactive regulatory frameworks and the presence of numerous international organizations focused on sustainable practices.

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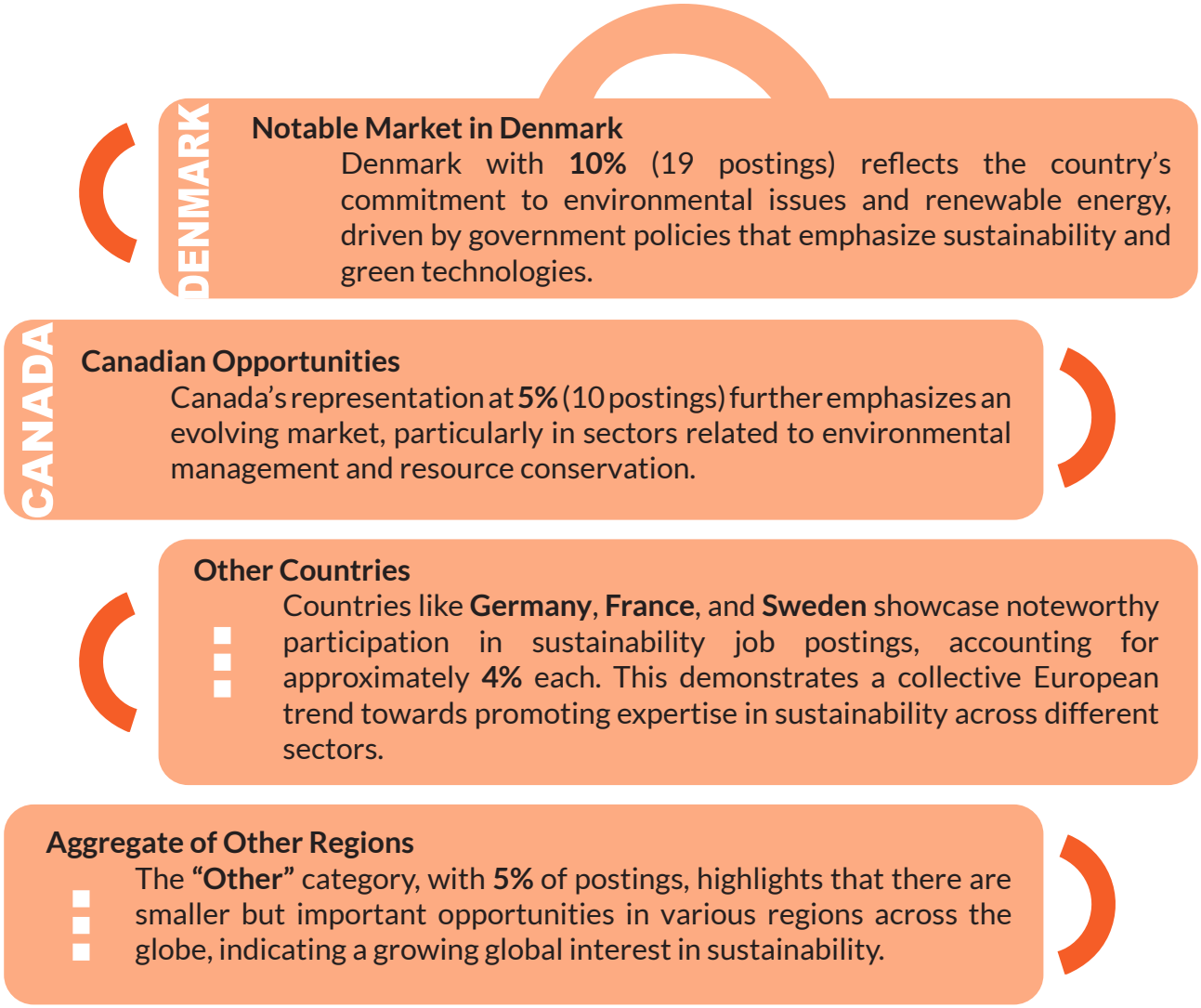


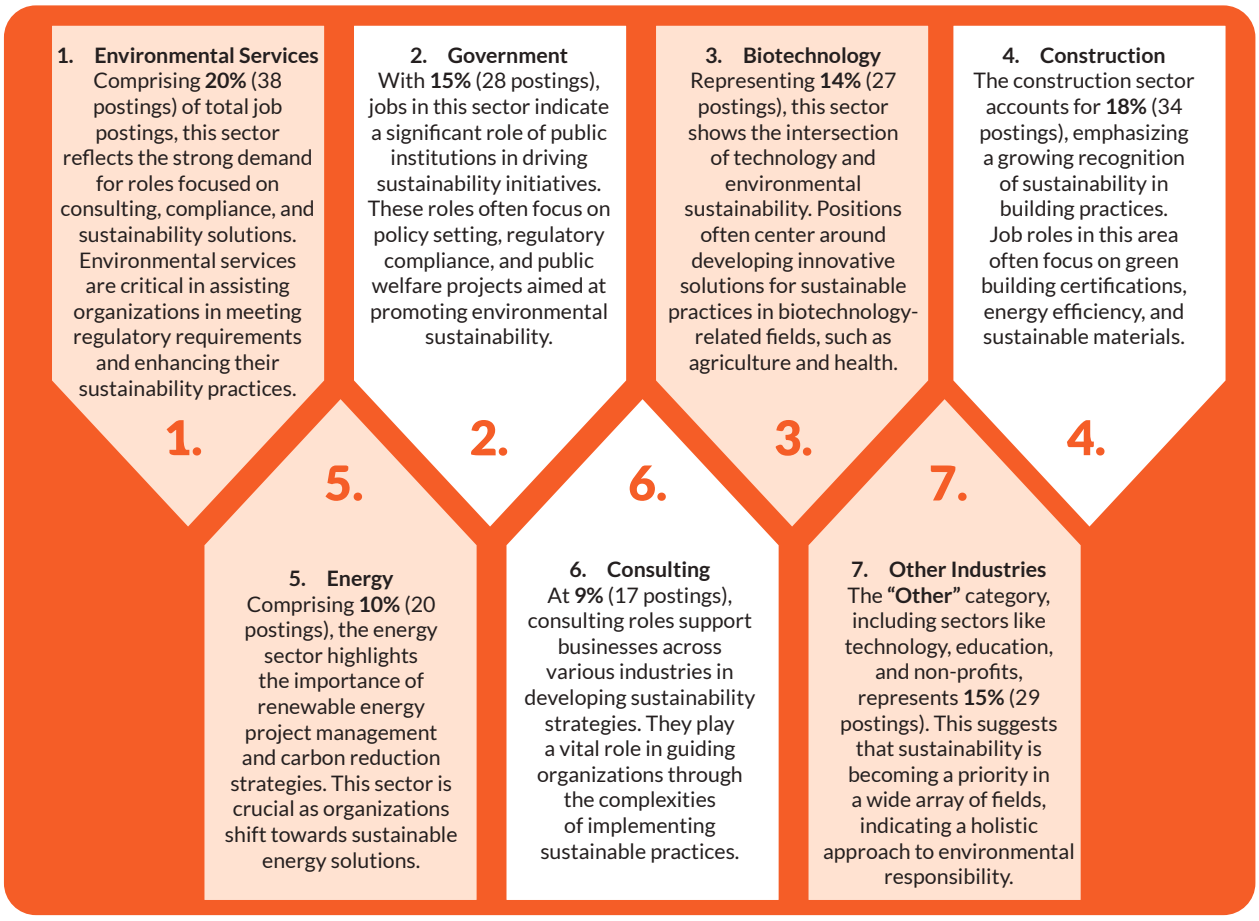
The geographic analysis of the **Country/Region** column reveals a concentrated demand for sustainability roles primarily in the **USA**, followed by noteworthy opportunities in **Belgium** and **Denmark**. The data suggests that while North America leads in job availability, Europe is also making significant strides in enhancing sustainability expertise across multiple sectors. This global distribution reflects a rising recognition of sustainability as an essential component of business strategy and policy-making, paving the way for job seekers in diverse geographic markets to pursue careers in this impactful field.

Sector/Industry

The **Sector/Industry** dataset provides insights into the various industries that are hiring for sustainability-related roles. The diversity in sectors reflects the broad application of sustainability practices across different fields. Below is a breakdown of job postings by sector/industry, along with corresponding percentages and implications.

Table 2. Sector/Industry Analysis

Sector/Industry	Number of Postings	Percentage (%)
Environmental Services	38	20%
Government	28	15%
Biotechnology	27	14%
Construction	34	18%
Energy	20	10%
Consulting	17	9%
Other (Tech, Education, Non-Profit)	29	15%
Total	191	100%



The analysis of the **Sector/Industry** reveals a robust and diverse market for sustainability roles, with significant representation in **Environmental Services**, **Government**, and **Construction**. The wide range of sectors hiring for sustainability positions demonstrates that sustainability practices are being integrated into various industries, reflecting a broader cultural shift towards environmental responsibility. This growth offers numerous opportunities for job seekers, as organizations across sectors recognize the necessity of sustainability expertise to meet their strategic objectives and regulatory obligations.

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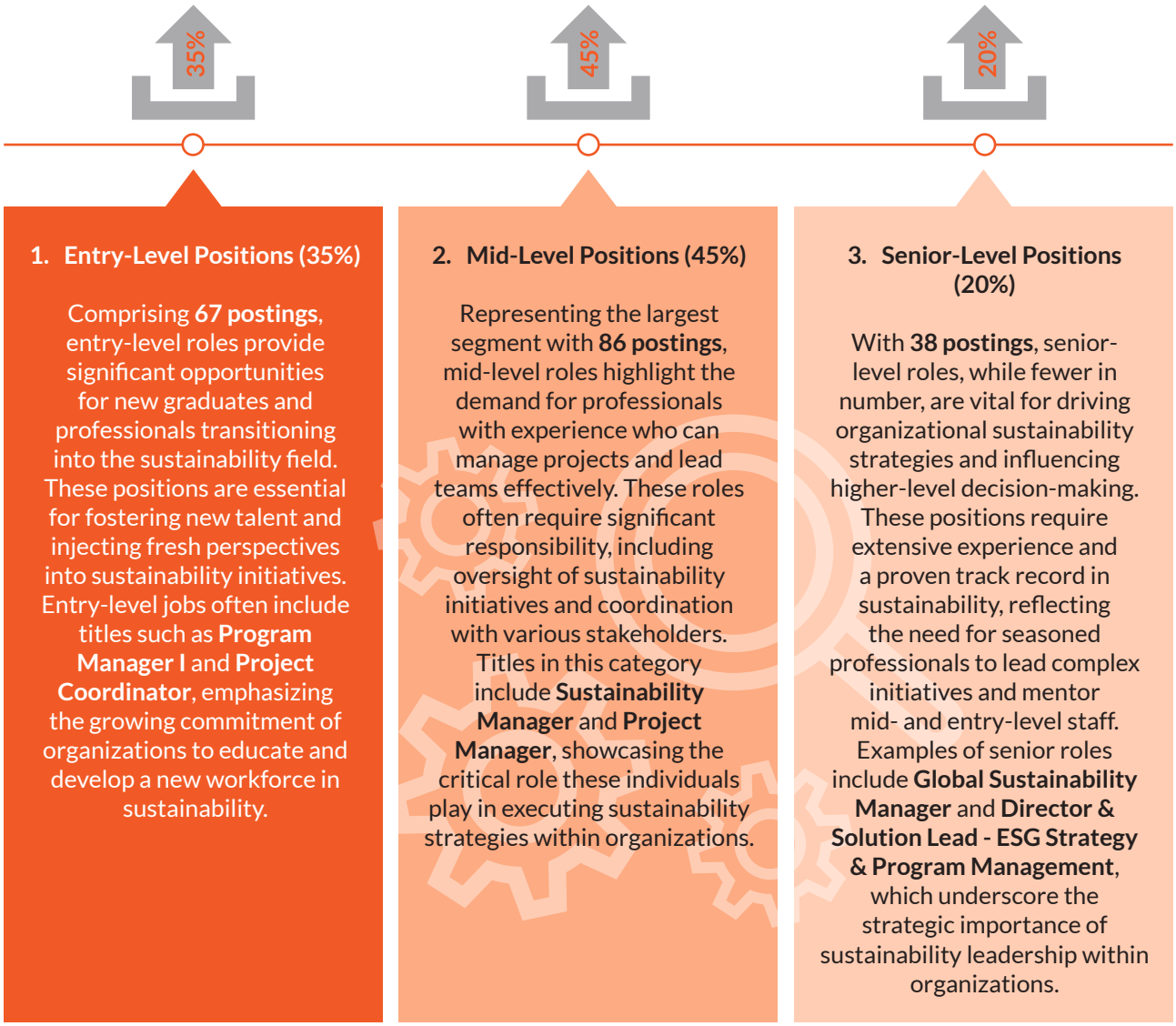
Seniority Level

The Seniority Level categorizes job postings based on the level of experience and responsibility required for each position within the sustainability sector. The distribution of job postings by seniority is as follows:



The Seniority Level analysis indicates a well-balanced opportunity structure within the sustainability job market. Entry-level positions are abundant, providing a solid foundation for new talent, while mid-level roles dominate, reflecting a strong demand for experienced professionals who can effectively manage sustainability endeavours. Although senior-level roles are less frequent, they hold significant importance in shaping organizational vision and strategy related to sustainability. This structure suggests a healthy pipeline for career development in the sustainability sector, enabling individuals to progress from entry-level roles to senior leadership positions. Overall, this dynamic reflects an industry's commitment to integrating sustainability into core business strategies and ensuring ongoing professional growth.

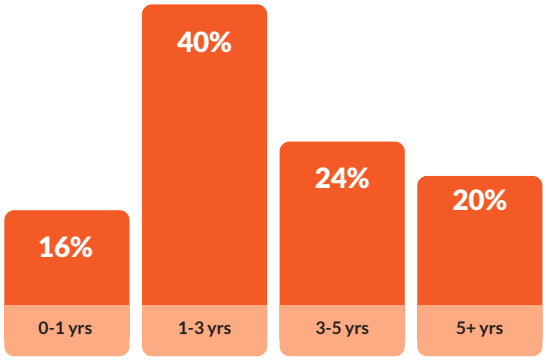
Years of Experience

The Years of Experience dataset categorizes positions based on the required or preferred level of professional experience for applicants. This analysis reflects industry trends regarding experience levels sought by employers in the sustainability sector.

Table 3. Sector/Industry Analysis

Experience Requirement	Number of Postings	Percentage (%)
0-1 Years	30	16%
1-3 Years	76	40%
3-5 Years	45	24%
5+ Years	40	20%
Total	191	100%

Analysis



1. **0-1 Years Experience (16%)**
   Comprising **30 postings**, this category represents entry-level roles that are accessible to new graduates or individuals entering the sustainability field. Such positions are critical for talent development, allowing organizations to cultivate fresh ideas and perspectives from recent graduates.
2. **1-3 Years Experience (40%)**
   Encompassing **76 postings**, this group indicates a strong demand for candidates with moderate professional experience. Employers look for adaptable individuals who have begun to develop their expertise and can manage tasks with some level of independence. This trend suggests that employers value the potential for growth and the ability to contribute to sustainability goals effectively.
3. **3-5 Years Experience (24%)**
   Accounting for **45 postings**, this category requires candidates with significant experience who can handle more complex responsibilities. These roles often involve project management, with a focus on driving sustainability initiatives and working collaboratively with teams across organizations.
4. **5+ Years Experience (20%)**
   Comprising **40 postings**, senior roles demand candidates with extensive experience in sustainability project management, typically **5 years or more**. These positions require a proven track record in leading complex projects, strategic decision-making, and organizational governance. Employers are looking for seasoned professionals who can mentor others while managing significant responsibilities.

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The Years of Experience analysis reveals a clear structure within the sustainability job market regarding the experience level required. The highest proportion of job postings (40%) seeks candidates with **1-3 years** of experience, reflecting a preference for professionals who can bring practical knowledge and adaptability. The availability of entry-level positions (16%) is also essential for developing new talent.

Intermediate positions requiring **3-5 years** highlight the recognition of skill development as professionals advance in their careers, while senior roles (20%) indicate the need for experienced leaders to guide organizations in achieving their sustainability objectives. This trend underscores an evolving job landscape where employers are committed to nurturing talent while also demanding expertise for more complex roles as organizations prioritize sustainable practices.

Required Level of Education

The **Required Level of Education** dataset highlights the educational qualifications sought by employers for various positions in the sustainability sector. This analysis outlines the trends regarding educational requirements and their implications for job seekers.

Table 4. Level of Education Analysis

Education Level	Number of Postings	Percentage (%)
Bachelor's Degree	137	72%
Master's Degree	48	25%
No Specific Requirement	6	3%
Total	191	100%

Analysis

1. Bachelor's Degree (72%)

The majority of job postings (137 positions, **72%**) require at least a **Bachelor's degree** in fields such as **Environmental Science**, **Sustainability**, or **Engineering**. This high percentage underscores the critical role that formal education plays in preparing candidates for sustainability roles. A Bachelor's degree equips job seekers with foundational knowledge of environmental principles, regulations, and best practices necessary for effective performance in the field.

2. Master's Degree (25%)

A notable **25%** (48 postings) of the job listings prefer candidates with a **Master's degree**. This indicates a strong demand for deeper specialization, particularly in senior-level positions. Roles requiring advanced degrees are often associated with complex project management, strategic decision-making, and expertise in niche areas within sustainability, highlighting the value of advanced education for career advancement.

3. No Specific Requirement (3%)

Only **3%** (6 postings) of the roles do not specify any educational requirement. While these positions may be more accessible, they are less common and might not provide a comprehensive opportunity for long-term career development within the sustainability field. These roles could serve as entry points for individuals transitioning from different sectors or looking to gain experience in sustainability.

The analysis of the **Required Level of Education** reveals a strong emphasis on formal education within the sustainability job market. The dominant requirement of a **Bachelor's degree** highlights the necessity for foundational knowledge in environmental disciplines. Meanwhile, the significant preference for **Master's degrees** signifies that employers are increasingly valuing specialization and advanced expertise, especially for leadership roles.

Required Field of Education

The **Required Field of Education** dataset provides insights into the academic backgrounds that employers prioritize when seeking candidates for sustainability roles. This analysis highlights the prevalent fields of study and their implications for the job market.

Analysis

1. Environmental Science (40%)

Over **40%** of the job postings are targeted at candidates with degrees in **Environmental Science**. This indicates a strong preference for foundational subject knowledge that directly pertains to sustainability topics, such as ecology, conservation, and environmental policy. Candidates with backgrounds in this field are often equipped with the essential tools needed to address environmental challenges, making them valuable assets to organizations focused on sustainability initiatives.

40%

2. Engineering (30%)

Approximately **30%** of roles seek candidates with engineering degrees, particularly in disciplines related to **Environmental Engineering** or **Sustainable Design**. This highlights the technical and practical aspects of sustainability, as engineering skills are crucial for developing innovative solutions for sustainable practices in construction, energy management, and technology integration. The demand for engineering backgrounds reflects the interdisciplinary nature of sustainability, where technical knowledge is essential for implementing and managing projects effectively.

30%

3. Other Fields (30%):

The remaining **30%** of postings encompass a variety of academic backgrounds, including degrees in **Business Administration**, **Economics**, **Social Sciences**, and **Public Policy**. These roles often focus on the strategic, financial, and societal implications of sustainability, indicating that expertise in these areas is also essential for driving sustainability initiatives within organizations.

30%

The analysis of the **Required Field of Education** shows that employers in the sustainability job market favour candidates with degrees in **Environmental Science** as a foundational requirement. This preference underscores the necessity of specific knowledge related to sustainability issues. Meanwhile, a significant number of postings seeking engineering degrees highlights the technical skills needed to tackle sustainability challenges, reinforcing the interdisciplinary approach to this field.

Certification

The **Certifications** distribution reveals important details regarding the required qualifications for various sustainability roles, as evidenced in the job postings dataset. Here's a breakdown based on the data you provided:

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Key Findings on Certifications

1. **Prevalence of Project Management Certifications**
   - **PMP (Project Management Professional)** is mentioned in **approximately 14%** (27 postings).
   - **PRINCE2** is referenced in **about 8%** (15 postings).
   - This indicates their critical importance in project management roles within sustainability, with these credentials being widely recognized as essential for managing complex projects effectively.

2. **Diversity of Certifications**
   - The dataset features a variety of project management certifications along with industry-specific qualifications. These include:
     - **RICS (Royal Institution of Chartered Surveyors)**: **1%** (2 postings).
     - **CIOB (Chartered Institute of Building)**: **1%** (2 postings).
     - **APM (Association for Project Management)**: **3%** (6 postings).
   - This diverse mix reflects the interdisciplinary nature of sustainability, requiring professionals to be equipped with both managerial and technical skills.

3. **Specialized Certifications**
   - Specific certifications related to environmental management:
     - **LEED Accredited Professional**: **2%** (4 postings).
     - **MIEMA (Membership of the Institute of Environmental Management and Assessment)**: **2%** (4 postings).
   - These certifications emphasize sustainability principles and green building practices, indicating organizations look for candidates with expertise in sustainable development.

4. **Emerging Focus on ESG**
   - The dataset reveals that a **minimal** percentage of roles mention qualifications related to **Environmental, Social, and Governance (ESG)** such as:
     - **SG Diploma**: **2%** (4 postings).
   - This indicates growing recognition of the necessity of ESG factors in business operations, with professionals increasingly sought to navigate sustainability challenges.

5. **Environmental Health and Safety Certifications**
   - Certifications such as **NEBOSH (National Examination Board in Occupational Safety and Health)** are noted in **1%** (2 postings), highlighting the relevance of health and safety expertise in sustainability roles, especially in sectors dealing with environmental impacts.

The analysis of the **Certifications** data reveals the significant emphasis on recognizing important credentials in the sustainability job market. While only **10%** of the postings specifically mention certifications, those that do—such as **PMP**, **PRINCE2**, and **LEED**—are critical for ensuring effective project and sustainability management. Job seekers in the sustainability sector should consider pursuing these certifications, as they are valuable assets that enhance credibility and expertise in addressing sustainability challenges.

Key Competencies

The Key Competencies dataset analysis provides a comprehensive overview of the essential skills and knowledge that employers prioritize when seeking candidates for roles in project management, sustainability, and related fields. This analysis identifies the specific competencies that are in high demand, reflecting the evolving requirements within the job market.

Table 5. Key Competencies Analysis

Category	Key Competencies	Description	Examples of Application	Market Demand	Employer Expectations
Project Management	General project management practices	Core principles and methodologies for effectively managing various projects.	Developing project plans, resource allocation, managing timelines.	Very High Demand	Strong understanding of project lifecycle and methodologies.
	Data management and sharing	Techniques for organizing and distributing project data effectively.	Creating centralized databases for project information.	High Demand	Skills in maintaining and sharing data with teams.
	Project management for scientific research	Skills for managing research-focused projects, ensuring compliance with scientific standards.	Overseeing data collection and analysis in research settings.	Moderate Demand	Adherence to scientific protocols and compliance with regulations.
	Federal funding agency policies and regulations	Familiarity with funding regulations and policies for projects.	Ensuring compliance with federal funding requirements and timely reporting.	Moderate Demand	Skill in preparing grant applications and financial reports.
	Project coordination	Skills for organizing schedules, budgets, subcontractors, and responsibilities.	Coordinating tasks among team members and ensuring cohesive workflow.	High Demand	Ability to manage timelines and expectations effectively.
	Ability to manage multiple projects simultaneously	Capacity to oversee several projects at once without compromising quality.	Balancing priorities across multiple projects to meet deadlines.	High Demand	Proficiency in prioritizing tasks and balancing workloads.
	Proficiency in project management tools	Expertise in software applications that aid in scheduling and managing projects.	Using Microsoft Project, Asana, or Trello for project tracking.	High Demand	Familiarity with various software tools for efficient execution.
Data Management & Analysis	Capabilities to analyse large amounts of information	Proficiency in extracting actionable insights from complex datasets.	Conducting data visualization using tools like Tableau.	High Demand	Strong analytical skills to inform decision-making.
	Experience handling complex sustainability-related data	Ability to manage and interpret data relevant to sustainability initiatives.	Analysing emissions data for sustainability reporting.	Moderate Demand	Proficiency in ESG reporting and environmental data interpretation.
	Mathematical concepts such as probability and statistical inference	Application of mathematical principles for analyzing project data.	Utilizing statistical methods to analyze project-related data effectively.	Moderate Demand	Competency in interpreting statistical information for project support.

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Category	Key Competencies	Description	Examples of Application	Market Demand	Employer Expectations
Leadership & Communication	Strong leadership skills	Ability to effectively lead teams and manage resources toward project success.	Leading project meetings, motivating team members, resolving conflicts.	High Demand	Capability to inspire and foster collaboration within teams.
	Strong communication skills	Proficiency in conveying messages clearly to teams and stakeholders.	Presenting project updates, creating clear and concise reports.	Very High Demand	Exceptional verbal and written communication skills.
	Teamwork and collaboration	Skills in functioning effectively within diverse teams to achieve joint objectives.	Collaborating on interdisciplinary projects that require teamwork.	High Demand	Proven ability to manage conflicts and build strong relationships.
	Emotional intelligence	Ability to understand and manage emotions in oneself and others.	Navigating team dynamics and providing constructive feedback.	Moderate Demand	High levels of empathy and understanding to manage team dynamics.
Sustainability & Compliance	Understanding sustainability principles	Knowledge of key sustainability concepts and their application in business practices.	Implementing sustainable practices in line with ESG criteria.	Very High Demand	Deep knowledge of sustainability standards and best practices.
	Knowledge of sustainability frameworks	Familiarity with established sustainability reporting frameworks like GRI.	Preparing sustainability reports for compliance with global standards.	High Demand	Ability to implement and report on sustainability initiatives.
	Familiarity with environmental laws and regulations	Comprehensive understanding of all relevant laws and regulations regarding environmental compliance.	Ensuring project adherence to local, regional, and national regulations.	Moderate Demand	Understanding of legal frameworks affecting project decisions.
	Knowledge of safety standards and compliance	Awareness of safety regulations required within projects.	Conducting safety audits and ensuring compliance throughout project phases.	High Demand	Commitment to upholding workplace safety standards.
Risk & Quality Management	Expertise in risk management	Skills in identifying, assessing, and mitigating risks associated with projects.	Conducting risk assessments and creating mitigation strategies.	Moderate Demand	Ability to ensure successful project completion within defined parameters.
	Attention to detail and quality assurance	Focus on quality control to meet project specifications and standards.	Implementing QA/QC processes to ensure project outputs consistently meet requirements.	High Demand	Focus on delivering high-quality results that exceed expectations.
Technical Proficiency	Technical report writing	Ability to produce clear, concise documentation of project processes and findings.	Writing technical documentation for stakeholders and regulatory compliance.	Moderate Demand	Ability to convey complex technical information clearly.
	Familiarity with project management software	Experience using digital tools that enhance project oversight and collaboration.	Utilizing software like Jira for monitoring project status and communication.	High Demand	Increases team collaboration and project visibility.
Strategic Orientation	Strong strategic thinking	Ability to align project initiatives with broader organizational goals.	Developing strategic plans that promote sustainability within organizational contexts.	High Demand	Ability to implement strategies that ensure long-term success.
	Business development focused on sustainability	Skills to identify and pursue sustainable business opportunities.	Forming partnerships with NGOs and other organizations focused on sustainability.	Moderate Demand	Experience in aligning business growth with sustainability initiatives.

Additional Competencies

In addition to the competencies identified in the table, the following key competencies were compiled from your provided text:

1. **Ability to Conduct Materiality Assessments**
   - Assessment of issues that are significant to organizations and their stakeholders, impacting the sustainability strategy.
2. **Proficiency in Sustainability Reporting Frameworks and Tools**
   - In-depth knowledge of tools and frameworks for measuring and reporting sustainability performance.
3. **Proven Ability in Project Management, Stakeholder Engagement, and Auditor Training**
   - Demonstrated skills in managing intricate projects, engaging relevant stakeholders, and training auditors in compliance practices.
4. **Knowledge of Methods for Calculating Carbon Footprints**
   - Familiarity with the techniques and methodologies used to assess the carbon emissions associated with organizational activities.
5. **Experience in Change Management**
   - Skills for navigating organizational change, ensuring smooth transitions, and managing resistance effectively.
6. **Expertise in Environmental, Social, and Governance (ESG) Management**
   - Understanding of ESG frameworks and best practices, contributing to organizational strategies.
7. **Experience with Corporate Social Responsibility (CSR) Initiatives**
   - Familiarity with developing and implementing CSR programs that align with organizational missions.
8. **Ability to Build and Maintain Key Relationships**
   - Skills in effective networking and maintaining professional relationships to facilitate collaboration.
9. **Knowledge of Energy Consumption and Efficiency Measures**
   - Understanding of best practices for reducing energy use and increasing efficiency across projects.
10. **Strong Analytical and Problem-Solving Skills**
    - Ability to assess situations critically and develop effective solutions to overcome challenges.

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11. **Experience in Program/Project Management in HSE, ESG, or Sustainability**
    - Skills in managing programs that focus on health, safety, environment, and sustainability.

12. **Awareness of Emerging Trends in Sustainability and Compliance**
    - Keeping informed about new regulations, technologies, and methodologies that could impact sustainability efforts.

These competencies provide a broader scope of skills essential for success in project management and sustainability-focused roles.

Technical Skills

This analysis categorizes a wide range of **technical skills** based on their relevance and application in various professional roles. The dataset reflects current industry trends, specifically focusing on the competencies that employers prioritize across sectors such as project management, data analysis, and engineering.

Table 6. Key Technical Skills Analysis

Skill Category	Tools/Software	Key Skills
Microsoft Office	Excel, Word, PowerPoint, Access	Advanced Excel (VLOOKUP, Pivot Tables, Macros)
Project Management Software	Microsoft Project, Primavera P6, Asana, Trello, Jira	Task management, scheduling, resource allocation
Data Analysis and Visualization	Power BI, SQL, Excel	Data querying, data modeling, analytical skills
GIS and Technical Software	ArcGIS, QGIS, AutoCAD, Bluebeam	Spatial analysis, design evaluations
ERP and Financial Systems	SAP, other ERP systems	Understanding P&L, ROI, budgeting skills
Collaboration Tools	Microsoft Teams, SharePoint, CRM systems	Team collaboration, effective communication

Additional Skills:

- **Programming Languages:** Familiarity with SQL, Python, and R for data manipulation and automation.
- **Data Reporting Tools:** Experience using reporting tools like Power BI and Workiva for generating insights.
- **Technical Expertise:** Knowledge in areas such as health and safety regulations, NEC contracts, and lean principles.
- **Sustainability Tools:** Proficiency with environmental sustainability systems and certification tools such as BREEAM.
- **Energy Modeling Software:** Skilled in tools for energy modeling related to solar technologies and efficiency assessments (e.g., RETScreen, HOMER).

- **Building Information Modeling (BIM):** Understanding of BIM methodologies and software such as Revit and BIM360.
- **Graphics and Design Software:** Experience with Adobe Illustrator and InDesign for creating visual content and presentations.

Key Role Responsibilities

The **Responsibilities dataset** analysis provides a comprehensive overview of the key tasks and duties associated with roles outlined in job advertisements related to sustainability and ESG. This analysis highlights the essential responsibilities that organizations prioritize to ensure effective execution of sustainability initiatives and compliance with ESG standards, reflecting the growing importance of these areas in today's job market.

1. **Project Management**:
   - Oversee all phases of projects from design through to completion, ensuring that timelines, budgets, and quality standards are met.
   - Coordinate with various stakeholders, including internal teams and external partners, to ensure successful project delivery.
   - Supervise project teams and provide direction to achieve project goals.

2. **Sustainability and Compliance**:
   - Ensure compliance with sustainability regulations, such as the EU Corporate Sustainability Reporting Directive (CSRD) and the EU Taxonomy.
   - Develop sustainability strategies aimed at reducing carbon emissions, improving resource management, and tracking key performance indicators (KPIs).
   - Manage the implementation of sustainability objectives within organizations.

3. **Stakeholder Engagement**:
   - Build and maintain relationships with internal and external stakeholders, including clients, community groups, and regulatory bodies.
   - Foster collaboration to promote sustainability initiatives and achieve stakeholder buy-in.
   - Educate stakeholders on sustainability practices and compliance requirements.

4. **Data Analysis and Reporting**:
   - Collect, analyze, and report data related to greenhouse gas (GHG) emissions, sustainability metrics, and project performance.
   - Ensure transparency and accountability in sustainability reporting, including addressing data gaps and compliance with reporting standards.
   - Develop detailed reports and presentations for management and stakeholders.

5. **Capacity Building and Education**:
   - Provide training and resources to team members and stakeholders on sustainability practices and regulatory compliance.
   - Promote a culture of sustainability within organizations by empowering employees through educational initiatives.

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- Engage in community outreach to raise awareness of sustainability objectives.

6. **Innovation and Continuous Improvement**:
   - Identify opportunities for enhancing sustainability processes and practices within projects and organizations.
   - Drive the development of innovative solutions to meet sustainability challenges and improve project outcomes.
   - Support continuous improvement initiatives through lessons learned and feedback loops.

7. **Financial and Resource Management**:
   - Manage project budgets to ensure fiscal responsibility and the allocation of resources effectively.
   - Prepare project proposals and secure funding for sustainability initiatives.
   - Track financial performance and optimize spending in alignment with project goals.

8. **Leadership and Strategic Direction**:
   - Many roles involve leading teams and projects, indicating a need for strong leadership skills and strategic vision.
   - Project managers are expected to influence and drive change within their organizations, ensuring that sustainability is integrated into core business practices.

9. **Regulatory Knowledge**:
   - A strong understanding of environmental regulations and sustainability requirements is crucial for success in these roles.
   - Professionals must navigate complex compliance landscapes and stay updated on evolving regulations that impact project execution.

10. **Interdisciplinary Collaboration**:
    - Successful sustainability initiatives require collaboration across multiple disciplines, including engineering, finance, compliance, and community engagement.
    - Project leaders must effectively coordinate across departmental lines to meet diverse organizational needs.

11. **Focus on Carbon Reduction and Climate Action**:
    - The emphasis on carbon reduction initiatives reflects a growing urgency within organizations to address climate change impacts.
    - Roles involve developing strategies and projects specifically aimed at minimizing carbon footprints and enhancing climate resilience.

12. **Human and Natural Capital Management**:
    - Addressing issues related to human rights and environmental impacts is integral to achieving sustainability goals.

- Roles emphasize responsible management practices that recognize the interconnectedness of business operations, environmental stewardship, and social responsibility.

The responsibilities frequently outlined across postings demonstrate varied functions but with common themes:

- **Overseeing project activities**: Highlighted in **58%** of positions, underscoring the management focus required.
- **Compliance with regulations**: Cited in nearly **52%**, showcasing the importance of aligning with sustainability laws and standards.

The provided responsibilities and roles indicate a comprehensive approach to managing sustainability and environmental initiatives across various sectors. There is a clear emphasis on project management, stakeholder engagement, compliance with regulations, data analysis, and continuous improvement. Organizations increasingly recognize the importance of embedding sustainability into their operations, aligning with regulatory mandates, and collaborating effectively with stakeholders to foster a more sustainable and resilient future. This holistic approach is essential for achieving both organizational objectives and broader environmental and social goals.

Role Level and Employment Type

This section examines the distribution of role levels and employment types within sustainability and ESG-related positions. Understanding these distinctions provides insights into workforce structures, emphasizing the prevalence of project-oriented roles and the dominance of full-time employment in this sector.

1. Program/Portfolio Roles

- These roles account for **38%** of all positions.
- They focus on managing multiple projects, aligning them with strategic objectives, and ensuring efficient resource allocation.

2. Project Roles

- These positions make up **62%** of the total.
- They involve direct project execution, scope management, and operational coordination.

Employment Type Distribution

- **Full-time positions: 93%** dominate across both categories.
- **Part-time positions: 3%**, primarily in project roles.
- **Contract positions: 4%**, showing some flexibility in workforce management.

This data indicates a strong preference for full-time employment, with project roles being more prevalent than program or portfolio roles.
The analysis highlights a clear preference for full-time employment, with project roles comprising the majority of positions. This trend underscores the operational focus of sustainability initiatives, requiring dedicated resources for effective execution and strategic alignment.

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Previous Experience

This **Previous Experience** dataset shows the types of previous experience sought in ESG project management roles, providing insights into the desired skill sets and background for successful candidates. The analysis categorizes the experience requirements and highlights additional recurring themes beyond the defined categories.

Table 7. Previous Experience Analysis

Category	Description	Examples
Project Management	Experience in planning, executing, and managing projects.	"Project management experience," "Agile project management," "PRINCE2 experience," "PMP certification," "Program management experience," "Portfolio management experience"
Sustainability/ESG/CSR	Experience in environmental, social, and governance initiatives; corporate social responsibility; or sustainability programs and reporting.	"Experience in sustainability," "ESG reporting experience," "CSRD experience," "GRI reporting," "TCFD reporting," "Sustainable finance experience," "ISO 14001 experience"
Industry-Specific	Experience within a particular industry (construction, energy, automotive, etc.). Often combined with project management and sustainability experience.	"Construction management experience," "Renewable energy project experience," "Automotive supply chain experience," "Healthcare energy management experience"
Specific Skill Sets	Skills beyond general project management and sustainability, often software-related or tied to specific roles.	"Experience with SAP," "ArcGIS proficiency," "Data analysis experience," "Financial modeling experience," "Energy procurement experience," "NEPA expertise"
Client Management/Stakeholder Engagement	Experience interacting with clients, partners, or other stakeholders.	"Client-facing roles," "Stakeholder management experience," "Negotiation experience," "Public speaking experience"
Regulatory Compliance	Knowledge of environmental regulations and experience ensuring compliance.	"Experience with environmental permitting," "Knowledge of CSRD," "Familiarity with EU Taxonomy," "Experience with NEPA"
Data Analysis/Reporting	Experience collecting, analyzing, and reporting data, often related to sustainability performance.	"Data analysis skills," "Experience with ESG data," "Proficiency in Power BI," "Excel skills"
No Specific Experience Required	Some entry-level roles may not require prior experience, focusing more on educational background and skills.	"Previous experience welcome, but not a prerequisite"

Beyond the categories detailed in the table, several other recurring themes emerge from the "Previous Experience" descriptions:

- **Cross-functional Collaboration:** Many postings highlight the need for experience working with diverse teams across different departments or organizations. This emphasizes the collaborative nature of sustainability projects, requiring strong communication and interpersonal skills.
- **Risk Management:** A significant number of jobs require or prefer experience in identifying, assessing, and mitigating project risks. This points to the importance of proactive risk management in successful sustainability initiatives.
- **Budget Management and Financial Acumen:** Many roles emphasize the need for experience managing project budgets, demonstrating financial awareness, and potentially even P&L management responsibilities. This reflects the financial aspects often associated with large-scale sustainability projects.
- **Stakeholder Management:** Successfully engaging with diverse stakeholders (clients, regulatory bodies, internal teams, communities) is repeatedly emphasized. This underscores the importance of strong communication, negotiation, and influencing skills.
- **Data Analysis and Reporting:** Experience in collecting, analyzing, and reporting data (often related to ESG performance or sustainability metrics) is frequently mentioned. This reflects the data-driven nature of modern sustainability initiatives and the need for analytical capabilities.
- **Regulatory Compliance:** Many roles highlight the need for understanding and experience with relevant environmental regulations and compliance procedures. This is particularly crucial in sectors with stringent environmental standards (e.g., construction, energy).
- **Change Management:** Several senior roles highlight the need for change management experience, reflecting the transformational nature of sustainability initiatives within organizations.

These additional themes emphasize that a successful Sustainability Project Manager needs a well-rounded skillset that extends beyond core project management and sustainability knowledge. Strong interpersonal skills, financial acumen, risk management capabilities, and a deep understanding of relevant regulations are crucial for success in this field.

2.3 Key Findings and Implications for Professional Profiles in ESG Project Management

This section analyses key characteristics of ESG project management roles based on a sample of job postings. The following tables detail findings on regional distribution, required experience levels, educational backgrounds, and essential skills. It's important to note that these findings are based on a sample and may not reflect the entire ESG job market.

Table 8. provides an overview of the regional distribution of ESG job postings within our sample, highlighting the most frequently represented industries in each region and key market trends.

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Table 8. Distribution of Job Postings Across Regions and Industries

Region	Approximate Percentage of Sample	Top 3 Industries	Key Observations
United States	Approximately 50%	Consulting, Technology, Government/Municipalities	High demand across sectors; significant focus on renewable energy and compliance.
United Kingdom	Approximately 20%	Consulting, Government, Construction	Strong presence of roles in governmental and consulting sectors.
Germany	Approximately 10%	Consulting, Manufacturing, Automotive	Focus on manufacturing and automotive industries' ESG initiatives.
Belgium	Approximately 5%	Biotechnology, Manufacturing, Consulting	Concentrated in Manufacturing & Biotechnology.
Denmark	Approximately 5%	Consulting, Energy, Manufacturing	Strong representation from the consulting industry.
Other (France, Italy, Ireland, Netherlands, etc.)	Approximately 10%	Varies widely across sectors	Opportunities across various sectors, particularly in consulting and manufacturing.

Key Observation: The United States shows the most significant concentration of ESG job postings in this sample, followed by the United Kingdom. The Consulting sector is prevalent across regions.
Implication: Job seekers should tailor their search strategies to regions and industries showing high concentrations of opportunities within this sample.

Table 9. shows the distribution of ESG project management roles by seniority level, indicating average experience, necessary skills, and key implications for professionals at different career stages.

Table 9. Seniority Level and Required Experience

Seniority Level	Approximate Percentage of Sample	Average Years of Experience	Required Skills/Certifications	Key Observations
Entry-Level	Approximately 20%	0-2	Project management basics, some ESG knowledge	Numerous entry-level opportunities; significant potential for career growth.
Mid-Level	Approximately 50%	3-8	Strong project management, ESG expertise, data analysis	The majority of roles; high demand for specialized ESG knowledge and skills.
Senior-Level	Approximately 30%	7+	Strategic leadership, deep ESG expertise, regulatory knowledge	Fewer senior roles; suggests a growing field with strong upward mobility.

Implication: While opportunities exist at all levels, mid-level professionals with proven ESG expertise are especially in demand.

Table 10. summarizes the educational requirements and relevant certifications identified in the sample, highlighting the frequency of different qualifications and their significance for career advancement.

Table 10. Educational Background and Certifications

Education Level	Frequency in Sample	Preferred Fields of Study	Relevant Certifications	Key Observations
Bachelor's Degree	High Frequency	Business, Engineering, Environmental Science	PMP, PRINCE2	Common requirement; often sufficient for entry-level roles.
Master's Degree	Moderate Frequency	Sustainability, Business Administration, Engineering	LEED AP, specific ESG certifications	Increasingly preferred for senior and specialized ESG roles.
Specific Certifications	Moderate Frequency; Varies	N/A	ISO 14001, GRI, relevant industry certifications	Demonstrates specialized knowledge and commitment to the field.

Implication: A Bachelor's degree is frequently a baseline, but a Master's degree and relevant certifications significantly enhance competitiveness, particularly for advanced roles. The specific certifications vary widely.

Table 11. lists the core competencies and technical skills sought after in ESG project management roles, providing insights into the software and tools frequently mentioned in job descriptions. This information is crucial for career planning and skill development.

Table 11. Key Competencies and Technical Skills

Competency Category	Key Competencies	Associated Technical Skills	Key Observations
Project Management	Planning, execution, risk management, stakeholder engagement	MS Project, Asana, Agile methodologies, Planview	Fundamental to nearly all roles.
ESG Expertise	Understanding ESG frameworks, regulatory compliance	Data analysis (Excel, Power BI, etc.), Sustainability software	Deep ESG knowledge essential, especially for mid- to senior-level positions.
Data Analysis	Data collection, analysis, reporting	Excel, Power BI, SQL, R, Python	Increasingly critical for reporting and data-driven decision-making.
Communication	Stakeholder communication, presentation skills	N/A	Vital for all roles; influencing and collaboration are crucial.

Implication: A blend of robust project management skills, thorough ESG knowledge, and strong data analysis abilities are vital for success.

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Brief overview of the research objectives, methodology

The ESG4PMChange project aims to assess the importance of Environmental, Social, and Governance (ESG) competencies in project management and identify the gaps between required and existing skill sets in various industries. This study aligns with the broader goal of integrating sustainability into project management practices, equipping professionals with essential ESG-related skills.
The research methodology was based on a structured online survey conducted across multiple European countries, targeting project management professionals from diverse industries. The survey collected quantitative and qualitative data, covering respondent demographics, organizational ESG practices, and competency assessments. The sample consisted of 986 responses, with a high completion rate of 76.47%, ensuring reliable and representative insights.

Key findings from the survey analysis

- **ESG Competency Gaps:** The survey identified significant gaps between the perceived importance of ESG competencies and their practical application. The most critical gaps were found in Governance (training in ESG standards, compliance, and risk management), Environmental (green technology integration, climate change mitigation), and Social (human rights due diligence, inclusivity in decision-making).
- **Sector-Specific Insights:** Different industries prioritize ESG competencies differently. For instance, Financial Services emphasize regulatory compliance, while Manufacturing and Energy focus on green technologies. The Public Sector and NGOs highlight social governance, human rights, and diversity, equity, and inclusion (DEI).
- **Growing Demand for ESG Skills:** 83.4% of respondents anticipate an increased demand for ESG-related project management skills over the next five years. The highest demand is expected in Education, Financial Services, IT, and Engineering.
- **Barriers to ESG Training:** The most common barriers include a lack of awareness (51.1%), a shortage of qualified trainers (33.4%), and insufficient employer support for ESG education (32.5%).
- **Preferred Educational Formats:** Short certification courses and interdisciplinary programs integrating sustainability with project management were identified as the most effective training formats.

Summary of recommendations

- **Enhancing ESG Education and Training:** Organizations and academic institutions should integrate ESG training into formal education and professional certification programs. A modular approach, combining theoretical and practical training, would be most effective.
- **Bridging Competency Gaps:** Developing industry-specific ESG competency frameworks can help address the most critical skill deficiencies, particularly in governance, compliance, and environmental innovation.
- **Strengthening Organizational ESG Practices:** Companies should implement structured ESG policies, improve internal training programs, and increase transparency in ESG reporting.
- **Encouraging Cross-Sector Collaboration:** Public and private sector collaboration should be fostered to standardize ESG project management competencies and create sustainable impact across industries.

3. ONLINE SURVEY WITH INDUSTRY PROFESSIONALS

3.1 Introduction

3.1.1 Objectives: Specific aims of the survey and analysis

The primary objective of the ESG4PMChange online survey was to identify emerging trends and skills needs in project management, with a specific focus on ESG-related project management roles. This objective aligns with the broader goal of the ESG4PMChange project to support the development of ESG competencies in project management across diverse sectors. The survey aimed to:

- Identify in-demand ESG-related job profiles and roles within project management.
- Determine the requisite ESG competencies needed by project management professionals.
- Explore trends indicating an increased demand for project management professionals equipped with ESG skills.
- Assess existing educational gaps and training needs related to ESG competencies.

This data-driven approach was designed to ensure that the subsequent development of professional profiles and the ESG competency framework would be directly responsive to **market needs** and **educational gaps** identified through the survey.

3.1.2 Scope: Description of the survey's focus areas

The scope of the survey was defined to capture a comprehensive view of ESG-related project management practices, competencies, and future needs across multiple sectors and countries. Specifically, the survey focused on:

- **Respondent Demographics:** Collecting data on professionals' backgrounds, including their experience, educational qualifications, and roles within their organizations.
- **Organizational Context:** Gathering information on the industries, sizes, and ESG practices of organizations represented by the respondents.
- **ESG Competencies:** Assessing the importance of specific ESG competencies across different industries and evaluating organizational performance in applying these competencies.
- **Future Expectations and Challenges:** Exploring anticipated changes in demand for ESG-related skills, identifying barriers to ESG education, and gathering recommendations for addressing these gaps.

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The survey was conducted across European countries, ensuring a broad representation of diverse labour markets within the EU. It targeted responses from:

- **Higher Education Institutions (HEIs)** and **Vocational Education and Training (VET)** organizations, tasked with collecting over **300 responses** (at least 50 per partner).
- **Business sector actors** and the **PM² Alliance**, responsible for gathering over **200 responses** (at least 50 per partner).

In total, the survey aimed to engage **over 500 respondents**, providing a rich dataset to inform the project's deliverables. The findings will be consolidated into a comprehensive **state-of-the-art report**, identifying job profiles, roles, and associated skills linked to current and emerging market needs. This report will also offer recommendations for bridging educational gaps, ensuring that project management professionals are well-equipped to meet the demands of an evolving ESG landscape.

3.2 Methodology

3.2.1 Research Design: Overview of the research approach and design

The research design for the ESG4PMChange survey was grounded in a robust methodological framework to ensure the reliability and validity of the findings. The development of the survey instrument was informed by an in-depth review of Frameworks and Standards for ESG in Project Management, and enriched by the expert knowledge of business partners and academic specialists from higher education institutions.

The questionnaire was meticulously crafted through collaborative discussions among project partners, including a dedicated session during the kick-off meeting held on December 9-10, 2024, in Novi Sad. This meeting provided a platform for extensive deliberation, ensuring that each survey question was thoughtfully designed to capture relevant and actionable data. The process highlighted the project team's commitment to methodological rigor, with questions reflecting both theoretical foundations and practical insights.

This approach ensured that the survey addressed the key objectives of the ESG4PMChange project—identifying current ESG-related project management competencies, organizational practices, and future trends. The careful construction of the questionnaire, supported by expert input and thorough review, underscores the credibility of the data collected.

The questionnaire was prepared exclusively in **English**, with the decision not to translate it into the languages of project partners based on several considerations:

- **Proficiency of ESG Professionals:** Specialists in the ESG field generally possess a sufficient level of English proficiency to complete the survey accurately.
- **Consistency in Data Analysis:** Utilizing a single language facilitates a more straightforward, consistent, and error-free analysis process, eliminating potential discrepancies from translation.
- **Terminological Consistency:** Many ESG-related terms do not have direct equivalents in other languages and maintaining them in English ensures clarity and precision.
- **Efficiency in Survey Administration:** Managing one version of the questionnaire reduces administrative overhead, simplifies the data collection process, and enhances data integrity.

3.2.2 *Questionnaire Development: Details on the development of the survey questionnaire, including the sections provided*

The survey was developed to gather comprehensive insights into ESG-related project management competencies, focusing on identifying gaps, trends, and future needs within the industry.

The survey utilized various measurement scales to capture both quantitative and qualitative data:

- Quantitative Data. Predominantly collected using 5-point Likert scales, where respondents rated the importance of specific ESG competencies (1 = "Not relevant" to 5 = "Essential for most projects") and their organization's performance in applying these competencies (1 = "Very poor" to 5 = "Excellent").
- Qualitative Data. Open-ended questions were included to gather detailed insights, personal experiences, and suggestions regarding ESG challenges and future expectations. These qualitative responses complement the quantitative findings, providing a richer understanding of the context and depth of respondents' perspectives.

The questionnaire consists of three main sections:

1. **Respondent Background Questions.** This section collects demographic and professional information from participants, including:
   - Gender
   - Age group
   - Highest level of education completed
   - Project management certification status
   - Country of work location
   - Professional seniority level
   - Years of experience in project-oriented environments
   - Current role and functional area within the organization
   - Work environment (e.g., traditional office, remote, hybrid)

2. **Organization Background Questions.** This section aims to understand the organizational context in which respondents work, covering:
   - Primary industry of the organization
   - Years of operation
   - Staff headcount
   - Existence of sustainability/ESG-specific roles
   - Duration and approach to ESG integration
   - Types of ESG initiatives implemented
   - Frequency of personal interaction with ESG-related topics in the respondent's role

3. **Competencies for ESG Project Management (ESG PM).** This section assesses specific competencies related to Environmental, Social, and Governance (ESG) dimensions. Respondents rate the importance of each competency in their industry and their organization's performance in applying these competencies. Key areas include:
   - Environmental competencies (e.g., resource efficiency, pollution prevention, climate change mitigation)

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- Social competencies (e.g., stakeholder engagement, human rights, diversity and inclusion)
- Governance competencies (e.g., ethical conduct, risk management, ESG reporting)

Future Expectations and Key Challenges. This section gathers respondents' views on future needs for ESG-focused project management and education. It addresses:

- Anticipated changes in demand for ESG skills
- Key trends influencing ESG competencies
- Barriers to integrating ESG training in professional development
- Recommendations for improving ESG education and certification

Validation and Piloting: Steps taken to validate and pilot the survey. Following the kick-off meeting, the survey underwent a **Validation and Piloting** phase to ensure its quality and effectiveness.

Pre-testing. The pretest involved **5-10 industry professionals** to assess the clarity, relevance, and optimal length of the questionnaire. Based on the feedback received, adjustments were made to improve question wording, eliminate ambiguities, and streamline the flow of the survey.

Ethical Considerations. A consent statement was included at the beginning of the survey, ensuring compliance with **GDPR** and other data protection regulations. The statement emphasized voluntary participation, data anonymization, and the specific purpose of data collection under the ESG4PMChange project.

"Your participation in this survey is voluntary, and your responses will be anonymized and used solely for project ESG4PMChange (Project no. 101187376 ERASMUS-EDU-2024-PI-ALL-INNO) purposes. By continuing, you agree to the collection and processing of your data in compliance with the applicable EU, international and national law on data protection (in particular, Regulation 2016/679, Directive 95/46/EC ("GDPR"))."

Expert Review. The survey was reviewed by **project management experts** from **Poland, Serbia, Italy, and Croatia** to ensure diverse perspectives. The content was evaluated for relevance, clarity, and alignment with project goals.

Technical Testing. The survey was tested across various devices and browsers to ensure proper functionality. Technical validation included checking display compatibility from different countries and ensuring accessibility.

After incorporating feedback from both content and technical evaluations, the questionnaire reached its **final form** and was prepared for launch in the online environment.

3.2.3 Survey Implementation: Description of the survey platform, data collection process, and timeframe.

The survey was implemented using **LimeSurvey**, an open-source online survey tool known for its flexibility and robust data collection features. Key aspects of the implementation included:

- **Platform Setup:**
  - LimeSurvey was configured to prevent duplicate responses through IP tracking and email validation mechanisms.
  - Separate **collectors** were established for each project partner, enabling precise tracking of response rates and contributions. This feature was crucial, especially as multiple institutions from the same country participated, allowing for clear differentiation in data collection efforts.
- **Data Collection:**
  - **Target Participants:** Industry professionals from diverse sectors.
  - **Target Responses:**
    - Higher Education Institutions (HEIs) and Vocational Education and Training (VET) organizations (8 partners) were tasked with collecting over 300 responses, aiming for at least 50 responses per partner.
    - Business sector partners (6 partners) were responsible for gathering over 200 responses, with a similar target of 50+ responses per partner.
- **Promotion Strategies:**
  - Direct email invitations and follow-up reminders.
  - Dissemination through professional networks, including LinkedIn and industry-specific forums.
  - Leveraging personal and organizational networks of project partners.
- **Timeframe:**
  - The data collection period spanned from **December 23, 2024, to February 1, 2025**.

Despite the length and complexity of the survey—which required significant focus from respondents—partners successfully gathered a substantial number of responses. The ability to monitor each partner's progress was instrumental in ensuring targets were met, fostering accountability, and identifying areas where additional outreach was needed. Survey Response Summary was presented in Table 12.

Table 12. Survey Response Summary

Partner Organization	Country	Type of Organization	Full Answers	Partial Answers	Total Responses
University of Novi Sad (UNS)	Serbia	HEI	54	12	66
Alma Mater Studiorum - Università di Bologna (UNIBO)	Italy	HEI	42	34	76
University of Information Technology and Management (UITM)	Poland	HEI	65	25	90
University of Thessaly (UTH)	Greece	HEI	52	23	75
University of Split (UNIST)	Croatia	HEI	60	31	91
PM² Alliance	Belgium	Professional Association	60	37	97
Energy Net (ENG)	Serbia	SME	60	6	66
ESG EDU-LAB	Serbia	SME	11	0	11

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Future Food Institute ETS (FFI)	Italy	SME	62	13	75
REVAS	Poland	SME	51	2	53
SPARKY	Croatia	SME	53	10	63
Advise Institute (AINS)	Serbia	VET	55	8	63
Syntea Spółka Akcyjna (SSA)	Poland	VET	74	12	86
European Academy (EA)	Latvia	VET	55	19	74
Total			754	232	986

The completion rate refers to the proportion of respondents who fully completed the survey compared to the total number of respondents who started it.

In this case, the completion rate is approximately 76.47% (0.7647). Achieving this completion rate is significant because it exceeds the 75% target set in the project plan, demonstrating strong respondent engagement despite the survey's length and complexity. This high completion rate enhances the reliability and validity of the collected data, ensuring a robust foundation for subsequent analyses and reporting.

3.3 Respondent Demographics

3.3.1 Gender, age, and education distribution

The survey results indicate a nearly balanced gender distribution among respondents:

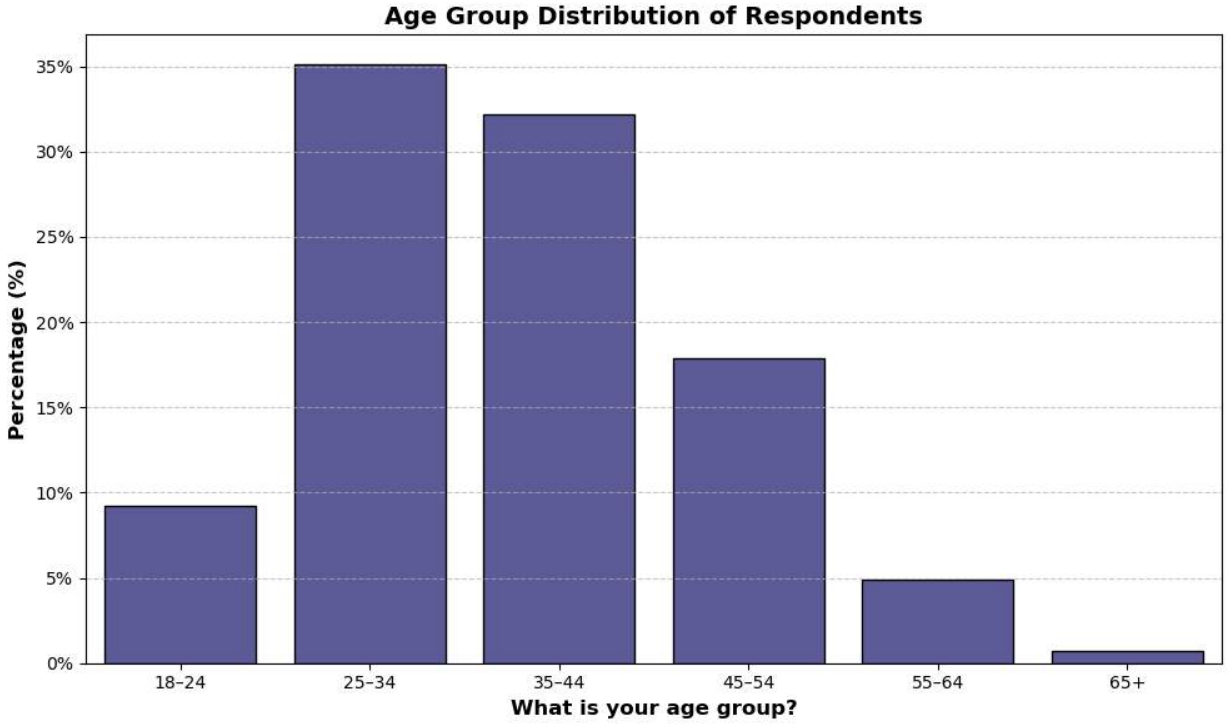
- **Male:** 382 respondents (50.7%)
- **Female:** 355 respondents (47.1%)
- **Prefer not to say:** 17 respondents (2.3%)

This balance ensures diverse perspectives, contributing to robust analysis across various demographic segments. Respondents' age groups are distributed as shown in Table 13.

Table 13. Respondents' Age Distribution

Age range	No. of respondents	%
18–24	69	9,2%
25–34	265	35,1%
35–44	243	32,2%
45–54	135	17,9%
55–64	37	4,9%
65+	5	0,7%

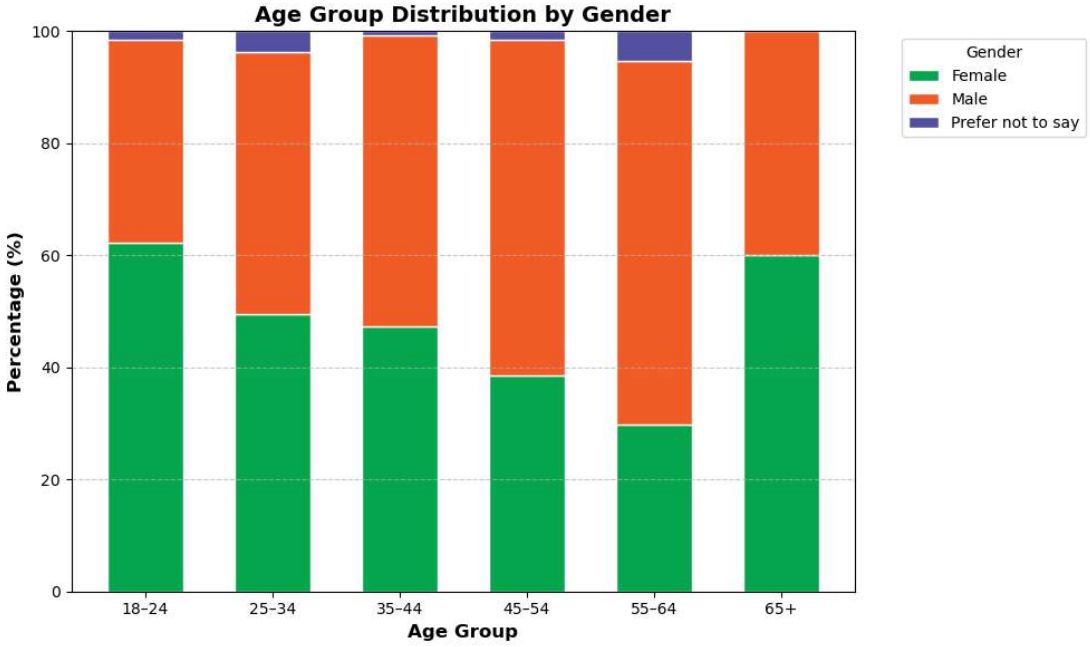
The largest group of respondents falls within the **25–44 years** range (67.3%), reflecting a strong representation of mid-career professionals actively engaged in project management roles.



Graph 1. Age Distribution of Respondents

An additional cross-tabulation of age group and gender reveals the following patterns:

- A balanced representation across both male and female respondents in the **25–44** age groups.
- A slight predominance of male respondents in older age categories (45+).



Graph 2. Age Group Distribution by Gender

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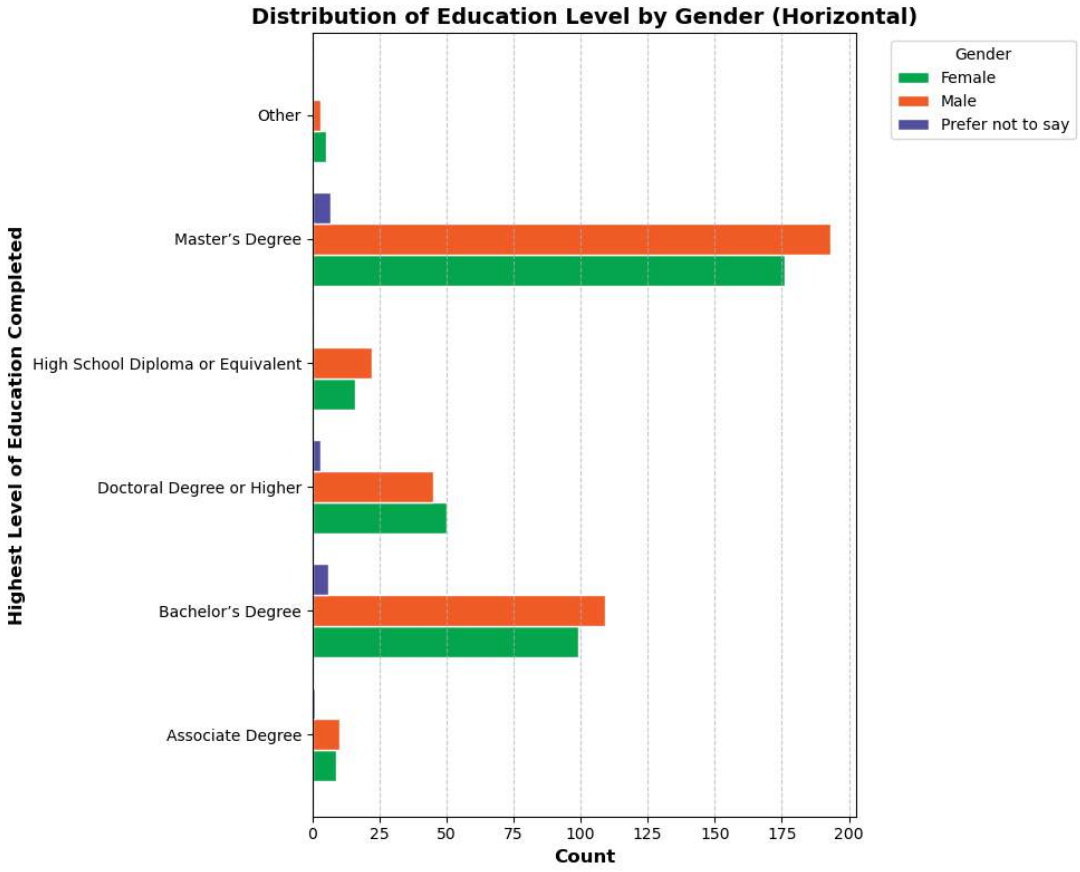
Table 14. presents educational attainment of respondents. It shows a high level of qualifications.

Table 14. Educational Level of Respondents

Highest completed level of education	No. of respondents	%
Associate Degree	20	2,7%
Bachelor's Degree	214	28,4%
Doctoral Degree or Higher	98	13,0%
High School Diploma or Equivalent	38	5,0%
Master's Degree	376	49,9%
Other	8	1,1%

Most respondents (over 90%) possess at least a **bachelor's degree**, indicating a highly educated sample population with relevant expertise in project management and ESG-related topics.



Graph 3. Educational Level by Gender

Key Insights:

- The sample includes a balanced gender distribution, with a slight male predominance.
- The age distribution skews towards younger professionals (25–44), representing active project management practitioners.
- A significant proportion of respondents hold advanced degrees, reflecting a highly educated cohort engaged in ESG and project management sectors.

3.3.2 *Professional background: seniority level, project management certification status, years of experience.*

Seniority Level Analysis

The analysis of professional seniority levels among the respondents reveals the following distribution:

- Mid-level professionals: 217 respondents (28.8%)
- Senior professionals: 210 respondents (27.9%)
- Manager/Director: 142 respondents (18.8%)
- Entry-level specialists: 136 respondents (18.0%)
- Executive/C-level experts: 49 respondents (6.5%)

The largest proportion of respondents identify as **mid-level professionals** and **senior professionals**, together representing over 56% of the sample. This indicates a strong representation of experienced individuals with significant responsibilities within their organizations.

Gender Distribution within Seniority Levels

A cross-tabulation of seniority levels and gender reveals notable patterns:

- Entry-level specialists are slightly more likely to be female (53.7%) than male (43.4%).
- Executive/C-level experts are predominantly male (67.3%) compared to female (32.7%).
- Manager/Director roles show a higher proportion of males (62.0%) compared to females (37.3%).
- Mid-level professionals have a balanced distribution with females at 50.2% and males at 46.5%.
- Senior professionals are almost equally distributed between females (49.5%) and males (48.1%).

This data suggests a gender gap at the executive level, with a higher representation of males in top management positions. However, there is near gender parity at mid and senior professional levels.

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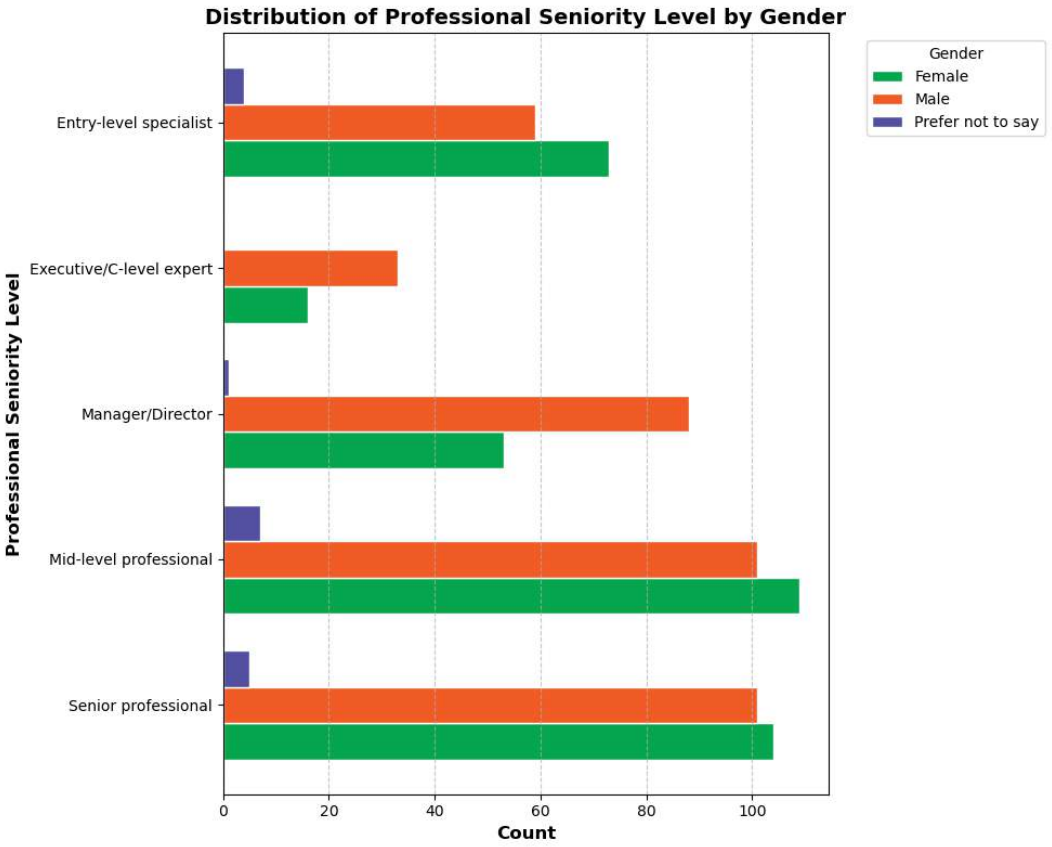


Graph 4. Professional Seniority Level by Gender

Project Management Certification Status

Certification status among respondents shows the following:

- No certification: 589 respondents (78.1%)
- Certified (Other): 165 respondents (21.9%)

A notable proportion of respondents (21.9%) hold project management certifications, including popular credentials such as PMP, PRINCE2, and IPMA.

Figure 2. PM Certificates on word cloud

Years of Experience in Project-Oriented Environments

Respondents reported years of experience with distribution presented in Table 15.

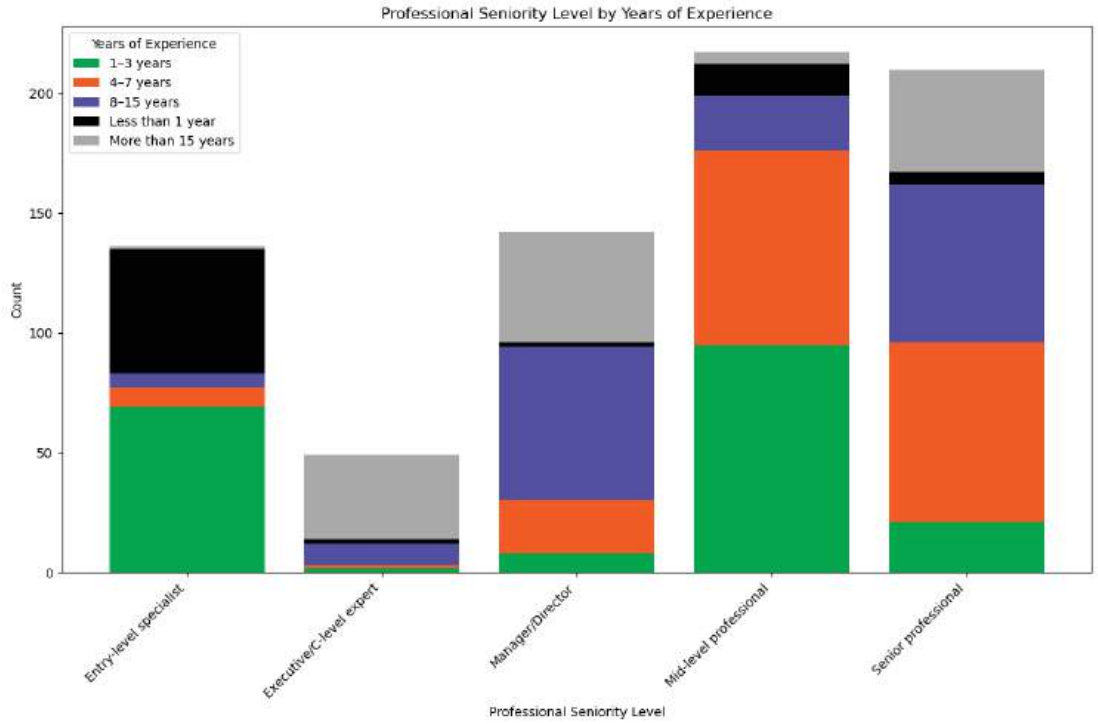
Table 15. Years of Experience in PM

Years of experience	%
1–3 years	25,9%
4–7 years	24,8%
8–15 years	22,3%
Less than 1 year	9,8%
More than 15 years	17,2%

Most respondents have **1–7 years** of experience, suggesting a sample rich in early to mid-career professionals.

Cross-Tabulation Insights

- Seniority Level vs. Years of Experience: Senior professionals generally have 8+ years of experience, while entry-level specialists mostly report 1–3 years.
- Certification Status vs. Seniority Level: Certification is more common among managers, directors, and senior professionals.
- Gender vs. Years of Experience: Slight male predominance in higher experience brackets (>15 years), with balanced distribution in lower experience ranges.



Graph 5. Professional Seniority Level by Years of Experience

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Key Insights:

- Respondents represent a wide range of seniority levels, with strong representation from experienced professionals.
- Certifications are common, especially in leadership roles, reflecting a focus on formal project management credentials.
- The majority of respondents have substantial project management experience, providing a robust basis for analyzing ESG-related competencies and trends.

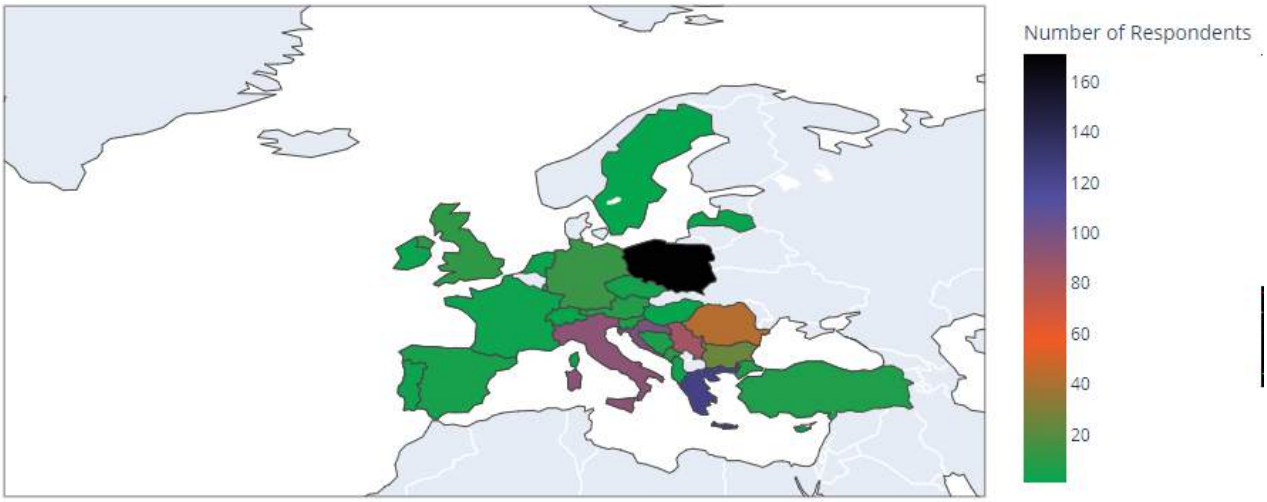
3.3.3 Geographic distribution of respondents

The respondents of the ESG4PMChange survey are geographically diverse, representing countries from multiple regions. The question posed was: *"What is the predominant country of your work location?".*

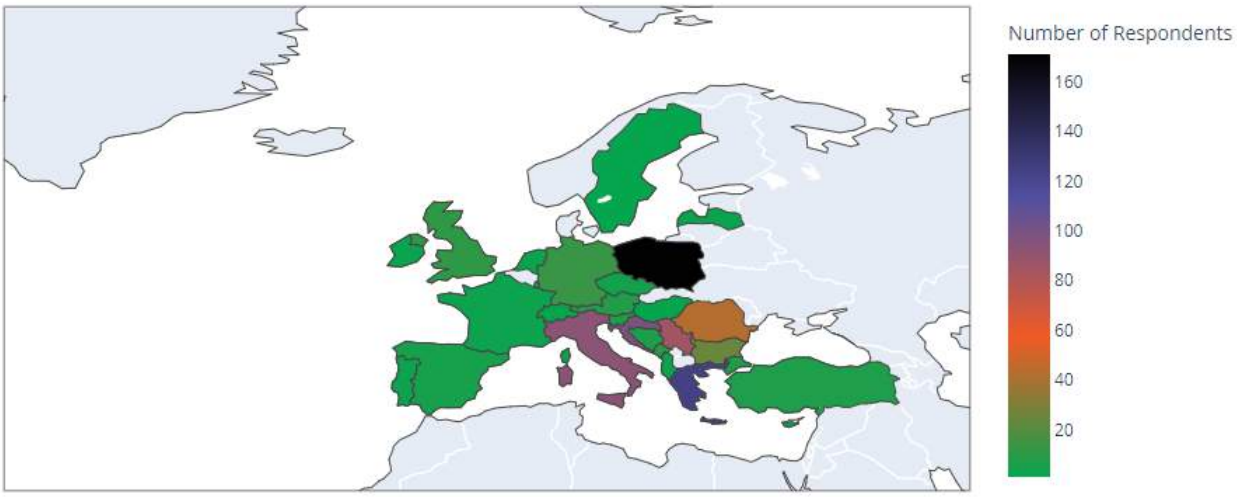
The top countries where respondents predominantly work include:

- Poland: 171 respondents (22.7%)
- Greece: 124 respondents (16.4%)
- Croatia: 99 respondents (13.1%)
- Italy: 93 respondents (12.3%)
- Serbia: 85 respondents (11.3%)

Other countries with notable representation include Romania (5.7%), Bulgaria (3.3%), and United Kingdom (1.5%). Smaller proportions of respondents come from countries across Europe, Asia, Africa, and the Americas, including Albania, Argentina, Turkey, Uganda, and the United States.



Graph 6. Geographic Distribution of Respondents - part 1



Graph 7. Geographic Distribution of Respondents - part 2

Key Insights:

- The highest representation comes from Central and Eastern European countries, particularly Poland, Greece, and Croatia.
- Respondents span across diverse regions, providing a broad international perspective on ESG-related project management practices.
- The strong European focus aligns with the survey's outreach strategy, while contributions from non-European countries add global context to the findings.

3.3.4 Roles, Titles, Functional Areas, and Work Environments

The majority of respondents occupy project-level roles, reflecting their active involvement in project execution and management tasks. The distribution of roles is as follows:

- Project-level role (e.g., Project Manager, Team Leader, Project Team Member): 422 respondents (56.0%)
- Program-level role (e.g., Program Manager, Program Coordinator): 166 respondents (22.0%)
- Portfolio-level role (e.g., Portfolio Manager, Portfolio Analyst): 85 respondents (11.3%)
- Other roles: 81 respondents (10.7%)

More than half of the respondents (56%) are engaged in project-level activities, indicating that the survey captured insights from professionals directly involved in project delivery and execution.

Cross-tabulation analysis between current roles and project management certification status revealed the following trends:

- Among respondents without a project management certification:
  - 59.1% hold project-level roles
  - 20.4% are in program-level roles
  - 9.2% occupy portfolio-level roles
  - 11.4% fall under other roles
- Among respondents with a certification:
  - 44.8% hold project-level roles

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- 27.9% are in program-level roles
- 18.8% are in portfolio-level roles
- 8.5% are in other roles

Key Insight: Respondents with project management certifications are more likely to occupy program- and portfolio-level roles compared to their non-certified counterparts, suggesting that certification may support career progression into higher-level management roles.
Respondents operate in diverse work environments, reflecting modern workplace dynamics:

- Hybrid (mix of office and remote): 397 respondents (52.7%)
- Traditional office setting: 237 respondents (31.4%)
- Fully remote (work from home): 57 respondents (7.6%)
- On-site fieldwork (e.g., construction, site visits): 28 respondents (3.7%)
- Co-working space: 13 respondents (1.7%)
- Client-based (working at client locations): 11 respondents (1.5%)
- Other environments: 11 respondents (1.5%)

Over half of the respondents (52.7%) work in hybrid environments, highlighting the shift towards flexible work models post-pandemic.

Work Environment by Industry:

- Hybrid work environments are prevalent in industries like Education, Information Technology, and Professional Services.
- Traditional office settings are common in Financial Services, Healthcare, and Public Sector/Government.
- On-site fieldwork is dominant in Construction and Engineering Services.

Work Environment by Seniority Level:

- Senior professionals and mid-level professionals predominantly work in hybrid environments.
- Entry-level specialists are more represented in traditional office settings and fully remote roles.
- C-level executives often prefer traditional office environments but show a significant presence in hybrid settings as well.

The hybrid work model appeals across different seniority levels, with a slight preference among senior professionals, indicating a trend towards maintaining flexibility even at higher organizational levels.

A tag cloud was generated from open-ended responses regarding current job titles. Key terms include “Project Manager,” “Director,” “Consultant,” and “Coordinator,” indicating the diversity of roles in project-oriented settings.

Figure 3. Current Job Title word cloud

The tag cloud for primary functional roles highlights terms such as "Operations," "Finance," "IT," and "Strategy," reflecting the broad range of functional areas where respondents are engaged.

Figure 4. Primary Functional Roles

3.4 Organizational Context

3.4.1 Industry sectors represented

The respondents represent a wide range of industry sectors, with the most common being:

- Education: 159 respondents (21.1%)
- Information Technology (IT): 103 respondents (13.7%)
- Financial Services: 56 respondents (7.4%)
- Engineering Services: 47 respondents (6.2%)
- Non-Profit/NGO: 37 respondents (4.9%)

Other notable industries include Healthcare, Manufacturing, and Professional Services.
Industry and Gender Distribution.
A cross-tabulation of industry sectors and gender shows notable trends:

- Education has a higher proportion of female respondents (65.4%).
- IT and Engineering Services have a higher proportion of male respondents (56.3% and 57.4%, respectively).

Industry and Project Management Certification

The prevalence of project management certification varies across industries:

- Education: 84.3% of respondents do not hold a certification.

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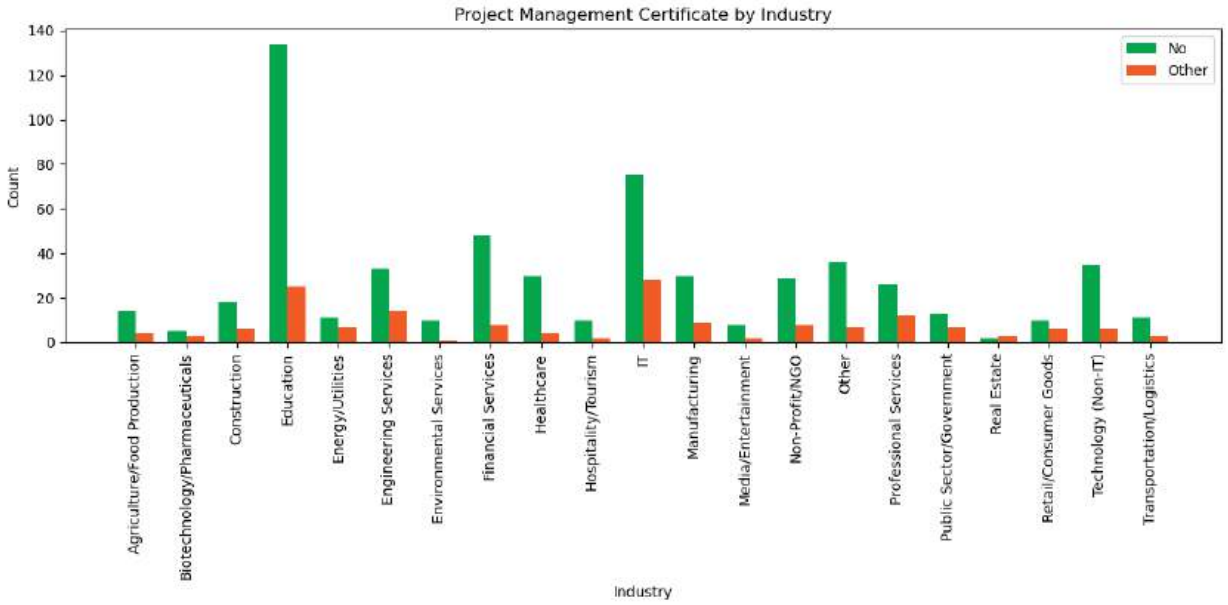
- IT: 72.8% of respondents are certified, primarily with PMP and PRINCE2.
- Professional Services: 68.4% hold certifications, reflecting the industry's focus on formal project management practices.



Graph 8. PM Certificate by Industry

Project management certifications are more prevalent in industries with structured project management practices, such as IT and professional services.

3.4.2 *Organizational size, years of operation, and ESG integration status*

The survey respondents represent organizations of varying sizes. The distribution is shown in Table 16.

Table 16. Company Size of Respondents

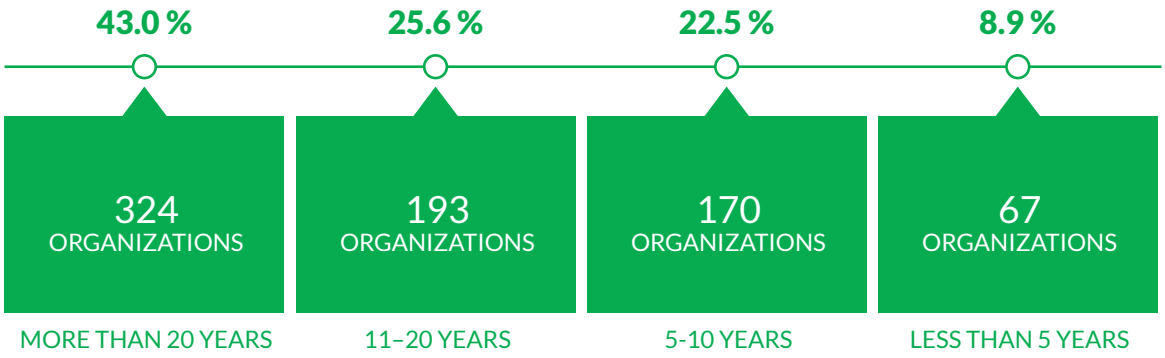
Company size	Frequency	%
Large (251+ employees)	243	32,2
Medium (51–250 employees)	165	21,9
Small (1–50 employees)	236	31,3
Micro (1–10 employees)	110	14,6
Total	754	100,0

The distribution shows a balanced representation between large (32.2%) and small organizations (31.3%), with micro and medium-sized organizations making up the remaining 36.5%.

Years of Operation

Respondents' organizations vary in terms of operational longevity:

- More than 20 years: 324 organizations (43.0%)
- 11–20 years: 193 organizations (25.6%)
- 5–10 years: 170 organizations (22.5%)
- Less than 5 years: 67 organizations (8.9%)



The data highlights that most respondents are from well-established organizations, with 68.6% of them operating for over 10 years.

ESG-Specific Roles and Responsibilities

Respondents provided the following insights regarding ESG-specific roles in their organizations:

- No ESG-specific roles: 287 respondents (38.1%)
- Uncertain (I do not know): 254 respondents (33.7%)
- Yes (roles exist but not clearly defined): 213 respondents (28.2%)

Here is the summary of the responses related to ESG-specific roles within organizations (*Open-ended question*):

1. Sustainability Officer/Manager - frequently mentioned role indicating responsibility for sustainability initiatives.
2. ESG Team - highlighting the presence of dedicated groups focusing on ESG matters.
3. Environmental Protection Expert - noted multiple times, emphasizing environmental concerns within organizations.
4. Vice-Chancellor for Sustainable Development - indicates a leadership position specifically for sustainability.
5. Manager for Sustainable Development - showcasing management roles directly tied to sustainability projects.
6. ESG Consultant/Manager - pointing towards external/internal consultancy roles related to ESG strategies.
7. Directorate of Sustainability - suggesting an organizational department focused solely on sustainability.

Less frequent mentions include roles like Carbon Footprint Analyst, Sustainability BREEAM Team, and specific project-based roles (e.g., Impact Investors, Compliance Managers).

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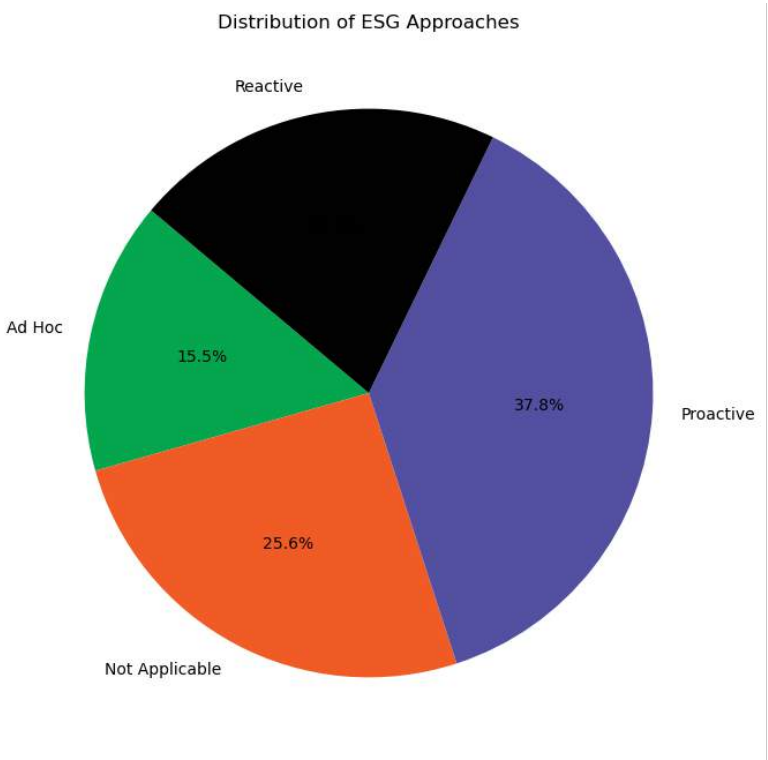
Cross-tabulation Analysis

- **Organizational Size vs. ESG Roles:**
  - Large organizations have the highest proportion of respondents unaware of ESG roles (102), while 101 confirmed their existence.
  - Smaller organizations (1–50 employees) reported the highest number of organizations without ESG-specific roles (115).
  - Micro organizations are least likely to have ESG roles, with 73 out of 110 reporting none.

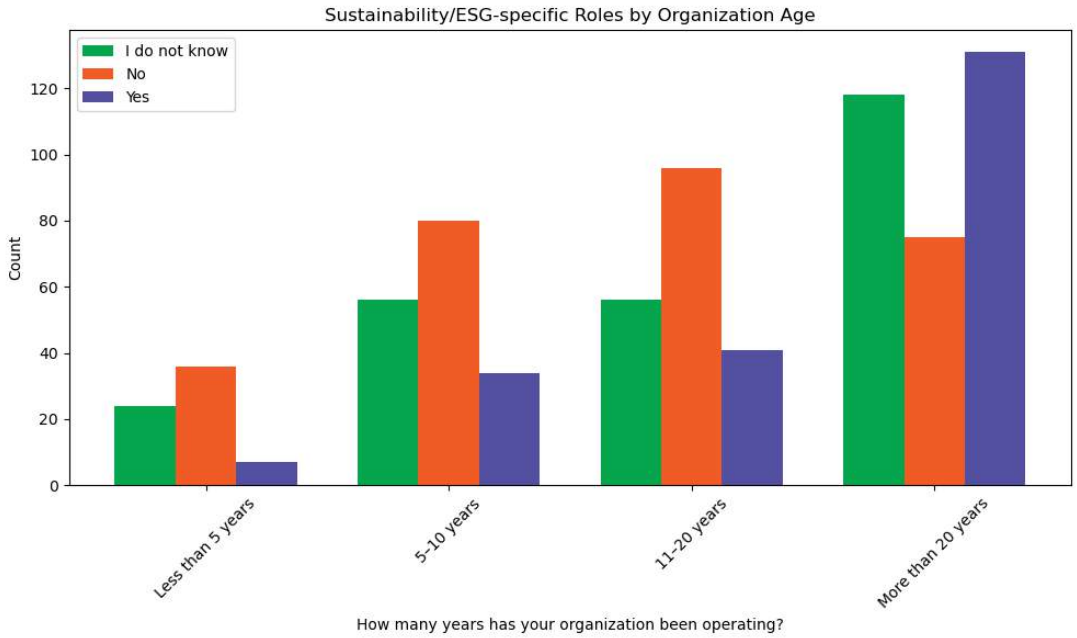


Graph 9. ESG Roles Awareness

- **Years of Operation vs. ESG Roles:**
  - Organizations operating for over 20 years show a higher presence of ESG-specific roles (131) compared to newer organizations.
  - In contrast, newer organizations (less than 5 years) show minimal ESG-specific roles (only 7).
  - A significant number of respondents from organizations with 5–20 years of operation are unsure about ESG roles.

Key Insights:

- Larger and older organizations are more likely to have dedicated ESG-specific roles, indicating a stronger institutional commitment to sustainability.
- Smaller and younger organizations either lack formal ESG roles or respondents are unaware of them, suggesting potential gaps in ESG integration.
- The high level of uncertainty (33.7% “I do not know”) highlights a potential area for improved communication about ESG roles within organizations.



Graph 10. ESG Roles by Organization Age

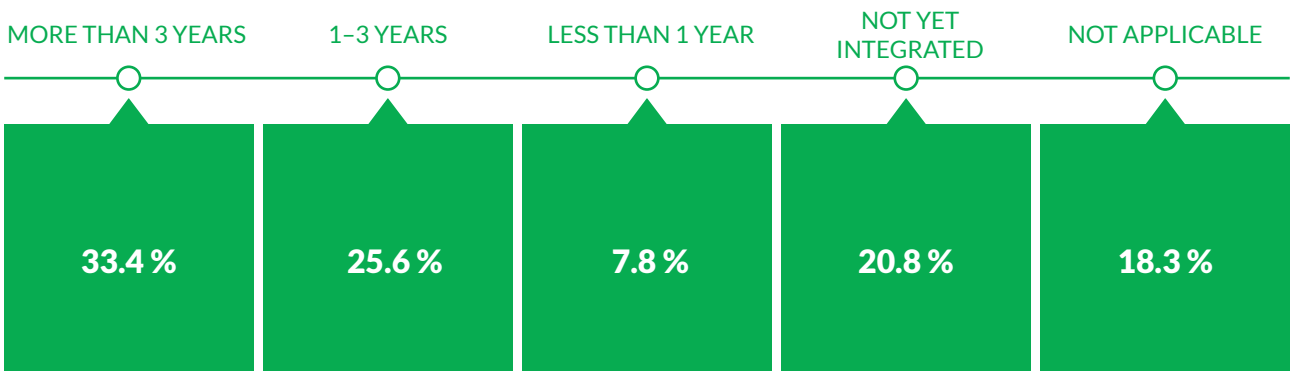
3.4.3 Overview of sustainability/ESG-specific roles within organizations

This section presents an analysis of the extent to which organizations have integrated Sustainability/ESG (Environmental, Social, and Governance) principles into their operations, the approach taken towards ESG integration, the primary focus of their ESG efforts, and the frequency with which employees interact with ESG-related topics. The data was gathered from 754 respondents and analyzed using SPSS.

ESG Integration Duration

Organizations exhibit varying levels of ESG integration maturity:

- More than 3 years: 33.4% of organizations have been integrating ESG principles actively for over three years.
- 1–3 years: 19.6% of organizations are in the intermediate phase of ESG integration.
- Less than 1 year: 7.8% are in the initial stages.
- Not yet integrated: 20.8% of organizations have not started ESG integration.
- Not Applicable: 18.3% indicated ESG integration is not relevant to their operations.



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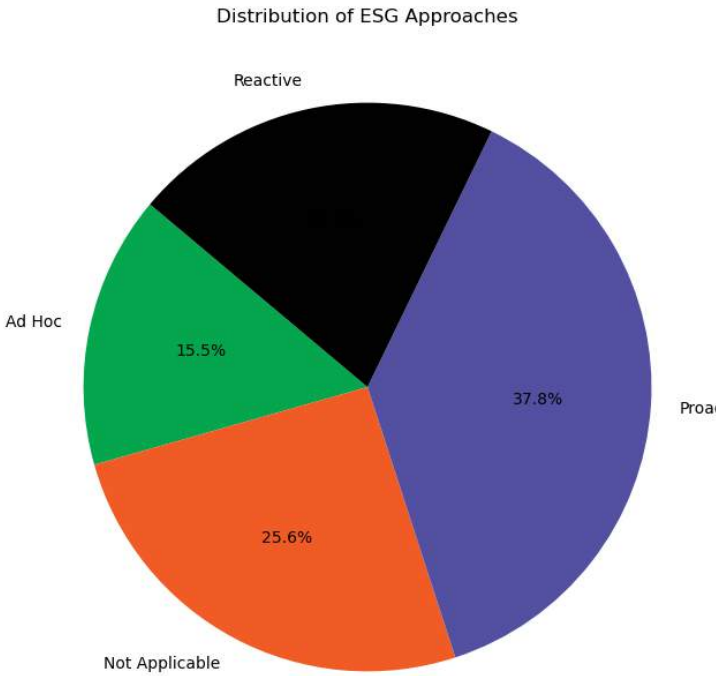
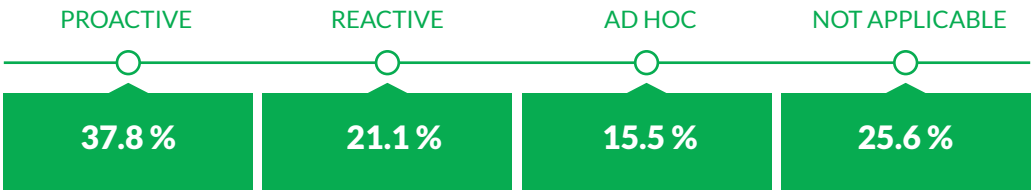


Graph 11. Distribution of ESG Approaches

Approach to ESG Integration

When asked to describe their organization's approach to ESG integration:

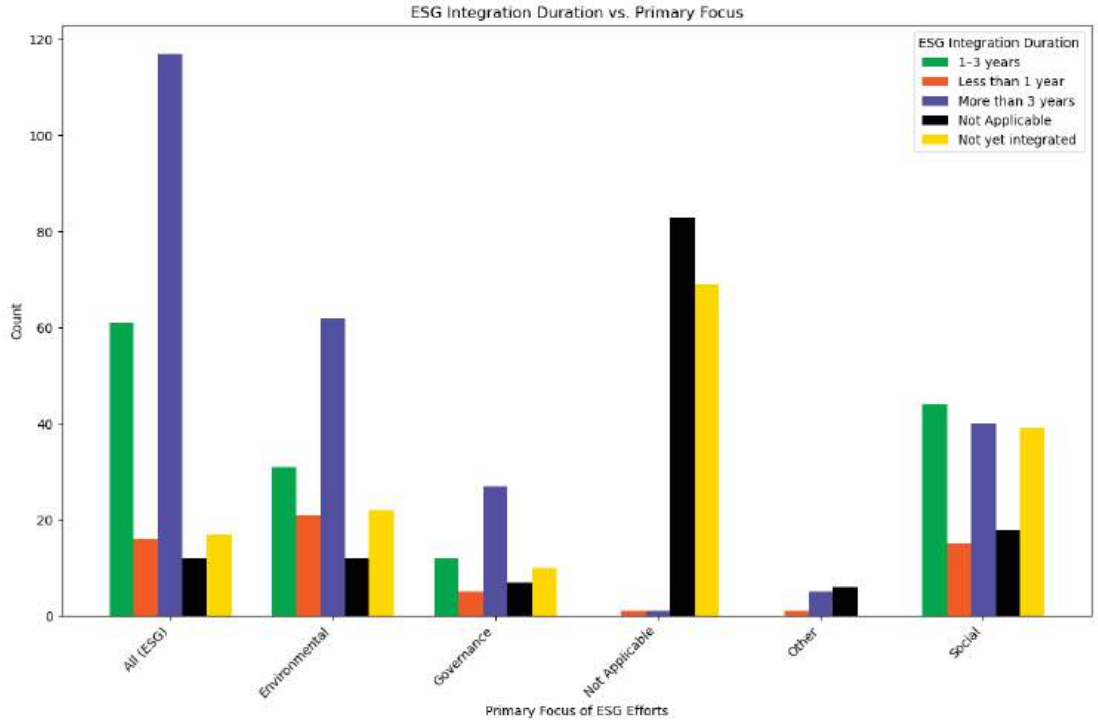
- Proactive: 37.8% adopt a proactive stance, embedding ESG into strategic initiatives.
- Reactive: 21.1% respond to ESG issues as they arise.
- Ad Hoc: 15.5% engage with ESG sporadically, without a structured strategy.
- Not Applicable: 25.6% consider ESG integration irrelevant to their context.



Primary Focus of ESG Efforts

Organizations focus on diverse ESG aspects:

- All of the above (Environmental, Social, Governance): 29.6%
- Social (e.g., diversity, community engagement): 20.7%
- Environmental (e.g., carbon footprint reduction): 19.6%
- Governance (e.g., ethical compliance): 8.1%
- Not Applicable: 20.4%
- Other: 1.6%

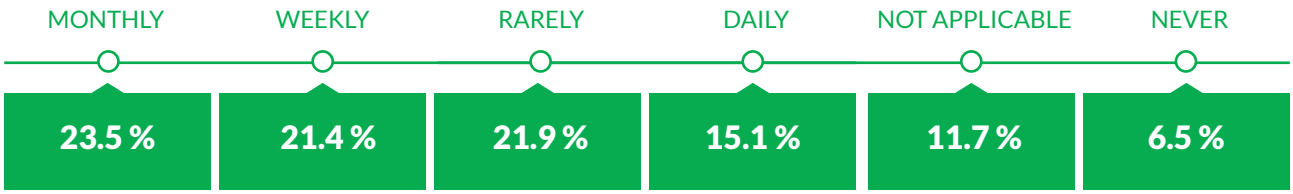


Graph 12. ESG Integration Duration vs. Primary Focus

Interaction with ESG Topics

The frequency of personal interaction with ESG topics varies:

- Monthly: 23.5%
- Weekly: 21.4%
- Rarely: 21.9%
- Daily: 15.1%
- Not Applicable: 11.7%
- Never: 6.5%



Crosstabulation Insights

1. Primary Focus vs. ESG Integration Duration: Organizations with over three years of ESG integration are more likely to address all ESG dimensions comprehensively.
2. Interaction Frequency vs. ESG Approach: Proactive organizations report higher daily and weekly interactions with ESG topics, while reactive and ad hoc organizations show sporadic engagement.

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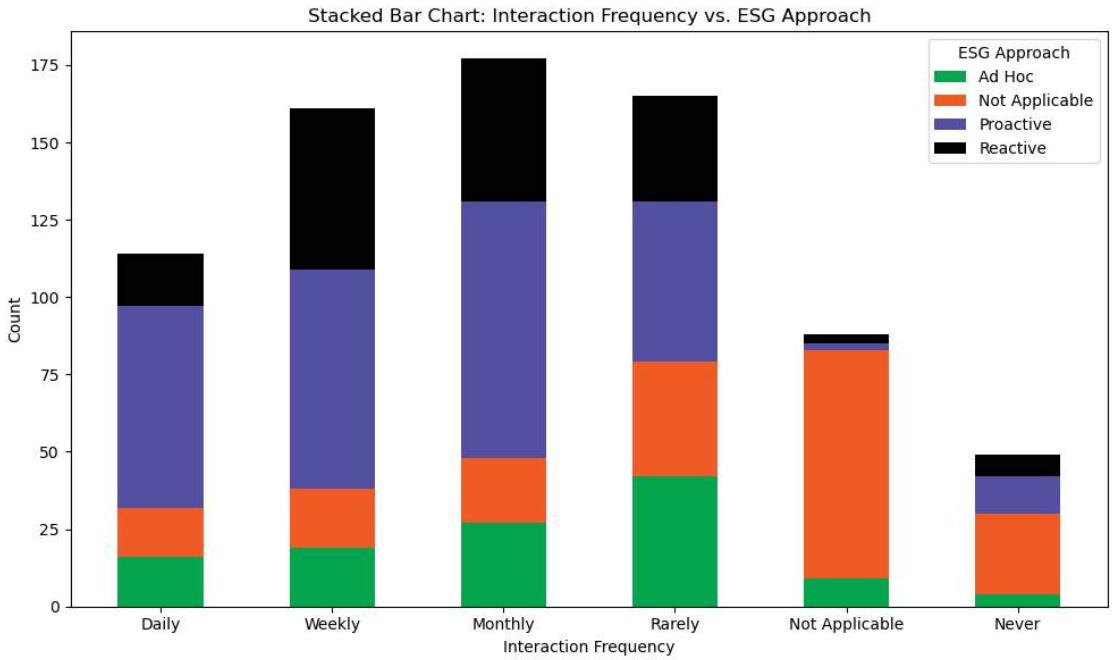
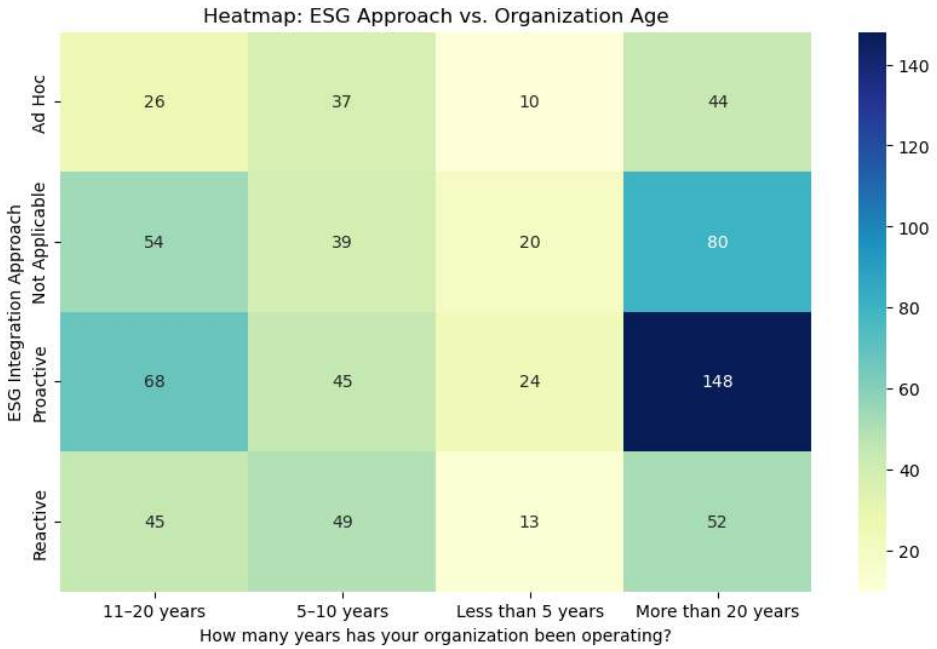


Graph 13. Interaction Frequency vs. ESG Approach

3. Interaction Frequency vs. Organization Age: Older organizations (>20 years) have more frequent ESG interactions, reflecting established sustainability practices.



Graph 14. ESG Approach vs. Organization Age

The heatmap visualizes the relationship between an organization's approach to Sustainability/ESG integration and the number of years it has been operating. The color intensity represents the frequency of responses, with darker shades indicating higher counts.

Organizations with a proactive approach to ESG integration are predominantly found in the "More than 20 years" category, with 148 responses, the highest frequency in the dataset. This suggests that mature organizations are more likely to embed ESG principles strategically, possibly due to established structures and long-term sustainability commitments.

Ad hoc and reactive approaches are more evenly distributed across organizations of different ages. Notably, the "5–10 years" and "11–20 years" categories show a considerable presence of reactive organizations, indicating that even mid-aged organizations may respond to ESG issues on a case-by-case basis rather than adopting a strategic framework.

A significant number of organizations, particularly in the "More than 20 years" (80 responses) and "11–20 years" (54 responses) categories, selected "Not Applicable", reflecting sectors or business models where ESG integration is perceived as less relevant. This trend could highlight either a lack of perceived necessity for ESG practices in certain industries or gaps in awareness among long-established businesses.

Organizations operating for less than 5 years show relatively lower frequencies across all ESG approaches. However, even within this group, the proactive approach (24 responses) leads, suggesting that newer businesses are increasingly ESG-conscious, likely driven by contemporary sustainability trends and investor expectations.

The heatmap reveals that organizational maturity correlates with proactive ESG integration, while newer businesses are also adopting sustainability practices early on. Conversely, mid-aged organizations display varied approaches, with some lagging in structured ESG strategies. This insight underscores the need for targeted ESG support, especially for organizations transitioning from reactive to proactive sustainability models.

Here is the analysis of the responses to the question about the types of Sustainability/ESG initiatives implemented.

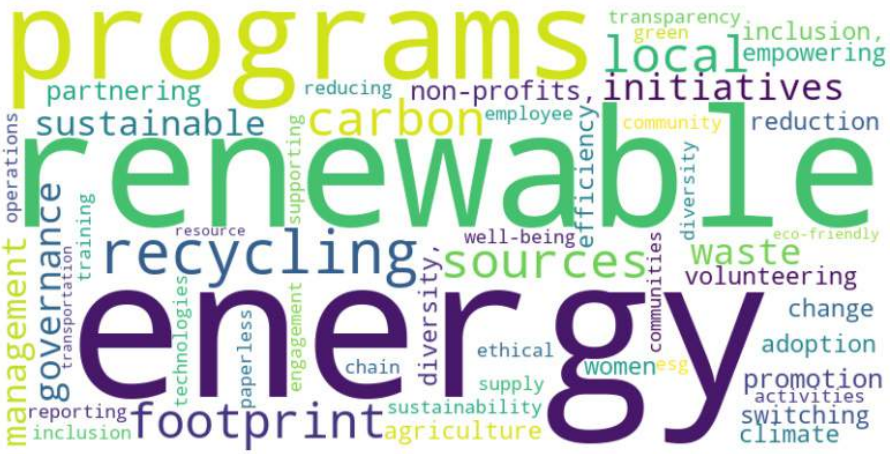


Figure 5. Types of ESG Initiatives Implemented

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Common Themes Identified:

1. Renewable Energy: Frequent mentions of initiatives like "promotion of renewable energy sources," "switching to renewable energy sources," and "renewable energy adoption."
2. Diversity & Inclusion: Keywords such as "diversity," "inclusion," and "empowering women" indicate focus on social sustainability.
3. Carbon Footprint Reduction: Phrases like "reducing carbon footprint" and "carbon footprint from agriculture" appear multiple times.
4. Recycling & Waste Management: "Recycling," "waste reduction," and "waste management" are common sustainability practices.
5. Community Engagement: Terms like "community engagement" and "partnering with local non-profits" reflect social responsibility efforts.
6. Governance: Keywords like "governance transparency" and "ethical governance" highlight corporate governance initiatives.
7. Sustainability Reporting: "ESG reporting" and "paperless operations" reflect administrative sustainability practices.

Top 20 Most Common Words have been presented in Table 17.

Table 17. Most Common Words

Word	Frequency
renewable	4
energy	4
recycling	3
sustainability	3
carbon	3
footprint	3
community	2
diversity	2
inclusion	2
governance	2
management	2
initiatives	2
waste	2
reduction	2
ethical	2
support	2
reporting	2
programs	2
local	2
well-being	2

- The majority of initiatives are environmentally focused, including renewable energy, carbon reduction, and waste management.
- Social responsibility, such as diversity, inclusion, and community engagement, is also a strong theme.
- Governance practices like ethical compliance and sustainability reporting are present, showing organizational accountability.

Responses on Primary Focus of Organizational ESG Efforts

Key Focus Areas Identified by Respondents:

Holistic and Integrated Approaches to Sustainability

- "It's a combination of environment and social."
- "We promote a holistic approach to sustainability, the integral ecological development."
- "Environmental & Social."
- "In particular S and G, occasionally E."

Implication: Some organizations **do not focus on a single ESG dimension** but rather take a **broad and integrated** approach.

Governance and Human Capital Development

- "Organizational strengthening - mix of human capital development and governance/strategic support."
- "Governance and social."
- „Podnoszenie kwalifikacji zawodowych społeczeństwa" *(Enhancing professional qualifications in society).*

Implication: Many organizations prioritize governance (G) and human capital development, reflecting an interest in capacity building and strategic leadership.

Specific Environmental Initiatives

- "Reducing paper document circulation."

Implication: Some organizations focus on targeted environmental efforts rather than broad sustainability policies.

Workplace Health and Safety

- "Everyone to be safe and healthy."

Implication: This response suggests a focus on **employee well-being and workplace safety** as part of the organization's ESG agenda.

Uncertainty or Lack of Defined ESG Focus

- "I know there are [ESG efforts], but I'm not sure what they are."
- "I don't know yet."

Implication: Some respondents lack clarity on their organization's ESG priorities, which may indicate insufficient communication or structured ESG policies.

Criticism or Rejection of ESG Principles

- "Avoiding the woke crap like ESG, DEI, CSR etc."

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Implication: Some individuals or organizations actively reject ESG and related frameworks, suggesting ongoing resistance or scepticism toward sustainability initiatives.

3.5 ESG Project Management Competencies

3.5.1 Assessment of Environmental, Social, and Governance (ESG) competencies

Environmental competencies

Table 18. Assessment of Environmental Competences

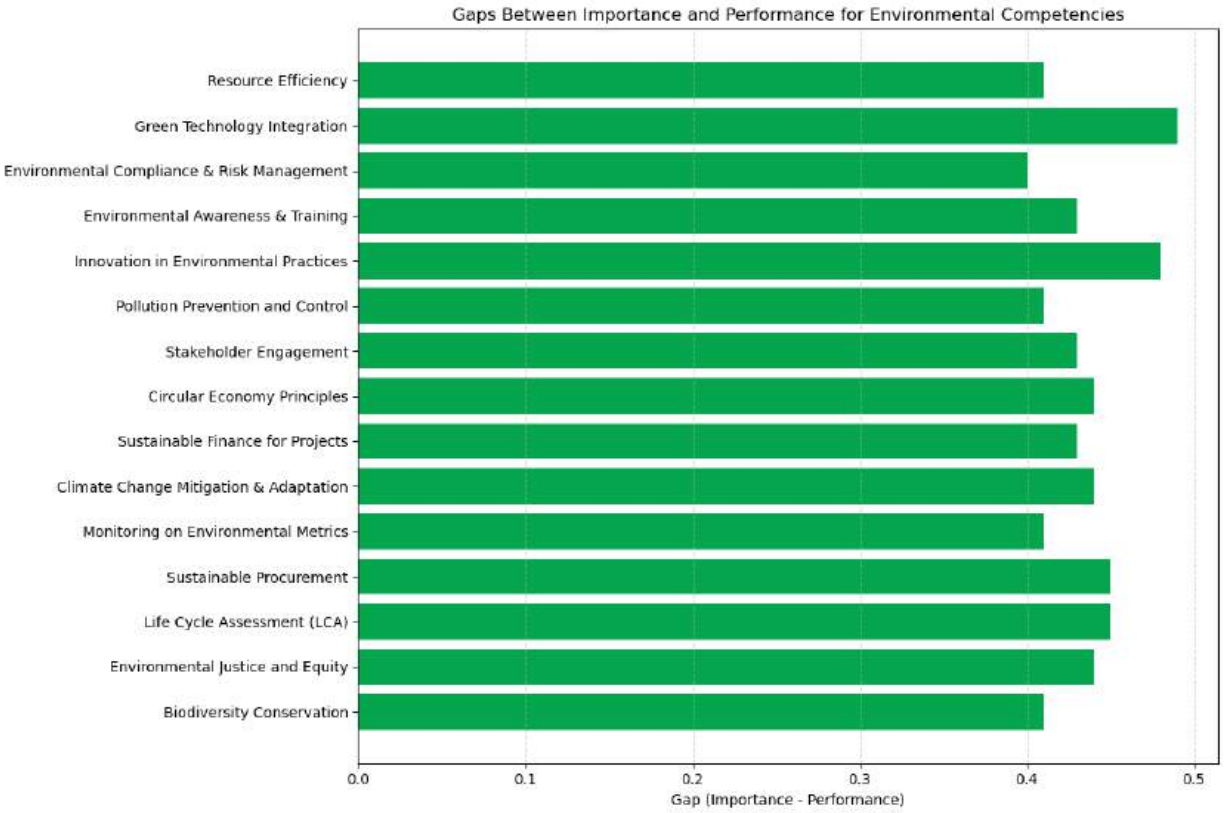
Competency	Importance	Performance	Gap
Resource Efficiency	3.88	3.47	0.41
Green Technology Integration	3.86	3.37	0.49
Environmental Compliance & Risk Management	3.84	3.44	0.40
Environmental Awareness & Training	3.80	3.37	0.43
Innovation in Environmental Practices	3.79	3.31	0.48
Pollution Prevention and Control	3.78	3.37	0.41
Stakeholder Engagement	3.78	3.35	0.43
Circular Economy Principles	3.77	3.33	0.44
Sustainable Finance for Projects	3.76	3.33	0.43
Climate Change Mitigation & Adaptation	3.75	3.31	0.44
Monitoring on Environmental Metrics	3.75	3.34	0.41
Sustainable Procurement	3.75	3.30	0.45
Life Cycle Assessment (LCA)	3.72	3.27	0.45
Environmental Justice and Equity	3.70	3.26	0.44
Biodiversity Conservation	3.67	3.26	0.41

Top-Ranked Competencies (High Importance & Performance):

- **Resource Efficiency** holds the **highest importance (3.88)** and strong performance (3.47), indicating that organizations recognize its value and have made significant progress in implementing efficiency measures.
- **Green Technology Integration** (Importance: 3.86, Performance: 3.37) and **Environmental Compliance and Risk Management** (Importance: 3.84, Performance: 3.44) also rank highly. This suggests a strong regulatory focus and growing interest in sustainable technologies.

Noticeable Gaps (High Importance, Lower Performance):

- **Environmental Awareness and Training** (Gap: 0.43) reflects a clear need for capacity-building efforts. Although organizations view it as important, training programs may be underdeveloped.
- **Innovation in Environmental Practices** (Importance: 3.79, Performance: 3.31) shows that while innovation is prioritized, organizations struggle with practical implementation.



Graph 15. Gaps Between Importance and Performance for Environmental Competencies

Competencies with Balanced Importance and Performance:

- **Pollution Prevention and Control** (Gap: 0.41) and **Stakeholder Engagement on Environmental Issues** (Gap: 0.43) exhibit consistent alignment between perceived importance and actual performance, though slight improvements are still needed.

Underprioritized Areas (Lower Importance & Performance):

- **Biodiversity Conservation** (Importance: 3.67, Performance: 3.26) and **Environmental Justice and Equity** (Importance: 3.70, Performance: 3.26) are ranked lowest. These areas might lack urgency in current sustainability agendas despite their global relevance.

Social competencies

Table 19. Assessment of Social Competencies

Competency	Importance	Performance	Gap
Human Rights and Labor Practices	4.01	3.67	0.34
Occupational Health and Safety (OHS)	3.98	3.60	0.38
Diversity, Equity, and Inclusion (DEI)	3.95	3.60	0.35
Community Impact and Development	3.94	3.51	0.43
Human Rights Due Diligence	3.90	3.46	0.44

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Social Risk Management	3.87	3.48	0.39
Inclusivity in Decision-Making	3.85	3.43	0.42
Stakeholder Engagement and Management	3.83	3.50	0.33
Sustainable Procurement (Social Aspects)	3.83	3.44	0.39
Social Innovation and Collaboration	3.82	3.42	0.40
Social Impact Assessment (SIA)	3.81	3.45	0.36
Grievance Mechanisms	3.81	3.40	0.41
Equitable Resource Allocation	3.79	3.40	0.39
Cultural Heritage Preservation	3.77	3.42	0.35
Social Metrics and Reporting	3.77	3.36	0.41

Highest Importance Ratings

- **Human Rights and Labor Practices (4.01)**
  This competency received the highest importance rating, emphasizing its critical role in organizational sustainability strategies. It reflects the global focus on human rights and fair labor practices as core principles for sustainable development.
- **Occupational Health and Safety (OHS) (3.98)** and **Diversity, Equity, and Inclusion (DEI) (3.95)**
  Both competencies are viewed as highly important, aligning with increasing awareness of employee well-being and the need for inclusive workplaces.

Performance Ratings

- **Highest Performance:**
  - Human Rights and Labor Practices (3.67)
  - Occupational Health and Safety (OHS) (3.60)
  - Diversity, Equity, and Inclusion (DEI) (3.60)

These results indicate that organizations are actively working on competencies they deem important. However, despite relatively high performance ratings, gaps still exist when compared to importance ratings.

Identified Gaps Between Importance and Performance

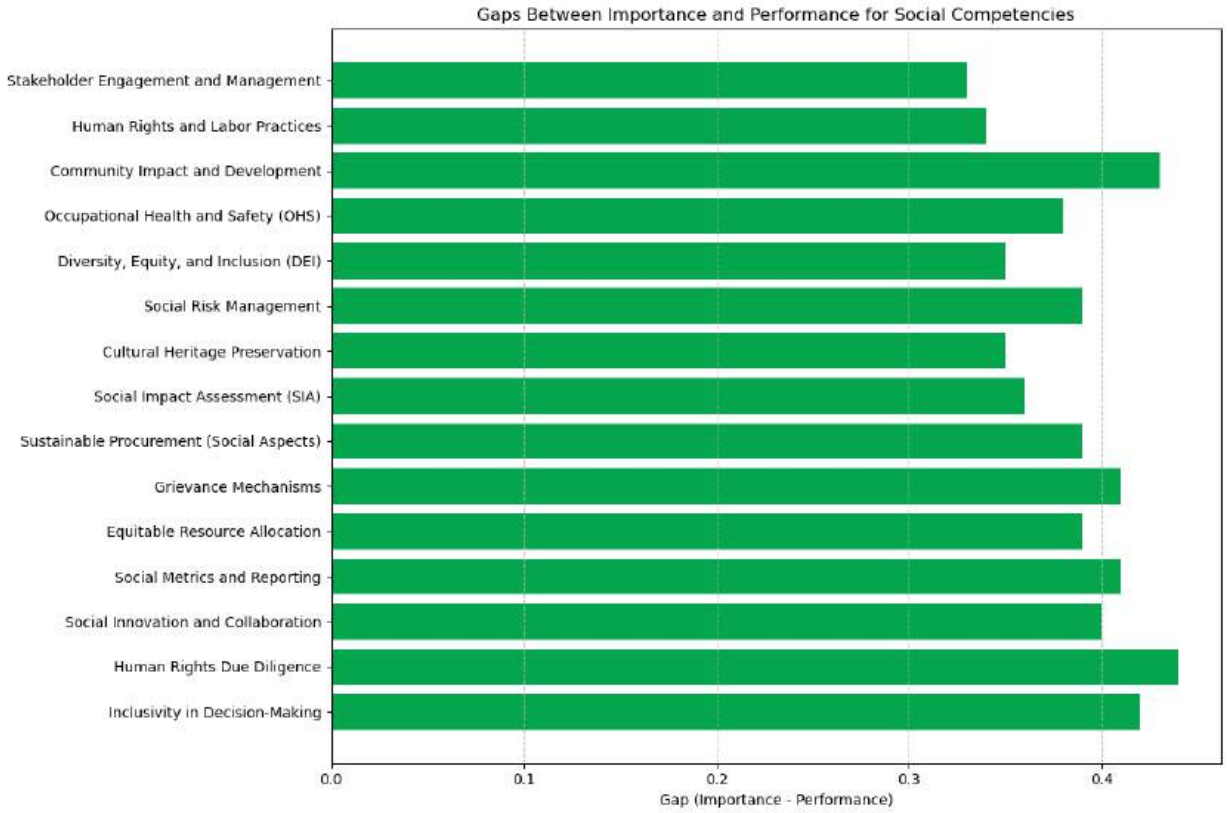
The **performance gap** is the difference between the importance and performance ratings. Larger gaps suggest areas where improvements are needed.

- **Largest Gaps:**
  - Human Rights and Labor Practices (Gap: 0.34)
  - Community Impact and Development (Gap: 0.43)
  - Human Rights Due Diligence (Gap: 0.44)

These gaps highlight areas where organizations recognize the criticality of these competencies but struggle to achieve corresponding performance levels.

- **Smallest Gaps:**
  - Stakeholder Engagement and Management (Gap: 0.33)
  - Equitable Resource Allocation (Gap: 0.39)
  - Grievance Mechanisms (Gap: 0.41)

These smaller gaps suggest more alignment between expectations and actual outcomes.



Graph 16. Gaps Between Importance and Performance for Social Competencies

Governance competencies

The analysis of Governance competencies, based on the comparison between Importance and Performance ratings, reveals key insights into areas of strength and opportunities for improvement within organizations.

Table 20. Assessment of Governance Competencies

Competency	Importance	Performance	Gap
Data Protection and Privacy.	4.17	3.82	0.35
Anti-Corruption and Compliance	4.08	3.69	0.39
Ethical Conduct and Integrity.	4.07	3.69	0.38
Accountability and Transparency.	4.02	3.64	0.38
Legal and Regulatory Awareness.	4.02	3.59	0.43
Alignment with Corporate Governance.	3.92	3.60	0.32
Risk Management and Internal Controls.	3.90	3.50	0.40
Stakeholder Communication and Reporting	3.89	3.56	0.33

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ESG Reporting and Disclosure.	3.88	3.46	0.42
Training in Governance and ESG Standards.	3.88	3.38	0.50
Continuous Improvement in Governance Practices.	3.85	3.48	0.37
Governance of Third Parties.	3.84	3.50	0.34
Innovation in Governance Practices.	3.84	3.39	0.45
Board Diversity and Governance.	3.83	3.47	0.36
Integration of ESG into Governance.	3.80	3.40	0.40

Key Findings

Highest Rated Competencies (Importance):

- **Data Protection and Privacy (4.17)** holds the highest importance rating, reflecting growing concerns over data security in today's digital landscape. However, the performance score (3.82) indicates a moderate gap (0.35), suggesting room for improvement in execution.
- **Anti-Corruption and Compliance (4.08)** and **Ethical Conduct and Integrity (4.07)** are also highly valued. Both competencies show moderate gaps (0.39 and 0.38, respectively), emphasizing the need for stronger adherence to ethical practices and anti-corruption measures.

Competencies with the Largest Gaps:

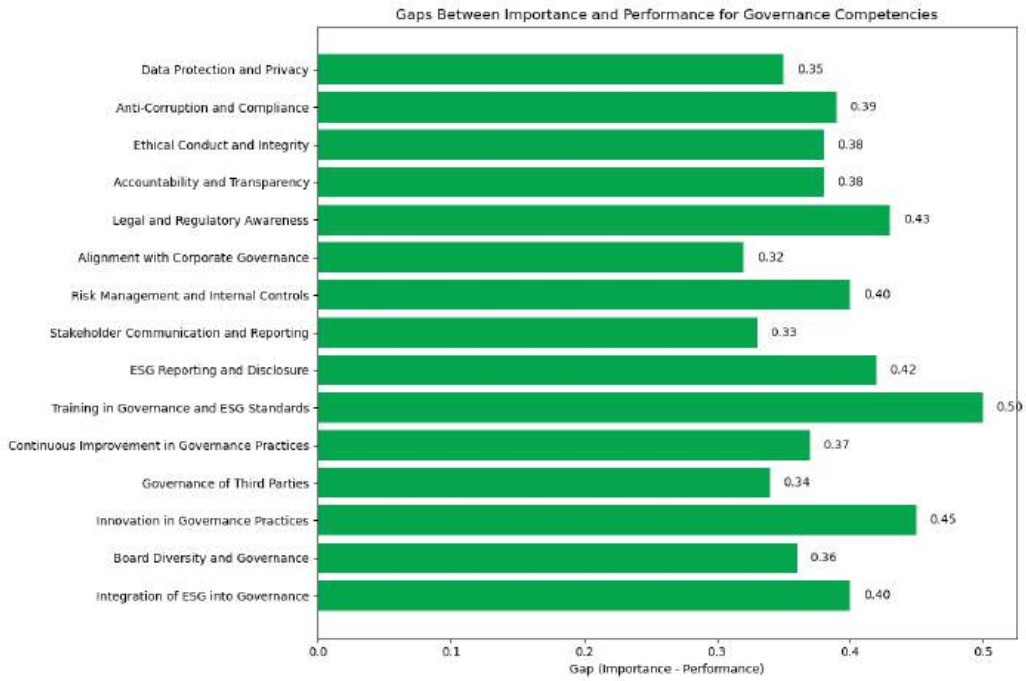
- **Training in Governance and ESG Standards** shows the largest gap (0.50), indicating that while organizations recognize the importance of training, actual implementation is lagging.
- **Innovation in Governance Practices (Gap: 0.45)** and **Legal and Regulatory Awareness (Gap: 0.43)** also demonstrate significant discrepancies, highlighting the need for continuous improvement and proactive governance practices.

Smaller Gaps Indicating Strong Performance:

- **Alignment with Corporate Governance (Gap: 0.32)** and **Stakeholder Communication and Reporting (Gap: 0.33)** have smaller gaps, suggesting that organizations are relatively effective in these areas.

Insights

- **Regulatory Compliance as a Priority:** The high importance ratings for legal, ethical, and compliance-related competencies reflect the increasing regulatory pressures organizations face globally. However, performance gaps indicate the need for ongoing efforts to meet these standards effectively.
- **Need for Enhanced Governance Training:** The largest gap in **Training in Governance and ESG Standards** suggests that while organizations understand the critical role of governance education, they struggle to implement comprehensive training programs.
- **Innovation Requires Focus:** Despite the recognized importance of **Innovation in Governance Practices**, performance remains below expectations. Organizations may benefit from fostering a culture that encourages innovative governance solutions.



Graph 17. Gaps Between Importance and Performance for Governance Competencies

Balanced Performance in Traditional Governance Areas: Competencies related to **Corporate Governance Alignment** and **Stakeholder Communication** show balanced importance and performance, reflecting established practices that have been integrated effectively within many organizations.

3.5.2 Comprehensive Analysis of ESG Competencies

Ranking of Competencies by Importance

Based on the data, the top competencies in terms of importance across all ESG areas are:

1. Data Protection and Privacy (Governance) - 4.17
2. Anti-Corruption and Compliance (Governance) - 4.08
3. Ethical Conduct and Integrity (Governance) - 4.07
4. Accountability and Transparency (Governance) - 4.02
5. Legal and Regulatory Awareness (Governance) - 4.02
6. Human Rights and Labor Practices (Social) - 4.01
7. Occupational Health and Safety (OHS) (Social) - 3.98
8. Diversity, Equity, and Inclusion (DEI) (Social) - 3.95
9. Community Impact and Development (Social) - 3.94
10. Alignment with Corporate Governance (Governance) - 3.92

Governance competencies dominate the top positions, reflecting their critical role in organizational operations.

Statistical Significance

- For each pair of variables (**importance vs. performance**), the t-test revealed a statistically significant difference at **$p < 0.001$**.
- This means that for all assessed competencies, there is a **statistically significant gap**, indicating that organizations **fall short of expectations in ESG implementation**.

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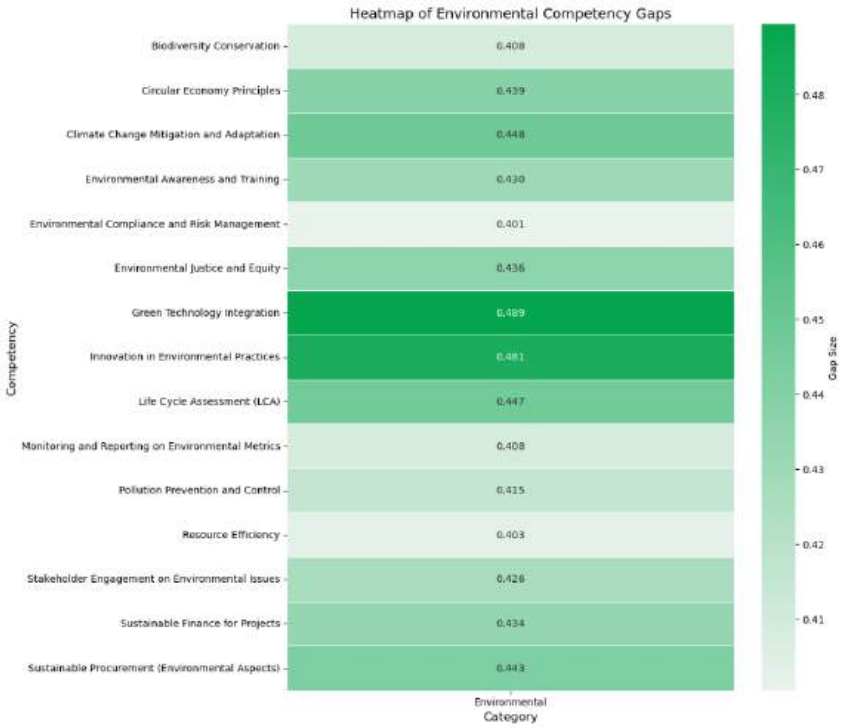
Largest Competency Gaps

Analysing the differences between importance and performance ratings, the largest competency gaps (mean difference) were found in the following areas:

Table 21. Competency Gaps

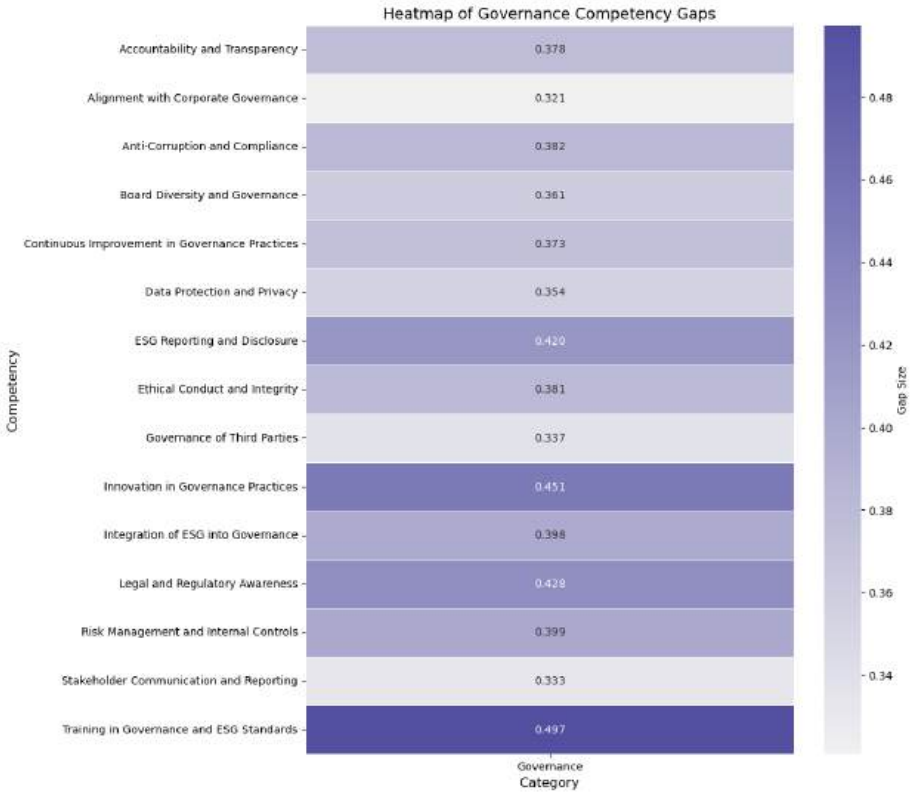
Competency	Mean Difference (Importance - Performance)
Governance - Training in Governance and ESG Standards	0.50
Environmental - Green Technology Integration	0.49
Environmental - Innovation in Environmental Practices	0.48
Governance - Innovation in Governance Practices	0.45
Environmental - Climate Change Mitigation and Adaptation	0.45

A high discrepancy between perceived importance and actual performance in these areas suggests critical skill and process gaps within organizations.



Graph 18. Environmental Competency Gap

Graph 19. Social Competency Gap



Graph 20. Governance Competency Gap

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Areas with the Smallest Competency Gaps

Some competencies show smaller differences between importance and performance, indicating that organizations are relatively effective in these areas

Table 22. Smallest Competency Gaps

Competency	Mean Difference (Importance - Performance)
Governance - Alignment with Corporate Governance	0.32
Governance - Stakeholder Communication and Reporting	0.33
Social - Stakeholder Engagement and Management	0.33
Social - Human Rights and Labor Practices	0.34

While **gaps still exist**, organizations seem to perform **better** in stakeholder communication and ethical governance areas.

Breakdown by ESG Domains

Environmental Domain

- The largest competency gaps were identified in Green Technology Integration (0.49), Innovation in Environmental Practices (0.48), and Climate Change Mitigation and Adaptation (0.45).
- Organizations struggle with implementing modern environmental technologies and innovative sustainable practices.
- Core environmental competencies, such as Resource Efficiency (0.40) and Biodiversity Conservation (0.41), also show significant gaps.

Social Domain

- The largest gaps are observed in Human Rights Due Diligence (0.43) and Inclusivity in Decision-Making (0.42), indicating a need for greater efforts in diversity, equity, and human rights.
- Smaller gaps in Stakeholder Engagement and Management (0.33) and Occupational Health and Safety (0.38) suggest that organizations are investing more in health, safety, and stakeholder relations.

Governance Domain

- The most significant gap in governance competencies is Training in Governance and ESG Standards (0.50), suggesting a lack of structured ESG education and training programs.
- Other key competency gaps include Innovation in Governance Practices (0.45) and Legal and Regulatory Awareness (0.43).
- Alignment with Corporate Governance (0.32) shows the smallest gap, indicating that organizations have relatively well-structured governance systems.

3.5.3 *Sector-specific trends and insights*

Environmental Services/Sustainability Sector

Highest overall importance ratings across all environmental competencies, with scores ranging between 4.18 and 4.73.This reflects the strong commitment of this industry to sustainability principles.

Engineering, Construction, and Manufacturing

These industries likely recognize the business benefits of sustainability, such as reducing operational costs and regulatory compliance.

Financial & IT Services

Financial Services place moderate importance on environmental competencies, with most ratings between 3.61 and 3.86.

IT Sector reports lower ratings, with most competencies scoring between 3.40 and 3.82, indicating that environmental sustainability is not a top priority in these industries.

Energy & Utilities

Reflects industry pressures related to energy conservation and regulatory requirements.

Healthcare

Indicates a growing focus on sustainability within medical and healthcare services.

Sectoral Differences & Strategic Implications

Industries with the highest importance ratings (e.g., Environmental Services, Engineering, and Manufacturing) tend to have direct environmental impacts and are more regulated.

Industries with moderate or lower ratings (e.g., Financial Services, IT, and Media) might not perceive direct environmental consequences of their activities, leading to less emphasis on sustainability.

Public Sector/Government shows strong importance ratings (4.20 for Resource Efficiency, 4.10 for Pollution Prevention & Control), reflecting policy-driven sustainability commitments.

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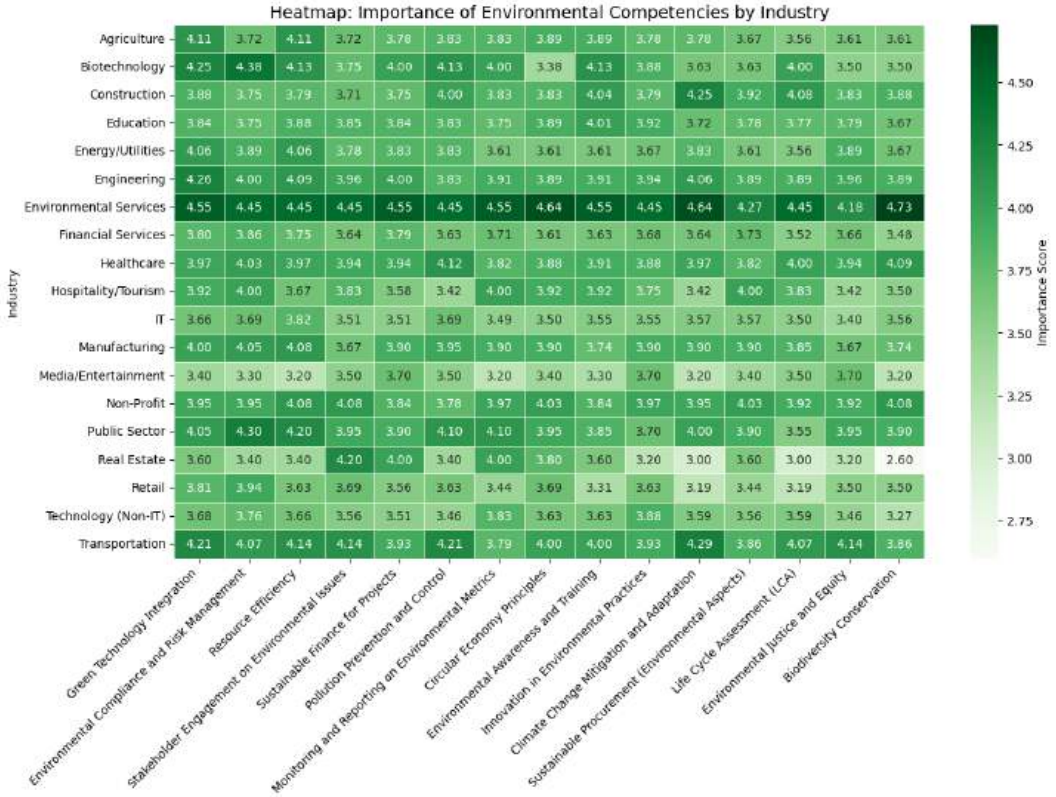
Importance of Environmental competencies



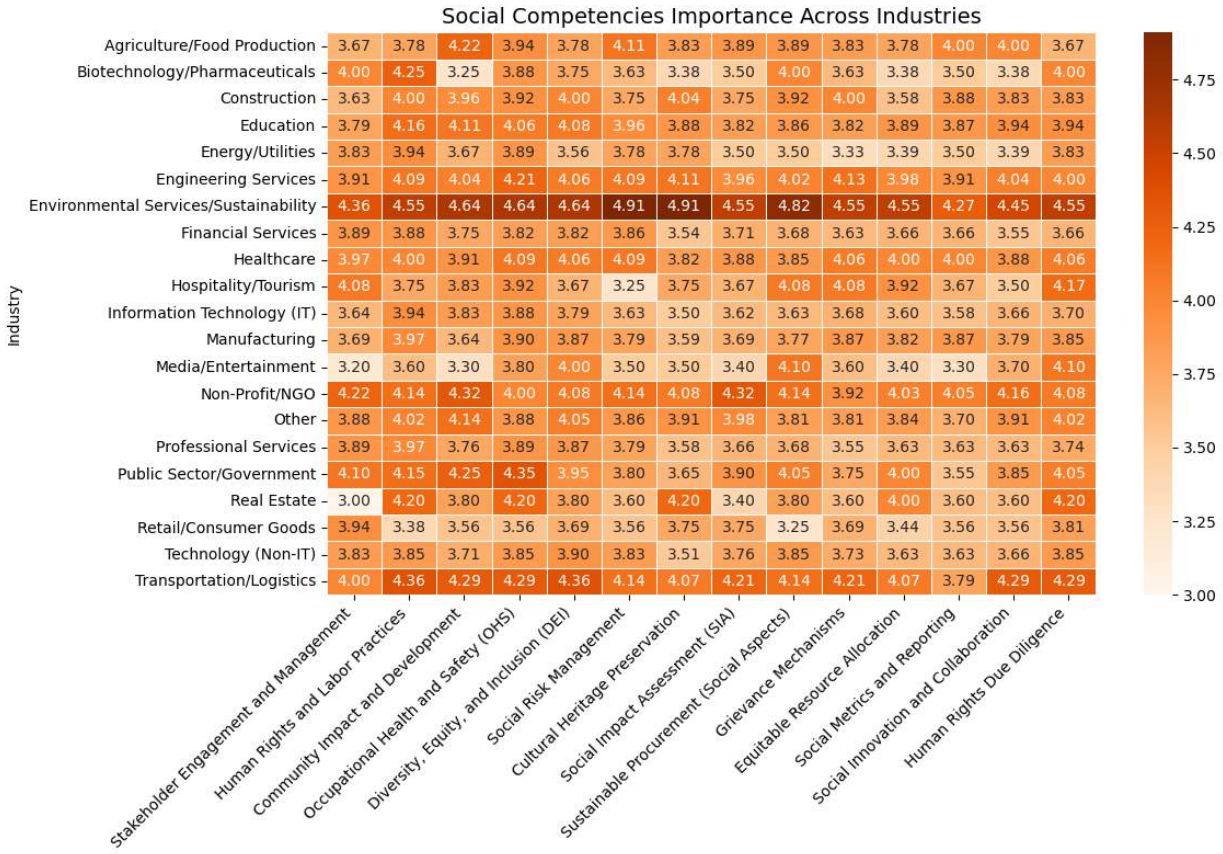
Graph 21. Importance of Environmental Competencies by Industry

Industries with the Highest Emphasis on Social Competencies

Some industries place **significantly higher importance** on social competencies:

- **Environmental Services / Sustainability:** Most social competencies score above 4.50, making it the leading industry for social responsibility.
- **Transportation & Logistics:** Highly values Diversity, Equity, and Inclusion (4.36), OHS (4.29), and Social Impact Assessment (4.21).
- **Public Sector / Government:** Public sector organizations tend to emphasize workplace equity, inclusivity, and decision-making structures.
- **Non-Profit / NGO:** Consistently strong ratings across all competencies (mostly above 4.00).
- **Engineering Services:** Suggests strong safety and compliance regulations in engineering projects.

Importance of Social competencies



Graph 22. Importance of Social Competencies by Industry

Industries with Moderate Importance on Social Competencies

These industries value social competencies, but some areas score lower:

- **Financial Services:** Competencies such as Community Impact (3.75) and Stakeholder Engagement (3.89) score lower than other industries.
- **Information Technology (IT):** Moderate ratings (~3.50-3.80) across competencies. IT companies focus on workplace rights but show less emphasis on social procurement and equitable resource allocation.
- **Retail & Consumer Goods:** Emphasis on Stakeholder Engagement (3.94) but weaker attention to Community Development and OHS (3.56).

Industries with the Lowest Social Competency Ratings

Some industries consistently rank **social competencies lower**, indicating potential areas for improvement:

- **Real Estate:** Lowest ratings overall. Stakeholder Engagement (3.00) and Community Impact (3.80) suggest a lack of social focus.
- **Media & Entertainment:** Lowest ratings for Stakeholder Engagement (3.20) and Community Impact (3.30). DEI is relatively high (4.00), showing some commitment to inclusivity.

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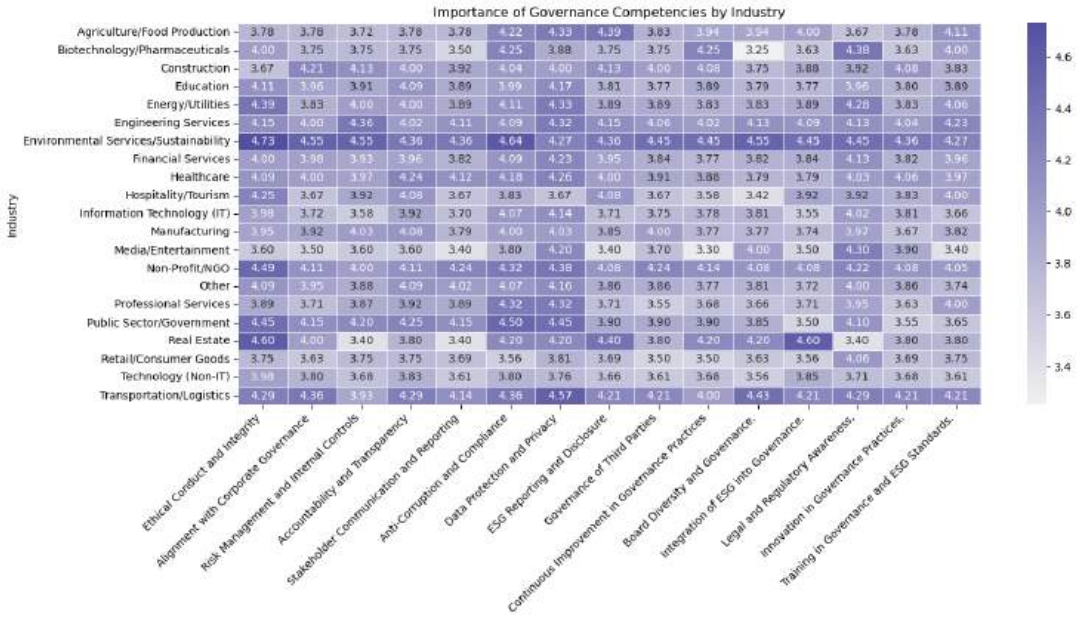
- **Hospitality & Tourism:** Lower emphasis on Social Risk Management (3.25) and Cultural Heritage Preservation (3.75). Some competencies (OHS, Inclusivity) are stronger, but community engagement is lacking.



Graph 23. Importance of Governance Competencies by Industry

Importance of Governance competencies

Industries with the Strongest Emphasis on Governance

- **Environmental Services/Sustainability** consistently rated governance competencies highest, particularly in: Ethical Conduct and Integrity (4.73), Risk Management and Internal Controls (4.55), Anti-Corruption and Compliance (4.64), Board Diversity and Governance (4.55), ESG Reporting and Disclosure (4.36)
- **Public Sector/Government** also placed strong emphasis on governance-related competencies, notably in: Ethical Conduct and Integrity (4.45), Anti-Corruption and Compliance (4.50), Governance of Third Parties (3.90), Legal and Regulatory Awareness (4.10)
- **Financial Services & Real Estate** focused on: ESG Reporting and Disclosure (4.23 in Financial Services, 4.40 in Real Estate), Data Protection and Privacy (4.20 in Real Estate), Continuous Improvement in Governance Practices (4.20 in Real Estate)

Industries with Lower Emphasis on Governance

Some industries placed **relatively less** importance on governance competencies:

- **Hospitality/Tourism** showed the lowest ratings in: Board Diversity and Governance (3.42), ESG Reporting and Disclosure (3.67), Risk Management and Internal Controls (3.67)
- **Media/Entertainment** had lower governance competency ratings across multiple aspects, with: Risk Management and Internal Controls (3.60), ESG Reporting and

Disclosure (3.40), Continuous Improvement in Governance Practices (3.30)

These findings suggest that governance-related topics may be **less integrated** into strategic decision-making in these industries.

Emerging Governance Priorities

Industries with **mid-level governance emphasis** (3.70-4.10 range) suggest evolving importance in governance practices:

- **Manufacturing** scored moderately high in Risk Management and Internal Controls (4.03) and Data Protection and Privacy (4.03).
- **Information Technology (IT)** had slightly lower scores, but still demonstrated growing awareness, especially in Data Protection and Privacy (4.14).

These trends indicate a gradual shift toward stronger governance practices, especially in industries previously less regulated.

Governance competencies are highly valued across industries, but with varying degrees of importance. Regulated sectors (such as Environmental Services, Public Sector, and Financial Services) prioritize governance competencies the most, while consumer-focused industries (like Hospitality and Media/Entertainment) emphasize them less.

3.6 Future Expectations and Key Challenges

3.6.1 Anticipated changes in demand for ESG project management skills over the next five years

The majority of respondents (83.4%) anticipate an increase in demand for ESG Project Management (ESG PM) skills over the next five years. Specifically, 48.5% expect a moderate increase, while 34.9% foresee a significant increase. Meanwhile, 13.8% believe demand will remain unchanged, and only 2.5% anticipate a decline. These findings highlight the growing importance of ESG-related competencies in project management.

Industries Expecting the Highest Increase in Demand: Education, Financial Services, Information Technology, Engineering Services, Non-Profit/NGO. These industries exhibit a strong inclination toward ESG integration, likely driven by regulatory requirements, stakeholder pressure, and the push for sustainable business strategies.

Industries with a More Conservative Outlook: Public Sector/Government, Real Estate, Hospitality/Tourism, Manufacturing. These sectors show a more varied perception of demand change, potentially reflecting slower adoption of ESG frameworks or sector-specific challenges.

Industries with the Most Uncertainty or Potential Decline: Engineering Services and Healthcare have some respondents anticipating a decrease. The IT sector also had 5 respondents predicting a decrease. While these are minority views, they suggest that certain companies or regions may not yet fully prioritize ESG-related skills.

Statistical Analysis

The Chi-Square Test (χ^2 = 73.529, df = 60, p = 0.113) suggests that there is no statistically significant association between industry type and the anticipated change in demand for ESG

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and SPM skills at the 0.05 significance level. This indicates that while demand is increasing overall, the variation across industries is not strongly dependent on industry type.

Key Takeaways

- **Widespread growth expected:** Across industries, demand for ESG and SPM skills is largely expected to rise, reinforcing the need for expanded education and training.
- **Industry-specific variation exists:** Certain industries (e.g., Education, IT, Financial Services) are leading the way in recognizing the need for ESG competencies, while others (e.g., Manufacturing, Public Sector) demonstrate a more conservative outlook.
- **Policy and strategic planning implications:** Organizations, educators, and policymakers should tailor ESG training and certifications to industry-specific needs while recognizing the broad consensus on the increasing relevance of these competencies.

3.6.2 Key industry trends influencing ESG competencies

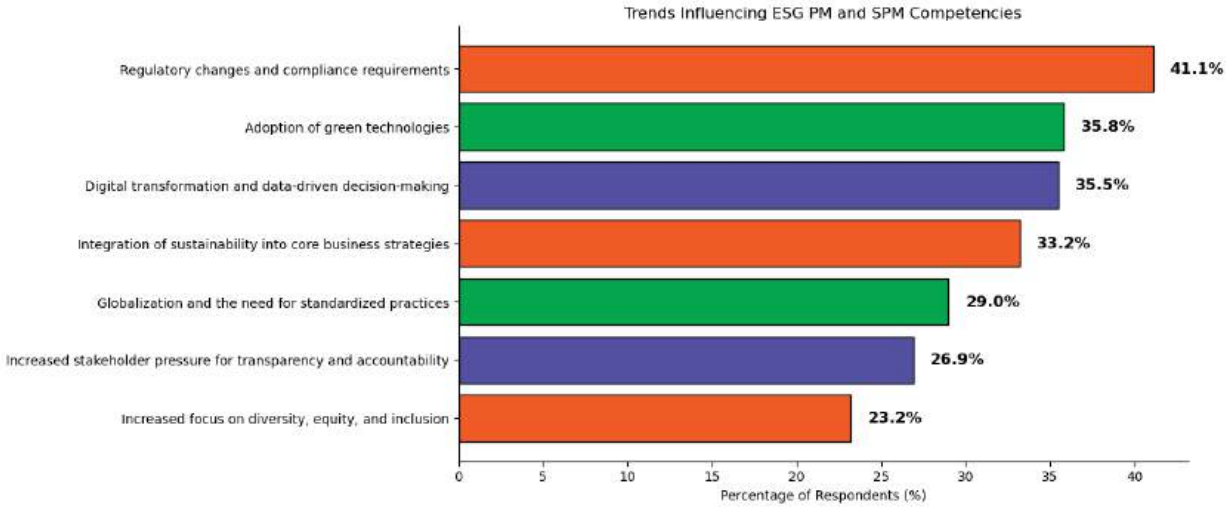
Based on the survey results, the following trends have been ranked according to the percentage of respondents who believe they will significantly influence the importance of ESG PM and SPM competencies in their industry.

Table 23. Key Industry Trends

Rank	Trend	Percentage of Respondents Indicating Importance
1	Regulatory changes and compliance requirements	41.1%
2	Adoption of green technologies	35.8%
3	Digital transformation and data-driven decision-making	35.5%
4	Integration of sustainability into core business strategies	33.2%
5	Globalization and the need for standardized practices	29.0%
6	Increased stakeholder pressure for transparency and accountability	26.9%
7	Increased focus on diversity, equity, and inclusion	23.2%

Regulatory changes and compliance requirements are identified as the most influential trend (41.1%), highlighting the increasing pressure on businesses to align with ESG standards and reporting regulations.
Adoption of green technologies (35.8%) ranks second, indicating a growing need for sustainability-driven innovation.
Digital transformation and data-driven decision-making (35.5%) emerges as another key driver, suggesting that technology will play a critical role in ESG PM and SPM implementation.
Integration of sustainability into core business strategies (33.2%) reinforces the idea that ESG principles are becoming fundamental to corporate strategy rather than an ancillary concern.

Globalization and the need for standardized practices (29.0%) reflect the necessity for internationally recognized ESG frameworks to ensure consistency across markets.
Stakeholder pressure for transparency and accountability (26.9%) is becoming increasingly important, though it ranks below compliance-driven and technological factors.



Graph 24. Trends Influencing ESG/SPM Competencies

Diversity, equity, and inclusion (DEI) (23.2%) appears to have the least influence on ESG competency requirements, though its growing significance in corporate culture may lead to increased emphasis over time.
This ranking helps to prioritize industry responses, training initiatives, and policy adaptations required to support ESG-focused project management effectively.
The data indicates that certain industries prioritize different ESG trends more than others. Below are key industry-specific insights:

- **Industries Prioritizing Regulatory Compliance**
  Financial Services (53.6%): As financial institutions face stricter ESG disclosure regulations, risk assessment frameworks, and sustainability-linked financing, regulatory compliance is their dominant trend.
  Public Sector/Government (50%): Governments are enforcing stricter ESG policies, requiring professionals to develop regulatory knowledge to manage sustainable public infrastructure projects.
- **Industries Focusing on Green Technology Adoption**
  Manufacturing (41%): The shift towards sustainable production processes and the circular economy makes green technologies essential in this sector.
  Energy/Utilities (50%): The transition to renewable energy sources and carbon reduction strategies is a major driver for ESG competencies in this industry.
- **Industries Influenced by Stakeholder Transparency**
  Education (48%): Academic institutions and training programs emphasize transparency in sustainability education and program implementation.
  Healthcare (50%): The demand for sustainable healthcare systems and ethical supply chains requires increased accountability in project management.

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- **Industries Emphasizing Digital Transformation**
  Information Technology (46.6%): The IT sector is investing heavily in data-driven ESG performance monitoring and digital sustainability solutions.
  Retail/Consumer Goods (43.8%): E-commerce and supply chain digitalization drive the need for ESG data analysis in consumer goods.

3.6.3 Key Emerging Trends Identified by Respondents (Open-ended question)

Political Leadership and Global Policies

- "New US president"
- "Developments in Global Policies e.g., UN, research direction of Development Studies and Project Studies"
- "Impact of government policies and lack of support for ESG initiatives"

Implication: Government leadership and international policies will significantly shape ESG adoption, either by supporting sustainability initiatives or creating barriers.

Regulatory and Compliance Pressures

- "Formal pressure on all industries, related to forcing the application of certain EU directives."

Implication: ESG regulations are becoming stricter, requiring industries to adapt to new legal frameworks.

Corporate and Workplace Trends

- "Talent Attraction and Retention"

Implication: Companies with strong ESG commitments may have an advantage in attracting and retaining talent.

Technological Disruption

- "AI"

Implication: Artificial intelligence is expected to influence ESG decision-making, risk assessment, and sustainability reporting.

Public Awareness and Perception

- "Raise of individual ESG awareness"

Implication: As ESG consciousness grows among individuals, organizations may face increased consumer and employee expectations for responsible business practices.

Outlier Comment

"The green deal is bullshit, your stupid talk will end soon". This response reflects a critical or sceptical viewpoint about ESG policies. While it is not constructive, it highlights existing resistance or pushback from some industry professionals.

3.6.4 Barriers to education and training in ESG project management

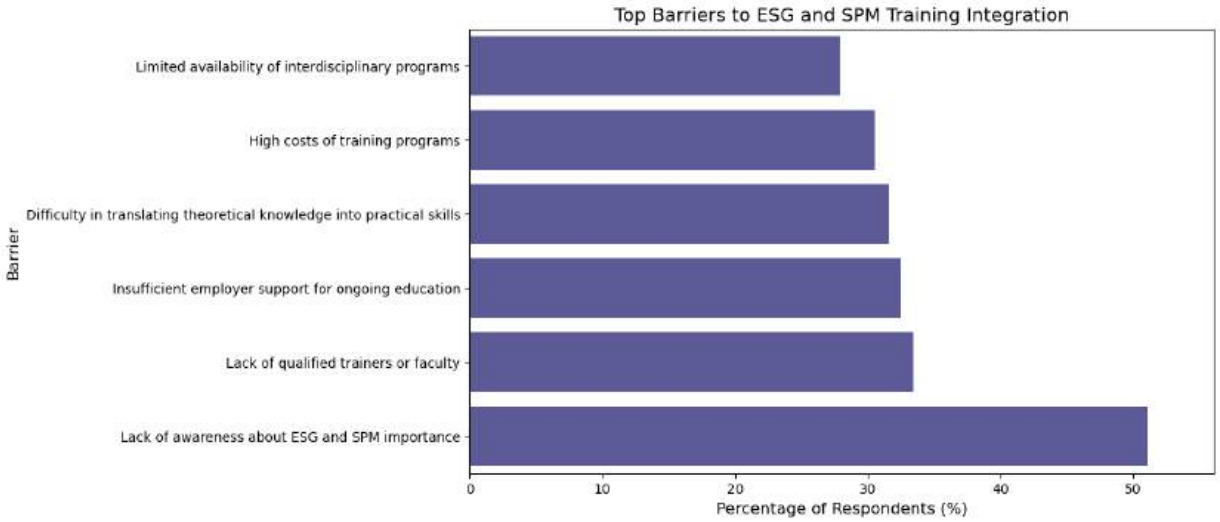
The survey identified key barriers that hinder the integration of Sustainable Project Management (SPM) and ESG Project Management (ESG PM) training into formal education and professional development programs. The table below presents the most significant challenges ranked by the percentage of respondents who acknowledged them as major obstacles.

Table 24. Barriers to Edu & Training in ESG PM

Barrier	%
Lack of awareness about ESG and SPM importance	51.1%
Lack of qualified trainers or faculty	33.4%
Insufficient employer support for ongoing education	32.5%
Difficulty in translating theoretical knowledge into practical skills	31.6%
High costs of training programs	30.5%
Limited availability of interdisciplinary programs	27.9%

The most commonly cited barrier is the general lack of awareness about the importance of ESG and SPM training, indicating a need for stronger advocacy and education about its value. The shortage of qualified trainers or faculty members is another significant issue, emphasizing the necessity of building capacity among educators and industry professionals.

A substantial proportion of respondents cited insufficient employer support for ongoing ESG and SPM education, highlighting the need for organizations to invest in workforce upskilling. Many respondents struggle with translating theoretical ESG and SPM concepts into practical applications, pointing to a need for hands-on training approaches. The cost of training programs remains a barrier, suggesting that financial support mechanisms, such as subsidies and scholarships, may be needed to encourage participation. Limited availability of programs that integrate sustainability and project management expertise indicates a gap in curriculum development that universities and training institutions should address.



Graph 25. Top Barriers to ESG SPM Edu & Training

Industry-Specific Challenges: Key Barriers Across Sectors

The survey results provide insights into the most pressing barriers to ESG training across various industries. By analyzing the responses, we can identify trends that highlight sector-specific challenges and obstacles to formal education and professional development. Based

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on the Chi-Square test results for different barriers across industries, we can assess whether specific industries face unique obstacles in integrating ESG PM.

Table 25. Key Barriers Across Sectors

Barrier	Comment
Lack of Awareness About ESG and SPM Importance.	This is the only barrier with a statistically significant association across industries (Significance: p = 0.026), indicating that some sectors face this challenge more acutely. Industries Most Affected: Education, Information Technology, Financial Services, Engineering Services, and Public Sector/Government.
Limited Availability of Interdisciplinary Programs	This barrier is prevalent across all industries, though not significantly different between them. Industries Most Affected: Education, Engineering Services, and Financial Services.
High Costs of Training Programs	The financial burden of training is a widespread challenge, but there is no significant industry-specific trend. Industries Most Affected: Education, Financial Services, and Information Technology.
Insufficient Employer Support for Ongoing Education	No strong statistical variation between industries. Industries Most Affected: Education, Information Technology, and Non-Profit/NGO.
Difficulty in Translating Theoretical Knowledge into Practical Skills	Industries Most Affected: Education, Information Technology, and Professional Services.
Lack of Qualified Trainers or Faculty	Industries Most Affected: Education, Information Technology, and Financial Services.

Key Barriers Identified by Respondents

Lack of Market Demand & Business Priorities

- "These are issues of secondary importance to business in general. The primary goal for each business is to generate profit."
- "Employers do not need such competencies."
- "The biggest barrier in the long run will prove to be the lack of market demand for this type of competence."
- "Business people are not interested in funding this type of training."

Implication: Many businesses prioritize profitability over ESG initiatives, and this may limit investments in ESG-related education and training.

Regulatory & Economic Uncertainty

- "The absurdity of ESG itself."
- "The market will either force the abandonment of ESG regulations or collapse under the weight of competition."
- "EU directives will make the economy of EU countries uncompetitive."

Implication: Some respondents believe that ESG regulations are unsustainable long-term, leading to uncertainty about investing in ESG training.

Lack of Systemic Integration & Debate

- "Lack of systemic perspectives."
- "Deficient debate on SPM integration."

Implication: There is a gap in the discussion and understanding of how ESG and SPM training should be integrated into formal education.

Educational & Institutional Challenges

- "For formal education (bachelor degree): lack of experience among students."
- "Lack of incentives for such training."
- "Resistance to improve workaround environment."

Implication: A lack of qualified educators, practical learning opportunities, and clear incentives hinders the inclusion of ESG training in formal curricula.

Political & Governmental Barriers

- "Local government politics."

Implication: The role of governments in promoting or obstructing ESG-related education can vary by region, influencing institutional adoption.

3.6.5 Educational Programs Addressing ESG and SPM Skill Gap

To assess the most effective educational formats for addressing ESG skill gaps, respondents were asked to indicate their preferences for various types of training and education. The results indicate diverse perspectives on the most suitable approaches, with some programs receiving significantly higher support than others.

Formal University Programs (e.g., Bachelor's, Master's Degrees)

A majority of respondents (68.3%) believe that formal university programs are not the most effective format for addressing ESG and SPM skill gaps. Only 31.7% of respondents indicated support for this traditional educational route. This suggests that while formal education provides foundational knowledge, it may not be the preferred method for practical and rapidly evolving ESG-related competencies.

Short Certification Courses (Online or In-Person)

Short certification courses emerged as the most balanced option, with 49.5% of respondents supporting their effectiveness in addressing skill gaps. However, 50.5% were not convinced of their sufficiency, indicating that while such courses provide targeted knowledge, they may require complementary learning methods to be fully effective.

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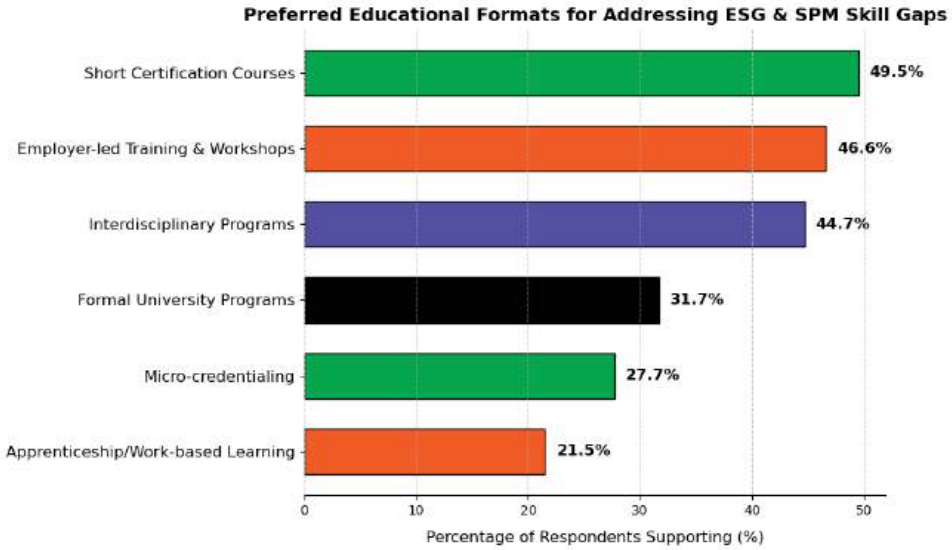

Graph 26. Preferred Edu Formats

Employer-Led Training and Workshops

Employer-led training programs and workshops received 46.6% support, with 53.4% of respondents indicating that they do not view them as the most effective option. While such programs can be industry-specific and tailored to organizational needs, the slightly lower preference suggests that employees may require more structured and externally recognized learning opportunities.

Interdisciplinary Programs Combining Sustainability and Project Management

A notable 44.7% of respondents supported interdisciplinary programs that integrate sustainability with project management, while 55.3% did not. This indicates that while there is interest in holistic approaches, interdisciplinary programs may not yet be fully established or widely recognized in professional development pathways.

Micro-Credentialing (Focused, Stackable Learning Modules)

Micro-credentialing, which offers flexibility and targeted skill acquisition, received 27.7% support, with a significant 72.3% of respondents viewing it as less effective. This suggests that despite its growing popularity in education, micro-credentials may not yet be seen as sufficiently comprehensive for ESG and SPM competency development.

Apprenticeship or Work-Based Learning Programs

The least favoured option was apprenticeship or work-based learning, with only 21.5% of respondents endorsing it, while 78.5% did not see it as the most effective method. This could indicate challenges in integrating ESG and SPM learning into practical, on-the-job training environments.

3.6.6 Educational Programs Addressing ESG and SPM Skill Gap

To understand the perspectives of professionals on the most effective training formats and certifications for ESG Project Management (ESG PM) and Sustainable Project Management (SPM), the survey included several questions assessing preferences for integrating ESG and SPM certifications, the most valuable certification formats, the importance of cross-sectoral collaboration, and the prioritization of ESG and SPM in formal education.

Inclusion of SPM and ESG PM Certifications in Formal Education and Training

Survey respondents were asked whether ESG PM and SPM certifications should be incorporated into formal education or training programs to enhance employability. The findings reveal that:

- 57.4% of respondents believe that certifications should be optional, serving as an additional qualification rather than a mandatory requirement.
- 34.5% of respondents support making these certifications mandatory for all graduates and professionals in project management.
- Only 8.1% of respondents feel that formal education is sufficient without the need for certifications.

These results suggest that while there is strong support for certifications, the majority prefer a flexible approach where certification is an added advantage rather than an obligation.

Preferred Certification Formats

The survey further explored which certification formats professionals consider most valuable for ESG PM and SPM competencies:

- 39.9% of respondents favored modular certifications that focus on specific ESG PM or SPM skills.
- 34.0% preferred comprehensive, globally recognized certifications such as PRINCE2, PMI, and PM².
- 26.1% valued industry-specific certifications tailored to fields like energy, construction, or IT.

These responses indicate a diverse range of preferences, with modular certifications emerging as the most preferred option, likely due to their flexibility and adaptability to different professional needs.

Cross-Sectoral Collaboration in Higher Education Institutions (HEI) and Training Initiatives

When asked whether HEI programs and training initiatives should integrate **cross-sectoral collaboration** for ESG PM and SPM:

- 71.5% of respondents agreed that such integration is essential for addressing complex sustainability challenges.
- 28.5% believed that individual sector-specific training is more effective.

The strong preference for cross-sectoral collaboration highlights the need for a holistic approach to ESG and SPM education, emphasizing the interconnected nature of sustainability across industries.

Prioritization of ESG and SPM in Formal Education

Finally, respondents were asked whether formal education in project management should

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prioritize ESG and SPM as core components:

- 71.7% of respondents either agreed (49.2%) or strongly agreed (22.5%) with prioritizing ESG and SPM.
- 23.9% remained neutral on the subject.
- Only 4.4% disagreed or strongly disagreed, indicating limited opposition.

The overwhelming agreement supports the growing recognition of ESG and sustainability principles as fundamental elements of project management education.

Key Takeaways

1. While most respondents support the inclusion of ESG and SPM certifications in education, they favor an optional rather than mandatory approach.
2. Modular certifications focusing on specific skills are the most preferred format, followed by globally recognized certifications and industry-specific credentials.
3. There is a strong demand for cross-sectoral collaboration in training initiatives, emphasizing the multidisciplinary nature of sustainability challenges.
4. A majority believe ESG and SPM should be prioritized in formal project management education, reinforcing the need for integrating these competencies into curricula.

3.7 Limitations

3.7.1 Study Limitations: Discussion of the limitations of the study.

While the survey provides valuable insights, certain limitations should be acknowledged:

- **Sample Representation**: The survey sample, while diverse, may not fully represent all industries and regions.
- **Self-Reporting Bias**: Respondents' self-assessments of competency importance may reflect aspirational rather than actual organizational priorities.
- **Evolving ESG Landscape**: The rapid evolution of ESG policies and industry standards may outpace the findings.

3.7.2 Areas for Future Research: Suggestions for further research based on the findings.

Future research could address these limitations by:

- Conducting sector-specific deep dives to explore unique ESG challenges and priorities.
- Assessing the long-term impact of ESG training on project outcomes.
- Exploring the role of digital transformation in enhancing ESG competencies.

3.8 Key Findings and Analysis

3.8.1 Summary of critical insights from the survey data

The survey findings reveal that ESG competencies are increasingly viewed as critical to project management across industries. The majority of respondents acknowledge the growing importance of sustainability-related skills, particularly in governance and environmental aspects.

Key takeaways include:

- A strong preference for modular and globally recognized ESG PM and SPM certifications.
- Widespread support for cross-sectoral collaboration in ESG-related training.

- Significant competency gaps in areas such as innovation in environmental practices and governance training.
- Organizations with a proactive ESG integration approach tend to rate ESG competencies as more essential to project success.

3.8.2 Analysis of educational gaps related to ESG project management

Despite recognizing the importance of ESG competencies, organizations report substantial gaps in formal training and education. The largest gaps are observed in:

- Governance and ESG standards training.
- Innovation in environmental practices.
- Green technology integration. This highlights a critical need for enhanced education and training programs tailored to emerging ESG requirements in project management.

CONCLUSIONS

3.9 Conclusion

This report aimed to assess the significance of ESG competencies in project management, identify competency gaps, and explore industry perspectives on ESG training and certification. The findings confirm that ESG skills are gaining importance across sectors, yet organizations struggle to bridge the training and competency gaps.

ESG considerations will increasingly shape project management practices, making sustainability-driven leadership a competitive advantage. Organizations that proactively integrate ESG into their project strategies will be better positioned to navigate regulatory changes, stakeholder expectations, and sustainability challenges.

The insights gathered in this study inform the development of an ESG competency framework that aligns with industry needs. Recommendations include:

- Strengthening governance and compliance training.
- Expanding industry-specific ESG education.
- Encouraging cross-sector collaboration to address sustainability challenges.

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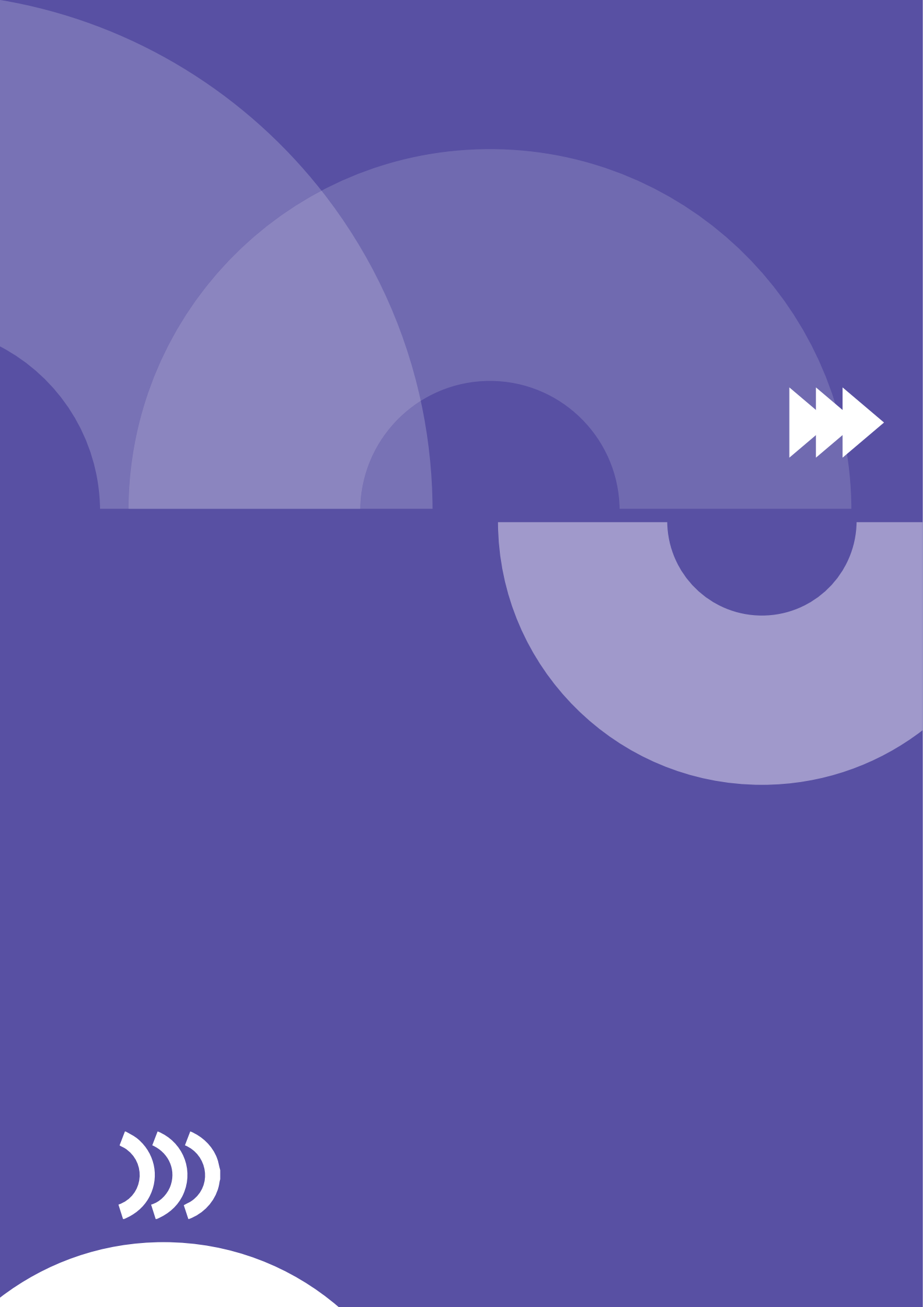

4. FOCUS GROUPS REPORT

4.1 Introduction

This part of the report provides a summary of 5 focus groups that were conducted by five project HEI partners in January 2025:

- University of Information Technology and Management in Rzeszow, Poland (UITM)
- Alma Mater Studiorum - Università Di Bologna, Italy (UNIBO)
- University of Novi Sad, Serbia (UNS)
- University of Split, Croatia (UNIST)
- University of Thessaly, Volos, Greece (UTH)

The objective of the focus groups was to collect insights from Higher Education Institutions (HEIs), VETs, and industry experts on SPM and ESG PM skill requirements, gaps, and their role in advancing project management as a discipline.

The focus groups were organised in a hybrid formula with a total number of 44 participants took part in the focus groups (27 in presence, 17 online). The breakdown into the quintuple helix sectors is shown in Table.

Table 26. The Breakdown of Participants

Quintuple helix sector:	No. of participants
Education +VET	18
Environment	5
Industry	11
Society	5
Policy	5

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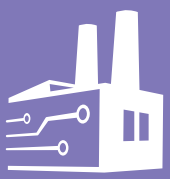
4.2 Summary of key issues and ideas discussed by sector

Education

- Despite the increasing awareness of ESG and sustainability in project management among both faculty and students in the Education domain, HEIs emphasized that formal integration into higher education curricula remains limited. In the majority of instances, environmental and social governance dimensions are indirectly addressed through the efforts of individual instructors or within broader ethics or strategic management courses.
- More advanced solutions are implemented by including SD-related learning outcomes into study programmes or through post-graduate studies related to Environment or ESG reporting. No specific programmes are offered, however, on ESG-PM. Sometimes environmental aspects are mentioned as a part of regular PM courses offered by universities.
- Numerous universities have established specialised MBA or professional development programs in construction or hybrid project management models that integrate sustainability themes, despite these obstacles.
- Universities prefer to build ESG-PM competences through post-graduate programmes (best option) or second-cycle study programmes. Microcredentials also could be an option although this system is not well developed in many countries yet
- Dual education, combining formal and informal learning, is identified as a critical factor for success. This approach blends theoretical knowledge with practical, real-world applications, ensuring students are better prepared for industry demands. “Learning by doing” was emphasized as an effective method to integrate ESG-PM principles into education by solving real-world challenges.
- The lack of a clearly defined professional profile in these fields presents a challenge. There is no consensus on the specific competencies required.
- Stronger partnerships between higher education institutions and industry are necessary to raise awareness about ESG-PM and incorporate their principles into educational practices.
- ESG integration in PM education also requires collaboration with certifying organizations.

Industry



- Regulations are key drivers for ESG implementation, and companies must strategically adopt ESG at the organizational level with clear KPIs and integration into business processes. ESG activity is mostly focused on ESG reporting that becomes obligatory now in some sectors and for some entities.
- In large companies ESG and sustainability aspects are most often incorporated through dedicated policies/strategies. In case of smaller businesses the ESG perspective in project management is mostly addressed through individual efforts of project managers.
- ESG projects often face resistance, requiring structured change management processes and broader employee involvement to ensure successful implementation. Important role of internal mentoring by experienced project managers
- Low demand for ESG-specialized project managers exists, however businesses emphasized the need for diverse skills in renewable energy project teams, covering both technical and economic project management aspects.
- No or little specific ESG-PM competencies are recognized. Some project managers hold individual PM certificates (such as PMI, PRINCE or IPMA) not specifically related to ESG. The lack of recognized market standards for ESG creates difficulties in implementation.
- Implementing ESG ambassadors and enhancing e-learning platforms can foster ESG knowledge within organizations.
- Key required competences: leadership, vision, strategic planning, problem-solving, conflict management (mostly related to change management).
- Key barrier: lack of awareness and readiness to change current practices; high costs of ESG-PM professional certifications
- ESG Project Management enhance brand reputation, increase customer loyalty, improve cost efficiency (e.g., renewable energy use, waste reduction, optimized supply chains), and attract ESG-aligned investors.

Policy

- EU regulations encourage large corporations to adopt ESG mandates, but national and local adoption is uneven due to limited capacity in public bodies to include sustainability in project approvals.
- Policies aim to support ESG in Project Management (ESG-PM) skills through educational partnerships and public funding, though practical implementation remains unclear.
- Existing policies are fragmented and lack clear guidance for

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Policy

ESG implementation across sectors, highlighting the need for a cohesive model. Issues stem from limited institutional capacity, funding, and stakeholder awareness, even when sustainability policies are introduced.

- EU-funded projects partially integrate ESG through ethical considerations and impact assessments, with the effectiveness largely dependent on team members' backgrounds and experience.
- There is a growing need for training in ESG-PM, especially for those without relevant academic or professional backgrounds; policymakers also need ESG education to enhance sustainable development efforts.
- Financial incentives like tax breaks and grants could motivate businesses to prioritize ESG, but these tools are currently underutilized.
- Limited funding for ESG research and innovation exists, and policymakers are encouraged to enhance research managers' ESG knowledge through multidisciplinary courses and awareness activities.

Society

- ESG awareness in the civil sector often remains basic, with other challenges taking priority; donor-supported projects are key for ESG initiatives to succeed.
- Despite growing awareness of sustainable development (SD) topics, ESG-PM competencies are not well recognized or seen as valuable.
- There's a crucial need to define clear, specific ESG-PM competencies for project management, as current perceptions are too vague or abstract.
- Emphasis on moving from bureaucratic processes to outcome and impact management through agile methods and "learning by doing" approaches. Practical, case-based training and post-graduate programs are favored over formal education, as applied learning is more attractive and effective.
- Effective ESG implementation requires increased public awareness and community engagement through volunteering, service learning, and local environmental initiatives.
- There's a need to embed ethical principles and social responsibility into professional practices via corporate policies or by enhancing the moral leadership of project managers.

- Frameworks like Green Project Management (GPM) and Principles for Responsible Management Education (PRME) can serve as references for integrating ESG into Project Management (ESG-PM).
- Leadership, communication skills, and an entrepreneurial mindset are identified as essential for effective ESG-PM practices.
- High costs for ESG-PM validation and assessment (e.g., certifications and postgraduate degrees) hinder widespread adoption among employees.
- Companies involved in green initiatives focus on qualitative social impact indicators rather than applying quantitative measures consistently.
- Environmental efforts go beyond simple measures like energy-saving; they involve complex strategies such as renewable energy adoption, waste reduction, and building insulation, requiring long-term planning and stakeholder cooperation.
- ESG implementation requires multidisciplinary teams (including environmental engineering, economics, social sciences, and law). Individuals with humanities backgrounds often excel in adaptability and change management, highlighting the importance of attitude and sensitivity towards sustainability.

4.3 Unexpected findings and valuable insights

Contrasting opinions and/or novel perspectives by sector

- Sustainability is not systematically addressed in educational contexts. Coordination is limited to specific departments, and research collaborations with companies and international partners are valuable for sharing best practices.
- Personal initiatives and leadership play crucial roles, with cooperation between industry and educational institutions needed to enhance ESG knowledge.
- Certification for ESG-PM is necessary due to the importance of individual backgrounds in project implementation.
- Policies should balance focus across environmental, social, and governance pillars and address risks of non-implementation.
- Society emphasizes shift to impact management, developing KPIs, and improving ESG-PM validation and assessment. Collaboration with public authorities is essential.

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- Specific tools and frameworks are needed for validating and assessing ESG-PM competencies. High certification costs remain a barrier to broader adoption and development.
- Vocational Education and Training (VET) providers and Higher Education Institutions (HEIs) compete in the project management education market, affecting coordinated efforts to integrate ESG-PM concepts.
- There's a divide between advocates for uniform ESG frameworks with clear benchmarks and those favoring flexibility, especially in resource-constrained or local contexts. Smaller organizations often use internal motivation for sustainability goals rather than formal standards.

Valuable insights

- Building ESG competencies is often seen as part of change management rather than project management, with readiness tied to an organization's project maturity level.
- Education should be practical, using case studies and problem-solving methods to engage learners. Dual education and "learning by doing" are recommended for better ESG-PM integration.
- Clear competency sets for ESG-PM are needed to clarify concepts. Collaboration between Higher Education Institutions (HEIs) and industry is crucial for market-oriented certifications, which are currently lacking.
- Executive buy-in is essential for securing budgets and establishing sustainability as a core company value. Middle management may act as a bottleneck, underscoring the need for sustainability awareness at all organizational levels.
- Industry stresses the need for cross-functional collaboration and a mix of technical and soft skills, including a sustainability-oriented mindset. Collaboration between universities and companies is vital for sharing best practices.
- The policy sector focuses on aligning with EU standards but faces fragmented frameworks and weak enforcement. Financial incentives like grants and tax breaks are underutilized, hindering ESG adoption.
- The project owner's ESG-oriented mindset is critical for project success. Sustainability reporting serves as a practical starting point for ESG training, emphasizing real-world application.
- There's a need for a common framework and comparable metrics to evaluate project impact, enabling benchmarking and best practice sharing. Market-recognized ESG-PM certifications are currently insufficient.

4.4 Summary of stakeholder-specific insights that could inform policy or programme design

Education stakeholders stressed the need to view sustainability as a holistic concept integrating environmental, social, and governance (ESG) aspects, rather than treating them separately. Emphasis is on research-based methods to quantify sustainability impacts, understanding policy frameworks, and integrating ESG goals into project management. Active learning methods like case studies and experiential projects are crucial.

- Incorporate ESG principles systematically into curricula.
- Emphasize experiential learning and sustainability reporting.

- Embed ESG as an internal driver beyond regulatory compliance.
- Train teams on ESG to integrate environmental and social factors alongside technical aspects.
- Stronger collaborations with academia to align training with labor market needs.

Industry values technical project management skills combined with the ability to interpret and apply ESG regulatory and market expectations. Skills in data analysis, performance measurement, communication, and stakeholder engagement are essential.

Policy Sector participants highlighted the need for knowledge of legislative processes and public-sector procedures, especially EU regulations, to align projects with ESG objectives and ensure accountability. Translating policy into actionable project steps is key.

- Promote ESG awareness through campaigns and regulations.
- Integrate ESG criteria into publicly funded projects.
- Support the development of ESG certifications and standards.

- Encourage project managers to act as change agents.
- Advocate for transparency through sustainability reporting.

Civil society representatives emphasized ethical leadership and inclusive decision-making, involving marginalized groups in project planning. Conflict management, advanced communication, and empathy are critical for community-based initiatives.

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Environmental stakeholders stressed the need for technical skills in biodiversity preservation, carbon accounting, and environmental assessment. Understanding the environmental impact on economic and social equity is vital for long-term solutions.

- Integrate environmental impact assessments into projects.
- Promote resource optimization and ecological practices.

To clearly define competencies, it is necessary to establish a competency framework. Currently, the framework is unclear, which hinders the development of competencies within higher education institutions (HEI). This is not a conventional single-job definition but rather a combination of various roles. A project manager (PM) with a strong willingness to learn should play a central role. However, developing these competencies cannot be the responsibility of one person alone – a multidisciplinary approach and collaboration among multiple experts are essential.

Most important competencies

- **Sustainability-Oriented Mindset:** Embracing sustainability and social impact as core values.
- **Soft Skills:** communication, collaboration, change management, and empathy.
- **Knowledge of ESG Principles:** A deep understanding of environmental, social, and governance principles.
- **Impact Assessment Skills:** Ability to evaluate project environmental, social, and economic impacts.
- **Reporting Skills:** Proficiency in preparing and analyzing sustainability reports.
- **Regulatory Knowledge:** Familiarity with relevant environmental and social regulations.
- **Risk Management Skills:** Capability to identify and manage ESG-related risks.
- **Stakeholder Engagement:** Skills to involve stakeholders in PM processes.
- **PM Skills:** Core PM expertise, focusing on integrating ESG aspects. Relevance of the discussion at the European level about the professional recognition of the RM role (different initiatives are ongoing)

4.5 Unexpected findings and valuable insights by sector

- Knowledge of ESG Principles and their relevance in PM.
- Research and Analytical Skills: Ability to collect, analyze, and interpret ESG-related data.
- Pedagogical skills: designing learning experiences that blend reflective exercises with quantitative analysis of environmental and social indicators

- Systematic Approach to Sustainability to foster a sustainability-oriented mindset and culture.
- Awareness of Challenges and Opportunities.
- Capacity to establish interdisciplinary partnerships within the institution, thereby connecting the fields of business, engineering, and social sciences to emphasize ESG issues from a variety of viewpoints
- Ethical reasoning
- Capacity building skills to train all members of the organization on ESG principles.
- Commitment to continuous learning.
- Special tools development that can help organizations validate and assess ESG project management competences.

- ESG Integration in Decision-Making, starting from project planning and management decisions.
- Risk Assessment Skills.
- Resource Management: Optimization of resources, including human resources, with a focus on impact.
- Competence in preparing and using sustainability reports to evaluate project performance.
- Adaptability and Mindset: anticipate and respond to changing market demands while maintaining ESG compliance.
- Change management requiring collaboration across various sectors within companies
- Ability to calculate ESG initiative ROI and understand financial implications of sustainability measures.
- Data Analysis: Proficiency in gathering and analyzing metrics like carbon emissions and resource utilization.
- Managing teams across departments and engaging with various stakeholders, including leadership and employees.
- Communication Skills: Effectively communicate sustainability principles to both internal leadership and external partners.
- Regulatory Understanding: Interpret and apply ESG-related regulations and market expectations.
- Stakeholder Engagement: Build and maintain relationships with government bodies, communities, and partners.

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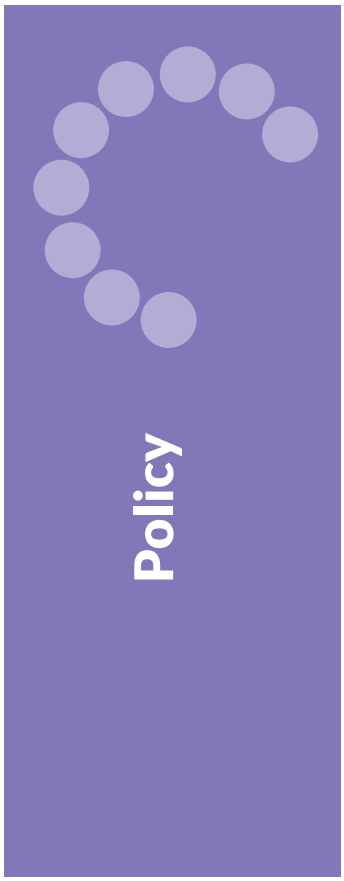

- Knowledge of ESG Regulations.
- Translate high-level policy into actionable project criteria for funding and approvals.
- Social and Environmental Impact Assessment.
- Stakeholder Collaboration Promotion to facilitate dialogue and collaboration among public, private, and civil society stakeholders.
- Ethical Framework Development/Ethical aspects and their connection to ESG aspects.
- Emphasis on measurable KPIs and formal verification mechanisms.
- Draft corporate policies aligning environmental and social objectives with feasible implementation pathways.
- Stakeholder Engagement: Engage with businesses, communities, and government agencies to build consensus.
- Analytical Proficiency: Develop strategies with measurable sustainability impacts considering logistical and budgetary constraints.
- Consensus Building: Facilitate inter-agency cooperation and stakeholder agreement..

- Promoting Positive Social Impact.
- Communication and Engagement Skills involving stakeholders in the decision-making process.
- Change Management Competence, placing social impact at the forefront.
- Holistic Project Vision.
- Monitoring ESG Indicators over time, fostering project accountability and transparency.
- Inclusiveness: Develop and promote inclusive decision-making processes, involving marginalized groups.
- Ethical Leadership: Lead projects with a focus on ethical standards and social equity.
- Communication Skills: Convey social and environmental impacts clearly to diverse audiences.
- Conflict Management: Mediate conflicts and ensure community buy-in for sustainability goals.
- Partnership Building: Establish collaborations with industry, government, and educational institutions.
- Cultural Competency: Understand and address cultural factors influencing environmental and social attitudes.

- Environmental Impact Assessment to evaluate project-related environmental impacts and propose mitigation strategies.
- Promoting Ecological Transition emphasizing emission reduction and circular economy practices.
- Competencies in developing and supporting practical frameworks for integrating ESG into environmental initiatives.
- Expertise in ecology, biodiversity preservation, carbon accounting, and environmental assessment.
- Conduct environmental impact assessments and life-cycle analyses.
- Data Monitoring: Oversee ongoing environmental data collection and ensure compliance with objectives.
- Contingency Planning: Develop plans to mitigate unforeseen environmental or resource changes.
- Resource Management: Optimize resource use while minimizing ecological damage.
- Collaboration: Work with businesses, policymakers, and civil society for integrated environmental strategies.

4.6 Final remarks

Conclusions and recommendations regarding development of strategies that aim to create robust ESG and SD training and certification mechanisms, ensuring professionals are well-equipped to integrate sustainability into project management effectively:

- **ESG is a relatively young field** that requires a clear framework for integration and competency development. Stakeholders must engage in discussions and collaborations to drive ESG advancement effectively.

- **Structured Competency Framework:** Develop a clear, structured competency framework for ESG-PM skills, defining specific knowledge, skills, and attitudes. The framework should be practical, avoiding abstract definitions, and align with industry needs and policy requirements.
- **Orientation to Change Management:** Competences related to ESG-PM are often perceived as related to change management so this perspective should be underpinning any competency framework developed.

CONCLUSIONS

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CONCLUSIONS

- **Interdisciplinary Curriculum:** Integrate ESG-PM concepts into educational curricula across disciplines (business, engineering, social sciences) to provide students with both theoretical knowledge and practical skills. Curricula should include environmental, social, and governance aspects as core components. Cross-sector collaboration and a blend of legal, financial, and project management skills are critical for integrating ESG into business processes.
- **Hands-On Learning Approaches**: Implement "learning by doing" methods in training programs, using case studies, problem-solving exercises, and real-life project simulations to enhance engagement and practical application of ESG concepts.
- **Modular Training Programs**: Offer modular, flexible training formats, including dedicated courses, postgraduate programs, and microcredentials covering well-defined ESG competencies. These should cater to both advanced learners and professionals seeking to upskill.
- **Industry-Education Partnerships**: Strengthen collaboration between educational institutions and industry to co-develop training programs and certifications. This partnership ensures that training is aligned with industry needs and facilitates knowledge exchange.
- **Certification**: Certifications should validate competencies in change management, stakeholder engagement, data analysis, and regulatory compliance.
- **Microcredentials** could be a good solution but only if they cover a well-defined set of competences.
- **Awareness and Pre-Training Activities**: Launch awareness campaigns to highlight the importance of ESG before formal training. Early engagement helps build a sustainability mindset and prepares participants for in-depth learning.
- **Policy Integration in Training**: Include policy comprehension in training modules, equipping learners with skills to navigate regulations and EU directives, ensuring that project implementation aligns with legal frameworks.
- **Soft Skills Development**: Emphasize leadership, ethical decision-making, and communication skills in training to prepare professionals for stakeholder engagement, conflict resolution, and inclusive decision-making processes.
- **Continuous Feedback and Improvement**: Establish feedback loops in training and certification programs to refine competencies continuously. Encourage ongoing collaboration between educators, industry, policymakers, and environmental experts to keep the training relevant and effective.

5. RESEARCH FINAL CONCLUSIONS

THE GROWING DEMAND FOR ESG-PM COMPETENCIES

The integration of Environmental, Social, and Governance (ESG) principles into project management is transforming how organizations approach sustainability and governance. This research synthesizes insights from desk research, job advertisement analysis, an industry survey, and focus groups, offering a comprehensive understanding of ESG competencies, market demand, educational gaps, policy influences, and implementation challenges.

Across multiple industries, particularly in consulting, energy, construction, and financial services, the demand for ESG-PM competencies is increasing. Job postings highlight the need for ESG knowledge and project management expertise, but few explicitly mention ESG-specific certifications, pointing to a lack of standardized qualifications. Survey results indicate that 83.4% of professionals expect ESG-related project management skills to be in high demand over the next five years, with particular emphasis on sustainability reporting, risk management, and stakeholder engagement. However, focus groups revealed that organizations struggle to define ESG-PM roles clearly, resulting in uncertainty in hiring and training practices.

COMPETENCY GAPS AND EDUCATIONAL NEEDS

A significant competency gap exists in governance, environmental aspects, and social dimensions. Desk research suggests that universities and vocational training institutions have yet to fully integrate ESG-PM into curricula, often addressing sustainability topics only within broader business ethics or strategic management courses. Survey and focus group findings confirm that critical gaps remain in compliance knowledge, climate risk mitigation, and inclusivity in decision-making. Industry professionals emphasize the need for a dual education model,

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combining academic learning with real-world applications. Practical training through hands-on projects, case studies, and simulations is seen as the most effective approach for developing ESG-PM competencies.

CHALLENGES IN ESG IMPLEMENTATION

Despite the growing awareness of ESG's importance, organizations face multiple challenges in implementing ESG-PM practices. Survey and focus group results indicate that resistance to change is a significant barrier, with 51.1% of respondents citing a lack of awareness and structured policies as major obstacles. Job advertisement analysis shows that while ESG roles are emerging, their scope and expectations remain vague, leading to inconsistencies in job descriptions. Desk research highlights financial constraints as another major challenge, particularly the high costs of ESG training and certification, which disproportionately affect small and medium enterprises (SMEs) and hinder widespread ESG adoption.

INDUSTRY-SPECIFIC ESG COMPETENCY REQUIREMENTS

Different industries require distinct ESG competencies. In the energy and manufacturing sectors, ESG efforts focus on carbon reduction, energy efficiency, and compliance with global climate goals. The construction sector sees an increasing demand for project managers with expertise in sustainable building practices, energy-efficient design, and regulatory compliance for green infrastructure projects. Financial services prioritize risk assessment, ESG reporting, and adherence to regulatory frameworks, making specialized training essential. The public sector and NGOs place greater emphasis on social impact, ethical governance, and environmental stewardship, with many initiatives driven by policy requirements and donor-funded projects.

THE ROLE OF POLICY AND REGULATION

Regulatory policies play a crucial role in ESG adoption. Desk research and focus group discussions highlight the European Union's Corporate Sustainability Reporting Directive (CSRD) as a major driver for ESG integration, though its implementation varies across national frameworks, leading to inconsistencies. Industry and policy feedback indicate that financial incentives such as tax breaks and grants are available to promote ESG investment, but these remain underutilized due to low awareness and bureaucratic hurdles. Survey results show that as ESG reporting obligations increase, many organizations lack

structured training programs to equip project managers with the necessary compliance and reporting skills.

RECOMMENDATIONS FOR ESG-PM DEVELOPMENT

To enhance ESG-PM education and certification, higher education institutions should develop interdisciplinary curricula that integrate sustainability principles into project management programs across business, engineering, and social sciences. The lack of industry-recognized ESG-PM certifications should be addressed by establishing standardized accreditation frameworks aligned with employer expectations. Modular and flexible training programs, including micro-credentials and online certifications, can help professionals upskill efficiently and meet market demands.
Bridging competency gaps requires a standardized ESG-PM competency framework to align training programs with industry needs. Experiential learning models, such as apprenticeships and sustainability-driven project simulations, should be integrated into training programs to provide practical experience. Policy measures should support competency-based certification pathways, ensuring ESG-PM professionals are assessed on practical expertise rather than theoretical knowledge alone.

STRENGTHENING ESG GOVERNANCE IN ORGANIZATIONS

To successfully integrate ESG principles, organizations must implement structured change management initiatives that support ESG adoption and reduce resistance. ESG training programs, mentorship initiatives, and the development of internal sustainability ambassadors can help build organizational capacity and commitment to ESG objectives. Strengthening compliance mechanisms and improving transparency in ESG reporting will enable organizations to meet regulatory requirements while also fostering trust with stakeholders. The adoption of digital tools, AI-driven analytics, and blockchain technology can further enhance ESG data collection, improve reporting accuracy, and support sustainability decision-making.

THE IMPORTANCE OF CROSS-SECTOR COLLABORATION

Encouraging cross-sector collaboration is vital for establishing standardized ESG-PM guidelines and best practices. Universities, businesses, and policymakers should work together to create structured

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training and certification pathways. Increased public and private sector investment in ESG education can help lower financial barriers, making ESG training more accessible. Establishing knowledge-sharing platforms will facilitate the exchange of best practices and innovative ESG strategies, fostering collaboration between industry leaders, academia, and policymakers.

CHALLENGES AND LIMITATIONS

Despite progress in ESG-PM development, several challenges and limitations remain. The absence of a universal ESG-PM competency framework makes it difficult to assess and recognize skills across industries. Financial constraints continue to hinder access to ESG certifications, particularly for SMEs and independent professionals. Regulatory complexity creates a fragmented compliance landscape, making it challenging for project managers to navigate ESG reporting requirements. Many businesses still view ESG as a secondary priority, limiting investment in sustainability-focused project management initiatives. Additionally, the misalignment between existing ESG training programs and real-world industry demands underscores the need for targeted educational reforms.

CONTRIBUTION AND FUTURE DIRECTIONS

This research provides a comprehensive, evidence-based understanding of ESG-PM by integrating findings from desk research, job market analysis, surveys, and focus groups. By bridging academic research with industry needs, this study contributes to the ongoing development of ESG as a formalized discipline within project management. The findings and recommendations offer a roadmap for strengthening ESG competencies, addressing workforce gaps, and promoting structured ESG education and certification programs.

Moving forward, ESG-PM must evolve into a recognized professional domain with clear competency frameworks and career pathways. Organizations that proactively embed ESG principles into project management will not only improve their sustainability performance but also enhance their long-term resilience and competitive advantage in the global market. ESG integration is not just about regulatory compliance; it is about fostering ethical leadership, long-term resilience, and social responsibility. Organizations that embrace ESG-PM practices will play a vital role in shaping a more sustainable and equitable future.

6. REFERENCES & RELATED DOCUMENTS

REFERENCES

1. Abate, G., Basile, I., & Ferrari, P. (2023). The integration of environmental, social and governance criteria in portfolio optimization: An empirical analysis. *Corporate Social Responsibility and Environmental Management*, 31, 2054–2065. https://doi.org/10.1002/csr.2682
2. Abrahammson, K. V. (1997). Paradigms of sustainability. In S. Sörlin, ed. *The road towards sustainability, A historical perspective, A sustainable Baltic Region, The Baltic University programme*, Uppsalla University, 30-35.
3. Bataea, O. M., Dragomir, V., & Ionescu-Feleaga, L. (2020). Environmental, social, governance (ESG) and financial performance of European banks. *Journal of Accounting and Management Information Systems*, 19(3), 480-501. https://doi.org/10.24818/jamis.2020.03003
4. Boldeanu, F. T., Clemente-Almendros, J. A., Tache, I., & Seguí-Amortegui, L. A. (2022). Is ESG relevant to electricity companies during pandemics? A case study on European firms during COVID-19. *Sustainability*, 14, 852. https://doi.org/10.3390/su14020852
5. Chamusca, P. (2023). Public policies for territorial cohesion and sustainability in europe: an overview. *Sustainability*, 15(8), 6890. https://doi.org/10.3390/su15086890
6. City of Amsterdam. (2021). Circular Construction Programme: Building a Sustainable Future. Retrieved from https://www.amsterdam.nl
7. Crossrail Ltd. (2020). Crossrail Sustainability Review. Retrieved from https://www.crossrail.co.uk
8. D'Adamo, I. and Gastaldi, M. (2022). Sustainable development goals: a regional overview based on multi-criteria decision analysis. *Sustainability*, 14(15), 9779. https://doi.org/10.3390/su14159779
9. Elkington (2018), 25 Years Ago I Coined the Phrase 'Triple Bottom Line.' Here's Why It's Time to Rethink It, Harvard Business Review. https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it
10. Elkington, J. (1994) Towards the Sustainable Corporation:

Co-funded by the European Union

REFERENCES

Win-Win-Win Business Strategies for Sustainable Development. California Management Review, 36, 90-100. http://dx.doi.org/10.2307/41165746

11. Ellen MacArthur Foundation. (2021). Circular Economy Principles. Retrieved from https://ellenmacarthurfoundation.org
12. European Commission. (2019). The European Green Deal. Retrieved from https://ec.europa.eu
13. European Commission. (2020). EU Taxonomy for Sustainable Activities. European Commission Publications. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en
14. European Commission. (2020). The Common Agricultural Policy: For our Food, For our Future. Retrieved from https://ec.europa.eu
15. European Commission. (2020). The European Green Deal. Retrieved from https://ec.europa.eu
16. European Commission. (2021). Corporate Sustainability Reporting Directive (CSRD). European Commission Publications. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/corporate-sustainability-reporting-directive_en
17. European Commission. (2021). Fit for 55 Package. Retrieved from https://ec.europa.eu
18. European Commission. (2021). Fit for 55 Package: Delivering the EU's 2030 Climate Target. Retrieved from https://ec.europa.eu
19. European Commission. (2021). The European Green Deal. Retrieved from https://ec.europa.eu
20. European Commission. (2021). The European Green Deal. Retrieved from https://ec.europa.eu
21. Freshfields Bruckhaus Deringer (2005), A Legal Framework for the Integration of Environmental, Social and Governance Issues into Institutional Investment. Retrieved from https://www.unepfi.org/wordpress/wp-content/uploads/2022/07/Freshfields-A-legal-framework-for-the-integration-of-ESG-issues-into-institutional-investment.pdf
22. Fridays for Future. (2022). Global Climate Strikes. Retrieved from https://fridaysforfuture.org
23. FTSE Russell (2018), FTSE Russell Stewardship, Transition and Engagement Program for Change – 2018 STEP Change Report. Retrieved from https://www.responsible-investor.com/ftse-russell-stewardship-transition-and-

REFERENCES

engagement-program-for-change-repor/
24. Godfrey, A., Romeo-Velilla, M., Bell, R., Staatsen, B., Vliet, N., Kruize, H., ... & Costongs, C. (2020). Encouraging and enabling lifestyles and behaviours to simultaneously promote environmental sustainability, health and equity: key policy messages from inherit. *International Journal of Environmental Research and Public Health*, 17(19), 7166. https://doi.org/10.3390/ijerph17197166
25. GPM Global. (2023). *The GPM P5 standard for sustainability in project management* (Version 3.0). GPM Global. ISBN 979-8-3507-0879-0.
26. GPM Global. (2024). *Insights into sustainable project management 2024*. GPM Global.
27. GPM Global. (2024). *The GPM sustainability competence standard* (Version 2.0). GPM Global. ISBN 979-8-3507-2077-8.
28. HafenCity Hamburg GmbH. (2022). HafenCity: A Model for Green Urban Development. Retrieved from https://www.hafencity.com
29. IEA. (2022). Renewable Energy Market Update. Retrieved from https://www.iea.org
30. ILO. (2022). Skills for a Green Future. Retrieved from https://www.ilo.org
31. Ionescu, G., Firoiu, D., Tanasie, A., Tudor, S., Pîrvu, R., & Manta, A. (2020). Assessing the achievement of the sdg targets for health and well-being at eu level by 2030. *Sustainability*, 12(14), 5829. https://doi.org/10.3390/su12145829
32. Kalogiannidis, S. (2024). Integration of climate change strategies into policy and planning for regional development: a case study of greece. *Land*, 13(3), 268. https://doi.org/10.3390/land13030268
33. Lake Geneva Region. (2020). Sustainable Development Initiative: Training Programs and Renewable Energy. Retrieved from https://www.region-lakegeneva.ch
34. Laurin, Francine & Fantazy, Kamel. (2017). Sustainable supply chain management: a case study at IKEA. Transnational Corporations Review. 9. 1-10.10.1080/19186444.2017.1401208.
35. Lichtenthaler, U. (2023). Sustainability Skills and Sustainable Natives: Key Competencies and Maturity Model for Sustainability Management. *Journal of Innovation Management*, 11(3), 95-113. https://doi.org/10.24840/2183-0606_011.003_0005
36. London Organising Committee of the Olympic Games.

Co-funded by the European Union

REFERENCES

(2012). Sustainability Report: London 2012 Olympic Games. Retrieved from https://www.london2012.com

37. Martens, M. L., & Carvalho, M. M. (2017). Sustainability and Success in Project Management: An Integrated Approach. *International Journal of Project Management*, 35(6), 1044-1061. https://doi.org/10.1016/j.ijproman.2016.04.004
38. Meng, X., & Shaikh, G. M. (2023). Evaluating environmental, social, and governance criteria and green finance investment strategies using fuzzy AHP and fuzzy WASPAS. *Sustainability*, 15, 6786. https://doi.org/10.3390/su15086786
39. Milios, L. (2021). Towards a circular economy taxation framework: expectations and challenges of implementation. *Circular Economy and Sustainability*, 1(2), 477-498. https://doi.org/10.1007/s43615-020-00002-z
40. Mohseni, S., Baghizadeh, K., & Pahl, J. (2022). Evaluating barriers and drivers to sustainable food supply chains. *Mathematical Problems in Engineering*, 2022, 1-24. https://doi.org/10.1155/2022/4486132
41. Nordic Council. (2022). Sustainability Strategies for the Nordic Region. Retrieved from https://www.norden.org
42. Øresund Konsortiet. (2021). The Øresund Bridge Project: Engineering Resilience and Sustainability. Retrieved from https://www.oresundsbron.com
43. Pânzaru, R., Firoiu, D., Ionescu, G., Ciobanu, A., MEDELETE, D., & Pîrvu, R. (2023). Organic agriculture in the context of 2030 agenda implementation in european union countries. *Sustainability*, 15(13), 10582. https://doi.org/10.3390/su151310582
44. Paraskevopoulou, C., Theodoridis, A., Johnson, M., Ragkos, A., Arguile, L., Smith, L., ... & Arsenos, G. (2020). Sustainability assessment of goat and sheep farms: a comparison between european countries. *Sustainability*, 12(8), 3099. https://doi.org/10.3390/su12083099
45. Perevoznic, F. (2024). Achieving the 2030 agenda: mapping the landscape of corporate sustainability goals and policies in the european union. *Sustainability*, 16(7), 2971. https://doi.org/10.3390/su16072971
46. Pianta, M., & Lucchese, M. (2020). Rethinking the European Green Deal: An industrial policy for a just transition in Europe. *Review of Radical Political Economics*, 52(4), 633-641. https://doi.org/10.1177/0486613420938207
47. PMI (2023), Measuring the Impact of ESG Initiatives,

REFERENCES

Retrieved from https://www.pmi.org
48. PwC. (2022). Green Technology and Sustainable IT Solutions. Retrieved from https://www.pwc.com
49. Saarinen, A. and Aarikka Stenroos, L. (2022). Financing-related drivers and barriers for circular economy business: developing a conceptual model from a field study. *Circular Economy and Sustainability*, 3(3), 1187-1211. https://doi.org/10.1007/s43615-022-00222-5
50. Sanchez, A. X., Hampson, K. D., & Mohamed, S. (2015). Sydney Opera House case study report. Sustainable Built Environment National Research Centre: Bentley, WA, Australia.
51. Sarpin, N., Hasan, A. S., & Iskak, M. A. (2021). Competency requirement for project managers in improving sustainable construction project success. *International Journal of Sustainable Construction Engineering and Technology*, 12(5), 311-321. https://doi.org/10.30880/ijscet.2021.12.05.031
52. Scheffran, J. (2023). Limits to the anthropocene: geopolitical conflict or cooperative governance?. *Frontiers in Political Science*, 5. https://doi.org/10.3389/fpos.2023.1190610
53. Segreto, M., Principe, L., Desormeaux, A., Torre, M., Tomassetti, L., Tratzi, P., ... & Petracchini, F. (2020). Trends in social acceptance of renewable energy across europe—a literature review. *International Journal of Environmental Research and Public Health*, 17(24), 9161. https://doi.org/10.3390/ijerph17249161
54. Silvius, A. J. G., & Schipper, R. P. J. (2014). Sustainability in project management competencies: Analyzing the competence gap of project managers. *Journal of Human Resource and Sustainability Studies*, 2, 40-58. https://doi.org/10.4236/jhrss.2014.22005
55. Spiteri, J. (2023). *Achieving ESG targets: A project manager's 5-step guide*. *PM World Journal*, 12(12).
56. Tonne, C. (2021). Lessons from the COVID-19 pandemic for accelerating sustainable development. *Environ Res.*, 193, 110482. https://doi.org/10.1016/j.envres.2020.110482
57. UK Environment Agency. (2020). Thames Barrier Project: Protecting London from Flooding. Retrieved from https://www.gov.uk
58. United Nations Principles for Responsible Investment (PRI). (2021). PRI Annual Report 2021. PRI. https://www.unpri.org/annual-report-2021

Co-funded by the European Union

REFERENCES

59. United Nations. (2015). Transforming Our World: The 2030 Agenda for Sustainable Development. Retrieved from https://sdgs.un.org
60. Wood, M. R. (2023, July 31). *The benefits and challenges of an ESG framework*. ProjectManagement.com. Retrieved from https://www.projectmanagement.com/articles/881424/the-benefits-and-challenges-of-an-esg-framework
61. Workiva. (2022). *ESG reporting: Global insights 2022*. Workiva Inc. Retrieved from https://www.workiva.com/sites/workiva/files/pdfs/esg-reporting-global-insights-full-report-en.pdf
62. Zioło, M., Bąk, I., & Spoz, A. (2023). Incorporating ESG risk in companies' business models: State of research and energy sector case studies. *Energies*, 16, 1809. https://doi.org/10.3390/en16041809
63. Zippia. (n.d.). Renewable Energy Project Manager Resume Insights. Retrieved from https://www.zippia.com

RELATED DOCUMENTS

ID	References and related documents	Source or Link/ Location
1	T2.1.1_Desk Research	Link to Folder
2	T2.1.2 _Online survey	Link to Folder
3	T2.1.3_Focus groups/ Individual_ reports_HEIs	Link to Folder
4	T2.1.4_Job Ad Analysis	Link to Folder

APPENDICES

SURVEY QUESTIONNAIRE

APPENDIX 1.

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INTRODUCTION

APPENDICES

APPENDIX 1: SURVEY QUESTIONNAIRE

INTRODUCTION

We invite you to participate in a survey on Sustainable Project Management (SPM), including its integration of Environmental, Social, and Governance (ESG) dimensions. This survey will provide insights into:

- Ø Essential competencies required for effective SPM and ESG-focused project management.

Your input will shape a standardized competency framework for SPM and ESG-focused project management practitioners, supporting education, certification, and professional development.

Survey Information:

- Ø Time: Approximately 40 minutes.
- Ø Confidentiality: Responses are anonymized and GDPR-compliant.
- Ø Survey Link: [Insert Link]

Your expertise is vital to shaping strategies for sustainable project management. Thank you for your time and input!

Your participation in this survey is voluntary, and your responses will be anonymized and used solely for project The ESG Imperative for the Project Management World: Alliance for Developing and Empowering Changemakers (ESG4PMChange) (Project reference number: 10118737) purposes. By continuing, you agree to the collection and processing of your data in compliance with the applicable EU, international and national law on data protection (in particular, Regulation 2016/679, Directive 95/46/EC ("GDPR")).

PART 1. RESPONDENT BACKGROUND QUESTIONS

Instructions:
This section collects general information about your professional background. Please answer each question as accurately as possible. Open-ended responses should be concise but detailed.

1. What sex were you assigned at birth?
   - ☐ Male
   - ☐ Female
   - ☐ Prefer not to say

2. What is your age group?
   - ☐ 18–24
   - ☐ 25–34
   - ☐ 35–44
   - ☐ 45–54
   - ☐ 55–64
   - ☐ 65+

3. What is the highest level of education you have completed?
   - ☐ High School Diploma or Equivalent
   - ☐ Associate Degree
   - ☐ Bachelor's Degree
   - ☐ Master's Degree
   - ☐ Doctoral Degree or Higher
   - ☐ Other (Please specify):

4. Do you hold a Project Management Certificate?
   - ☐ No
   - ☐ Yes (Please specify):

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5. What is the predominant country of your work location?
   - ☐ Add all world countries

6. What is your professional seniority level?
   - ☐ Entry-level specialist
   - ☐ Mid-level professional
   - ☐ Senior professional
   - ☐ Manager/Director
   - ☐ Executive/C-level expert

7. How many years of experience do you have working in project-oriented environments?
   - ☐ Less than 1 year
   - ☐ 1–3 years
   - ☐ 4–7 years
   - ☐ 8–15 years
   - ☐ More than 15 years

8. Which of the following best describes your current role in the organization?
   - ☐ Project-level role (e.g., Project Manager, Team Leader, Project Team Member)
   - ☐ Program-level role (e.g., Program Manager, Program Coordinator)
   - ☐ Portfolio-level role (e.g., Portfolio Manager, Portfolio Analyst)
   - ☐ Other (please specify):

9. Please provide the title of your current position:
(Open-ended question)

10. Primary functional role: Specify your main functional area in your organization (e.g., Operations, Finance, HR, Strategy, IT).
(Open-ended question)

11. What is your current work environment?
    - o Traditional office setting
    - o Fully remote (work from home)
    - o Hybrid (mix of office and remote)
    - o On-site fieldwork (e.g., construction, site visits)
    - o Client-based (working at client locations)
    - o Co-working space
    - o Other (please specify):

PART 2. ORGANIZATION BACKGROUND QUESTIONS

Instructions:
This section seeks to understand the organizational context in which you work. Your responses will help us analyse variations in competencies and performance based on organizational characteristics.

1. What is the primary industry of your organization?
    - ☐ Information Technology (IT): Companies primarily engaged in IT services, software development, data management, and related activities.
    - ☐ Technology (Non-IT): Companies focused on the development, production, and marketing of technology-based goods and services outside the traditional IT scope.
    - ☐ Engineering Services: Companies that provide expert engineering services across various domains.
    - ☐ Construction
    - ☐ Healthcare
    - ☐ Education
    - ☐ Manufacturing
    - ☐ Financial Services
    - ☐ Professional Services (Consulting, Legal, etc.)
    - ☐ Retail/Consumer Goods
    - ☐ Energy/Utilities
    - ☐ Transportation/Logistics
    - ☐ Hospitality/Tourism

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- ☐ Media/Entertainment
- ☐ Non-Profit/NGO
- ☐ Public Sector/Government
- ☐ Real Estate
- ☐ Agriculture/Food Production
- ☐ Biotechnology/Pharmaceuticals
- ☐ Environmental Services/Sustainability
- ☐ Other (please specify):

2. How many years has your organization been operating?
   - ☐ Less than 5 years5–10 years
   - ☐ 11–20 years
   - ☐ More than 20 years

3. What is the staff headcount of your organization?
   - ☐ Micro (1–10 employees)
   - ☐ Small (1–50 employees)
   - ☐ Medium (51–250 employees)
   - ☐ Large (251+ employees)

4. Does your organization currently have Sustainability/ESG-specific roles or responsibilities?
   - ☐ Yes
   - ☐ No
   - ☐ I do not know
   - ☐ If yes, please specify:

5. How long has your organization been actively integrating Sustainability/ESG principles into its operations?
   - ☐ Not yet integrated
   - ☐ Less than 1 year
   - ☐ 1–3 years
   - ☐ More than 3 years

6. How would you describe your organization's approach to Sustainability/ESG ESG integration? (Proactive, Reactive, Ad Hoc, Not Applicable)
   - ☐ Proactive
   - ☐ Reactive
   - ☐ Ad Hoc
   - ☐ Not Applicable

7. What types of Sustainability/ESG initiatives has your organization implemented? (Open-ended question)

8. What is the primary focus of your organization's Sustainability/ESG efforts?
   - ☐ Environmental (e.g., reducing carbon footprint, implementing green technologies)
   - ☐ Social (e.g., improving workplace diversity, community engagement)
   - ☐ Governance (e.g., ethical compliance, corporate governance improvements)
   - ☐ All of the above
   - ☐ Other (please specify):

9. How often do you personally interact with Sustainability/ESG-related topics in your role?
   - ☐ Daily
   - ☐ Weekly
   - ☐ Monthly
   - ☐ Rarely
   - ☐ Never

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PART 3. COMPETENCIES FOR ESG PROJECT MANAGEMENT (ESG PM)

Instructions:

This section explores the specific competencies related to Environmental, Social, and Governance (ESG) dimensions. For each competency:

- *How important do you think this competency is in your industry? (e.g., 1 = "Not relevant" to 5 = "Essential for most projects").*
- *Rate your organization's performance in applying the competency (1 = Very poor to 5 = Excellent).*
- *You may provide additional insights or competencies in the "Other" fields for each phase.*

Environmental Competencies

Please rate the importance of the following competencies for ENVIRONMENTAL aspects of project management in your sector:

Competency	Importance (1–5)	Performance (1–5)
Environmental Compliance and Risk Management: Ensuring adherence to environmental laws, regulations, and standards; proactively managing environmental impacts, risks and opportunities associated with the project.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Resource Efficiency: Optimizing the use of energy, water, materials and other relevant resources to minimize waste and reduce the project's environmental footprint.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Pollution Prevention and Control: Implementing measures to prevent, minimize, or control emissions and discharges to air, water, and land during project activities.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Biodiversity Conservation: Protecting ecosystems, habitats and endangered species by avoiding, minimizing, or restoring impacts on biodiversity throughout the project lifecycle.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Climate Change Mitigation and Adaptation: Incorporating strategies to reduce greenhouse gas emissions including Scope 1 (greenhouse gases that an organization emits from sources it owns or controls directly), 2 (indirect, deriving from an organization's purchase of electricity, steam, heat, or cooling), and 3 that are released across an organization's entire value chain both upstream and downstream. enhancing resilience to climate change impacts within the project scope.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Sustainable Procurement (Environmental Aspects): Integrating environmental criteria into procurement processes to select suppliers, services, and materials with lower environmental impacts, including lifecycle considerations.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

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Life Cycle Assessment (LCA): Assessing environmental impacts and risks associated with all stages of the project's life cycle to inform sustainable decision-making.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Environmental Awareness and Training: Promoting environmental consciousness among project team members by providing education and training on environmental responsibilities, best practices, and standards.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Innovation in Environmental Practices: Leveraging innovative technologies, practices, or systems to enhance the environmental performance and sustainability of project outcomes.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Circular Economy Principles: Designing projects to align with circular economy concepts by promoting reuse, recycling, and regeneration of materials through frameworks like the 5R (refuse, reduce, reuse, repurpose, recycle) or 7R (rethink, refuse, reduce, repurpose, reuse, recycle, rot).	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Sustainable Finance for Projects: Identifying and integrating green finance options, such as sustainable bonds, grants, or climate-related funding, to support environmentally responsible project initiatives.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Environmental Justice and Equity: Ensuring fair distribution of environmental benefits and burdens across stakeholders, particularly marginalized or underserved groups.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Green Technology Integration: Applying advanced green technologies (e.g., renewable energy systems, energy-efficient solutions) to minimize the project's carbon and environmental footprint.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Stakeholder Engagement on Environmental Issues: Actively engaging stakeholders, including local communities and indigenous peoples, to ensure transparency, inclusivity, and alignment with environmental priorities.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Monitoring and Reporting on Environmental Metrics: Establishing and using robust metrics and tools to monitor and report environmental performance (e.g., GHG emissions, energy usage, water consumption) throughout the project lifecycle.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Other (please specify):	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

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Social Competencies

Please rate the importance of the following competencies for SOCIAL aspects of project management in your sector:

Competency	Importance (1–5)	Performance (1–5)
Stakeholder Engagement and Management: Identifying, analysing, and engaging stakeholders to address their social needs and expectations throughout the project, ensuring transparency and inclusivity.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Human Rights and Labor Practices: Upholding human rights, diversity, and inclusion while ensuring fair labor practices, including non-discrimination, freedom of association, prohibition of child or forced labor, and compliance with labor laws.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Community Impact and Development: Assessing and managing the project's impact on local communities (particularly in significant locations of operations), contributing to social development, well-being, and equitable resource distribution.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Occupational Health and Safety (OHS): Ensuring the health, safety, and welfare of all project personnel and related parties, complying with national and international OHS standards.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Diversity, Equity, and Inclusion (DEI): Promoting a diverse, equitable, and inclusive work environment where all individuals are valued, respected, and have equal opportunities for participation and growth.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Social Risk Management: Identifying, analyzing, and mitigating social risks, including adverse effects on communities, marginalized groups, and other stakeholders affected by project activities.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Cultural Heritage Preservation: Recognizing, respecting, and preserving cultural heritage sites, practices, and traditions, including those of indigenous peoples and vulnerable communities impacted by the project.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Social Impact Assessment (SIA): Evaluating the social consequences of project activities to inform planning, enhance positive outcomes, and mitigate potential negative impacts throughout the project lifecycle.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Sustainable Procurement (Social Aspects): Incorporating social responsibility criteria in procurement processes to select suppliers that adhere to ethical labor practices, fair trade principles, and respect for human rights.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

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Grievance Mechanisms: Establishing accessible, transparent, and fair processes for stakeholders to raise concerns or complaints related to the project, ensuring timely and effective resolution.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Equitable Resource Allocation: Ensuring fair and equitable distribution of resources, benefits, and opportunities among project stakeholders, particularly marginalized or underserved groups.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Social Metrics and Reporting: Establishing metrics and processes for measuring and reporting on the project's social impact, including diversity metrics, community development outcomes, and stakeholder satisfaction.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Social Innovation and Collaboration: Leveraging innovative approaches and fostering partnerships with local communities, NGOs, and other stakeholders to co-create socially impactful solutions.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Human Rights Due Diligence: Conducting thorough assessments to identify and address potential human rights violations in project activities, supply chains, and partnerships, ensuring compliance with international human rights frameworks.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Inclusivity in Decision-Making: Actively involving stakeholders, including vulnerable and marginalized groups, in project decision-making processes to ensure diverse perspectives are integrated.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Other (please specify):	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Governance Competencies

Please rate the importance of the following competencies for GOVERNANCE aspects of project management in your sector:

Competency	Importance (1–5)	Performance (1–5)
Ethical Conduct and Integrity: Adhering to ethical standards, promoting honesty, integrity, anti-corruption, and transparency in all project dealings; fostering a culture of accountability.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Alignment with Corporate Governance: Ensuring the project aligns with organizational governance structures, policies, strategic objectives, and ESG-related priorities, enhancing overall corporate sustainability.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Risk Management and Internal Controls: Implementing robust risk management processes and internal controls to safeguard project objectives, assets, and compliance with ESG principles.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

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Accountability and Transparency: Defining clear roles and responsibilities; ensuring transparent, independent decision-making, and reporting practices to build stakeholder trust.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Stakeholder Communication and Reporting: Maintaining open, timely, and effective communication with stakeholders; providing accurate, accessible project information and performance data in compliance with governance and ESG standards.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Anti-Corruption and Compliance: Enforcing policies and practices to prevent corruption, bribery, and fraud; ensuring compliance with legal and regulatory requirements; providing effective whistle-blowing mechanisms and regular training.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Data Protection and Privacy: Safeguarding confidential and personal data; ensuring compliance with data protection laws (e.g., GDPR) and incorporating privacy best practices into project operations.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
ESG Reporting and Disclosure: Reporting on ESG performance in alignment with recognized frameworks (e.g., GRI, SASB, TCFD); enhancing transparency, accountability, and stakeholder confidence.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Governance of Third Parties: Managing relationships with contractors, suppliers, and partners to ensure they meet governance, compliance, and ESG standards, including risk mitigation and performance monitoring.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Continuous Improvement in Governance Practices: Regularly reviewing and enhancing governance policies and procedures to improve effectiveness, adapt to changing conditions, and integrate evolving ESG factors.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Board Diversity and Governance: Ensuring diversity, equity, and inclusion in project governance bodies to enhance decision-making and represent varied perspectives, including gender and cultural diversity.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Integration of ESG into Governance: Embedding ESG principles into governance frameworks, ensuring sustainability is a core component of decision-making processes at all levels of project execution.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Legal and Regulatory Awareness: Staying informed of evolving laws, regulations, and policies affecting project governance and ensuring compliance across all jurisdictions of operation.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Innovation in Governance Practices: Applying innovative governance tools, such as digital governance platforms and AI-driven risk assessments, to enhance project oversight and compliance.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

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Training in Governance and ESG Standards: Providing education and training for project team members on governance best practices, ESG frameworks, and compliance standards.	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Other (please specify): 	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

PART 4. FUTURE EXPECTATIONS AND KEY CHALLENGES

Instructions:
This section aims to gather your views on the future needs for Sustainable-focused Project Management and ESG-focused Project Management and education and training.
Your input will help shape recommendations for formal education programs and professional development initiatives.

Future Industry Needs: How do you anticipate the demand for SPM and ESG PM-related skills will change in your industry over the next 5 years?

- ☐ Increase significantly
- ☐ Increase moderately
- ☐ Stay the same
- ☐ Decrease

Which of the following trends will most influence the importance of ESG PM and SPM competencies in your industry?(Select up to 3)

- ☐ Regulatory changes and compliance requirements
- ☐ Adoption of green technologies
- ☐ Increased stakeholder pressure for transparency and accountability
- ☐ Integration of sustainability into core business strategies
- ☐ Globalization and the need for standardized practices
- ☐ Increased focus on diversity, equity, and inclusion
- ☐ Digital transformation and data-driven decision-making
- ☐ Other:

Priorities for Education and Training: What type of educational programs or formats do you think would most effectively address ESG and SPM skill gaps? (Select all that apply)

- ☐ Formal university programs (e.g., Bachelor's, Master's degrees)
- ☐ Short certification courses (online or in-person)
- ☐ Employer-led training and workshops
- ☐ Interdisciplinary programs combining sustainability and project management
- ☐ Micro-credentialing (focused, stackable learning modules)
- ☐ Apprenticeship or work-based learning programs

Barriers to Education and Training: What are the most significant barriers to integrating SPM and ESG PM training into formal education or professional development programs? (Select up to 3)

- ☐ Lack of qualified trainers or faculty
- ☐ Limited availability of interdisciplinary programs
- ☐ High costs of training programs
- ☐ Insufficient employer support for ongoing education
- ☐ Lack of awareness about ESG and SPM importance
- ☐ Difficulty in translating theoretical knowledge into practical skills
- ☐ Other:

Certifications and Qualifications: Would you recommend the inclusion of SPM and ESG PM certifications in formal education or training programs to enhance employability?

- ☐ Yes, they should be mandatory for all graduates and professionals in project management.
- ☐ Yes, but they should be optional as an additional qualification.
- ☐ No, formal education programs are sufficient without certifications.

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Which certification formats do you think are most valuable?

- ☐ Comprehensive, globally recognized certifications (e.g., PRINCE, PMI, PM²)
- ☐ Modular certifications focused on specific ESG PM or SPM skills
- ☐ Industry-specific certifications tailored to sectors like energy, construction, or IT

CLOSING QUESTIONS:

Do you believe HEI programs and training initiatives should integrate cross-sectoral collaboration for ESG PM and SPM?

- ☐ Yes, it's essential for addressing complex sustainability challenges.
- ☐ No, individual sector-specific training is more effective.

Do you agree that formal education in project management should prioritize ESG and SPM as core components?

- ☐ Strongly agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly disagree

CLOSING STATEMENT

Your responses will be used to:

1. Develop detailed recommendations for educational programs tailored to industry needs.
2. Shape training methodologies and course content to better equip future SPM and ESG PM practitioners.
3. Identify key trends, barriers, and opportunities for integrating sustainability into project management education.

Thank you for your time and valuable input.

APPENDICES

FOCUS GROUP GUIDE

APPENDIX 2.

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Focus Group Guide

Project Title: The ESG Imperative for the Project Management World: Alliance for Developing and Empowering Changemakers.
Acronym: ESG4PMChange

Project Title:	**The ESG Imperative for the Project Management World: Alliance for Developing and Empowering Changemakers**
Project Acronym:	**ESG4PMChange**
Project partner:	*Fill in the Title of Your institution*
Submitted by (Name & Role):	*Fill in Your Name, Surname and Role in the project*
Date:	*Fill in the date of the submission*
Contact Information:	*Fill in your email address*

Objective: *To collect insights from Higher Education Institutions (HEIs), VETs, and industry experts on SPM and ESG PM skill requirements, gaps, and their role in advancing project management as a discipline.*

Section 1. General information

Number of participants	In presence:			Online:	
Country					
Profession/role of participants and organization (add rows as necessary)		**Participant ID ***	**Role**	**Organization**	**Quintuple helix ****
	1				
	2				
	3				
	4				
	5				

** Partners can keep a version with names for their internal control. Partners can ask for contact details of the participants in case they want to know the results of the project.*

*** Education, Industry, Policy, Society, Environment*

Section 2. Focus Group guide/questions

Brief introduction

Introducing the ESG4PMChange project and describing the aims of the focus group.

Focus Group:

- The total number of participants is between 5 and 10.
- The participants should be characterized by homogeneity, but with sufficient variation among participants to allow for contrasting opinions (e.g., academic, industry, government, public, and green organizations).
- Invite VET and industry consortium partners' representatives from your country to participate in the focus group.
- Participants should be probed on their perceptions, opinions, beliefs, and attitudes regarding ESG PM and SPM.
- Please record the focus group session. It can help you to write a report.

In the following, we are going to exchange our ideas regarding ESG PM and SPM.

General overview of ESG PM and SPM

Concept of ESG PM and SPM.	*How do you define the role of ESG PM and SPM within your organization or sector?* *What (pre-)knowledge, skills and attitudes are advantageous for the development of ESG PM and SPM competencies?*
	Specific Probes: *For HEIs: What is the current level of awareness about these fields in academic settings?* *For VETs: How are vocational programs adapting to meet these emerging needs?* *For Business Sectors: What value do ESG PM and SPM bring to your organizational goals?*

Learning approaches and methods regarding the acquisition of ESG PM and SPM competencies in a targeted way, and validation of these competencies.

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Category	Question
Interventions to address ESG PM and SPM.	*What learning methods are most effective for developing ESG PM and SPM competencies in your sector?* *How can collaboration among HEIs, VETs, and businesses improve competency development?*
	Specific Probes: *For HEIs: What is the current level of awareness about these fields in academic settings? Are these competences promoted at your university? If yes, how exactly? Do you use more formal, non-formal or informal learning approaches? (HE courses, training for the industry, micro credentials, online courses on online platforms)* *For VETs: What hands-on training programs exist for ESG PM and SPM?* *For Business Sectors: Do you collaborate with HEIs or VETs to develop ESG PM or SPM training programs?*
Challenges	*What challenges do you face in promoting ESG PM and SPM practices?* *What barriers exist in integrating these competencies into education, training, or organizational practices?* *What do you think are the greatest challenges in becoming a recognized PM specialist in ESG and sustainability in your sector?* *What path should a professional take to become PM specialist related to the ESG and sustainability?*
	Specific Probes: *For HEIs: Is there resistance to integrating ESG PM and SPM into curricula?* *For VETs: Are there funding or resource limitations for practical training programs?* *For Business Sectors: Are these skills recognized in recruitment and career progression?*

Category	Question
Validation & assessment of ESG project management and SPM competences	*How are ESG PM and SPM competencies assessed and validated within your sector?* *Are there specific tools, frameworks, or systems you use for competency validation?*
	Specific Probes: *For HEIs: Are competency frameworks like EQF or ESCO integrated into assessments?* *For VETs: Do you utilize certification programs to validate these skills?* *For Business Sectors: Are ESG and SPM skills validated through performance or professional certifications?*
Recognition of ESG PM and SPM competences	*How are ESG PM and SPM competencies certified or recognized in your organization or sector?* *What additional steps are needed to enhance recognition across industries?*
	Specific Probes: *For HEIs: Are competency frameworks like EQF or ESCO integrated into assessments?* *For VETs: Are certifications aligned with formal competency frameworks?* *For Business Sectors: Are ESG PM and SPM skills explicitly valued in hiring and promotion criteria?*
Final remarks	*Are there other recommendations/suggestions/comments on this topic, that you would like to make?*

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Section 3.

Reporting the outcomes of the Focus group – *this is what it must be delivered to be included in the final report*

Please report the main outcomes from the Focus Group on the following elements:

1. Key issues and ideas discussed:

o Highlight the most important themes by stakeholder category

Education:

_____
_____
_____

Industry:

_____
_____
_____

Policy:

_____
_____
_____

Society:

_____
_____
_____

Environment:

_____
_____
_____

2. Unexpected findings:

o Include contrasting opinions or novel perspectives by sector.

_____
_____
_____
_____

- Valuable insights:

---

3. Capture stakeholder-specific insights that could inform policy or program design

- Most important competencies:

---

4. Present ESG PM and SPM competencies grouped by relevance to each stakeholder category.

Education:

Industry:

Policy:

Society:

Environment:

---

5. Final remarks:

esg4PMChange

The ESG Imperative for the Project Management World:
Alliance for Developing and Empowering Changemakers

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