GREENLEAD PROJECT

DEFINITION OF THE STATUS QUO ON EUROPEAN SMES' GREEN TRANSITION

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SUMMARY

DEFINITION OF THE STATUS QUO ON EUROPEAN SMES' GREEN TRANSITION.

1. INTRODUCTION

The ecological transition has become a priority for small and medium-sized enterprises (SMEs) across Europe in the context of the European Green Deal. However, this process presents significant challenges, ranging from the adoption of sustainable technologies to the reduction of administrative burdens. In this context, the 9GreenLead project emerges as a key initiative to provide its partners with valuable insights into the current state of the green transition among European SMEs.

The primary objective of GreenLead is to collect and analyze data to define the state of the art in corporate sustainability. This information will serve as the foundation for developing innovative tools and strategies, such as GreenWorksComp, facilitating the green transformation of the business ecosystem. By gathering data and collaborating with industry experts, the project aims to establish a precise diagnosis of the challenges and opportunities SMEs face in this transition.

This document outlines the core principles of the GreenLead project, its methodological approach, and its role within the European business landscape. Through this initiative, GreenLead seeks not only to raise awareness among SMEs about the importance of sustainability but also to equip them with practical solutions to effectively integrate the green transition into their business models.

Moreover, GreenLead fosters knowledge exchange and best practices among SMEs, policymakers, and research institutions, promoting a collaborative approach to sustainability. By leveraging digitalization, financing mechanisms, and tailored guidance, the project aims to support SMEs in overcoming financial and technical barriers that may hinder their progress toward a more sustainable and resilient future.

Ultimately, GreenLead aspires to contribute to a more competitive, environmentally responsible, and future-proof European SME sector, ensuring that businesses not only comply with regulatory frameworks but also seize new opportunities arising from the green economy.

2. DESK RESEARCH

CHAPTER 1: DEFINITION OF EUROPEAN SMES' GREEN TRANSITION

The Green Transition refers to the process of transforming the economy towards a more sustainable model, based on reducing carbon emissions, using natural resources efficiently, and adopting environmentally friendly technologies. This process aims to minimize the environmental impact of productive and consumer activities while simultaneously promoting economic growth and social inclusion.

The concept of the Green Transition is closely linked to the circular economy, energy efficiency, the use of renewable energy sources, and the environmental responsibility of businesses and citizens. On a political and economic level, the Green Transition is driven by initiatives such as the European Green Deal, which sets ambitious goals for decarbonization and sustainability.

Small and medium-sized enterprises (SMEs) play a crucial role in the European economy, as they represent approximately 99% of all businesses in the region and generate a significant portion of employment and innovation. Their participation in the Green Transition is essential to achieving the European Union's sustainability and economic competitiveness goals.

SMEs can benefit from the Green Transition by adopting new business practices, such as process digitalization, waste reduction, energy consumption optimization, and the implementation of circular economy strategies. Additionally, the European Union offers funding programs and support initiatives to facilitate the transition to more sustainable business models, allowing SMEs to access new markets and improve their resilience in the face of environmental and economic challenges.

The Green Transition and the transformation of small and medium-sized enterprises (SMEs) towards a sustainable economic model are based on several key principles aimed at balancing economic development with environmental preservation. These principles range from resource efficiency to the integration of innovative technologies and the strengthening of social and business networks.

- **Environmental Sustainability**

One of the fundamental pillars of the Green Transition is reducing the ecological impact of economic activity. This involves lowering carbon emissions, protecting biodiversity, and managing natural resources efficiently. Businesses must adopt practices that minimize their environmental footprint, such as reducing raw material waste, implementing sustainable water management, and decreasing pollutants in production processes.

- **Innovation and Digitalization**

Technological advancements are a key tool for achieving sustainability. The integration of clean technologies, such as artificial intelligence applied to resource management or process automation to enhance energy efficiency, allows businesses to optimize productivity while

reducing environmental impact. Digitalization also enables better traceability of products and services, promoting more transparent and sustainable business models.

- **Circular Economy**

The circular economy model aims to maximize resource utilization through reuse, recycling, and material regeneration. Unlike the traditional linear consumption system (produce, use, and dispose), the circular economy extends product life cycles, reduces waste generation, and encourages a more responsible use of materials. SMEs can benefit from this approach by implementing strategies such as eco-design, remanufacturing, and waste valorization in new production processes.

- **Energy Efficiency**

Reducing energy consumption and using renewable sources are essential for moving towards a more sustainable economy. The implementation of efficient energy systems, such as solar panels, LED lighting, thermal insulation, and intelligent energy management systems, not only decreases environmental impact but also leads to significant operational cost savings.

- **Social Responsibility and Business Ethics**

Beyond environmental sustainability, the Green Transition also involves a commitment to social and labor well-being. Companies must integrate sustainability criteria into their management, promoting responsible practices in terms of fair wages, decent working conditions, social inclusion, and diversity. A sustainable business model not only benefits the environment but also contributes to the creation of quality jobs and the strengthening of local communities.

- **Collaboration and Shared Learning**

The Green Transition is not an isolated process but a collective effort that requires cooperation between businesses, governments, research centers, and society as a whole. The creation of collaborative networks, knowledge exchange, and participation in joint projects allow SMEs to adapt more efficiently to the new economic model and improve their capacity for innovation.

CHAPTER 2: GREEN TRANSITION RELATED EU PRIORITIES AND REGULATIONS

CLIMATE ACTION AND THE GREEN DEAL

Climate change and environmental degradation pose existential threats to Europe and the world. To address these challenges, the EU has implemented the European Green Deal, a comprehensive strategy that aims to transform the EU economy towards a sustainable and climate-neutral model by 2050.

1. Policy Overview.

- **Context:**

The European Green Deal is the EU's strategy to achieve climate neutrality by 2050. It includes policies to reduce emissions, increase energy efficiency, promote clean energy, and transition to a circular economy. Key initiatives include the Fit for 55 package, which aims to cut emissions by 55% by 2030, and the Just Transition Mechanism, which supports regions and industries affected by the green transition.

In order to achieve our decarbonisation objectives, emissions must be reduced in all sectors, from industry and energy, to transport and farming. Climate change is a global threat and can only be addressed by a global response. That is why the EU actively engages and supports its international partners on climate action, in particular through the UN Framework Convention of Climate Change (UNFCCC) and its Paris Agreement. In parallel to mitigation actions, the EU is taking action on climate adaptation, to face the unavoidable impacts of climate change.

In February 2024, the Commission presented an intermediate 2040 climate target for the EU. Reducing net greenhouse gas emissions by 90% by 2040 compared to 1990 levels, would ensure the EU can deliver on its commitment to be climate neutral by 2050.

- **Policies and initiatives**

The European Climate Law sets a legally binding target of net zero greenhouse gas emissions by 2050. The EU Institutions and the Member States are bound to take the necessary measures at EU and national level to meet the target, taking into account the importance of promoting fairness and solidarity among Member States.

The Climate Law includes measures to keep track of progress and adjust our actions accordingly, based on existing systems such as the governance process for Member States'

national energy and climate plans, regular reports by the European Environment Agency, and the latest scientific evidence on climate change and its impacts.

Progress will be reviewed every five years, in line with the global stocktake exercise under the Paris Agreement.

The Climate Law also addresses the necessary steps to get to the 2050 target:

- Based on a comprehensive impact assessment, the EU has set a new target for 2030 of reducing net greenhouse gas emissions by at least 55% compared to levels in 1990. The new EU 2030 target is included in the Law.

- In July 2021, the Commission adopted a series of proposals to revise all relevant policy instruments to deliver the additional emissions reductions for 2030.

- The Law also includes a process for setting a 2040 climate target.

Main objectives and areas of interest of the the Climate Law:

- A legal objective for the Union to reach climate neutrality by 2050

- An ambitious 2030 climate target of at least 55% reduction of net emissions of greenhouse gases as compared to 1990, with clarity on the contribution of emission reductions and removals

- Recognition of the need to enhance the EU's carbon sink through a more ambitious LULUCF regulation, for which the Commission made a proposal in July 2021 and which entered into force in May 2023

- A process for setting a 2040 climate target, taking into account an indicative greenhouse gas budget for 2030-2050 to be published by the Commission

- A commitment to negative emissions after 2050

- the establishment of European Scientific Advisory Board on Climate Change, that will provide independent scientific advice

- stronger provisions on adaptation to climate change

- strong coherence across Union policies with the climate neutrality objective a commitment to engage with sectors to prepare sector-specific roadmaps charting the path to climate neutrality in different areas of the economy

3. Impact on SMEs Analyse how the policy initiative affects European SMEs.

99% of European businesses are SMEs. They provide jobs to more than 85 million European citizens. SMEs are at the heart of innovation and entrepreneurship.

While the implementation of the European Green Deal presents challenges for SMEs, it offers significant opportunities to innovate, access new markets and improve their competitiveness in an increasingly sustainability-oriented economy.

The European Green Deal impacts SMEs by offering both opportunities and challenges as they transition to sustainable business models. Benefits include access to EU funding programs like *InvestEU* and the *Innovation Fund*, increased market competitiveness through green innovation, and cost savings via energy efficiency and circular economy practices. However, SMEs also face challenges such as high initial investment costs, regulatory compliance burdens, and skill gaps in implementing sustainability strategies.

Obligations include sustainability reporting under the *Corporate Sustainability Reporting Directive (CSRD)*, adapting to stricter supply chain sustainability requirements, and meeting decarbonization targets. Despite these challenges, the Green Deal provides SMEs with opportunities to innovate, enhance their competitiveness, and thrive in a greener European economy.

Businesses play a key role in the green transition, as most industrial, energy and logistics activities are major CO_2 emitters.

Through the Green Deal, it is clear that companies are encouraged to adopt greener practices, such as the use of renewable energy, energy efficiency, circular economy and decarbonisation of production processes.

While this presents challenges such as the need to make high upfront investments or comply with new environmental regulations, it also opens up opportunities to innovate, access green finance and improve competitiveness in a market where consumers and large companies are demanding more sustainable solution.

The European Green Deal, introduced in December 2019 by the European Commission, aims to transform the European Union (EU) into a climate-neutral economy by 2050 (European Commission, 2019). This ambitious plan outlines a roadmap for sustainable growth, including measures to reduce carbon emissions, promote clean energy, and foster circular economies. Research and innovation (R&I) play a crucial role in achieving these goals by developing new technologies, enhancing resource efficiency, and ensuring that businesses, including small and medium-sized enterprises (SMEs), can transition effectively towards greener practices (European Environment Agency, 2021). This paper explores the role of R&I in supporting the European Green Deal, highlighting key initiatives, challenges, and opportunities for SMEs.

2. Research and Innovation in the European Green Deal

Research and innovation are fundamental drivers of the European Green Deal's objectives, enabling the development of sustainable technologies, innovative business models, and efficient regulatory frameworks (OECD, 2020). Key areas where R&I contribute to the Green Deal include:

- **Renewable Energy and Energy Efficiency**

The transition to renewable energy sources is at the heart of the European Green Deal, aiming to reduce dependency on fossil fuels and significantly cut greenhouse gas emissions (European Commission, 2020). Solar, wind, hydropower, and bioenergy are among the most promising renewable energy sources, with research and innovation accelerating advancements in their efficiency, affordability, and accessibility (IRENA, 2021). The development of next-generation solar panels, such as perovskite-based photovoltaic cells, offers higher efficiency rates and lower production costs compared to traditional silicon panels (Wang et al., 2022). Similarly, offshore wind technology has seen remarkable improvements, with floating wind farms expanding the potential for clean energy production in deep-sea locations, where wind speeds are higher and more consistent (IEA, 2021).

Energy efficiency is equally critical in achieving climate neutrality, as reducing energy consumption is as impactful as transitioning to renewables (European Environment Agency, 2021). Innovations in building materials and design, such as high-performance insulation, smart glass, and passive heating and cooling systems, are revolutionizing energy use in residential and commercial structures (Dixon et al., 2021). Retrofitting existing buildings with energy-efficient solutions is a priority, as buildings account for nearly 40% of total energy consumption in the EU (European Commission, 2020). Smart grids and energy storage systems, such as lithium-ion and solid-state batteries, play a vital role in ensuring that renewable energy sources can provide consistent power, even when weather conditions fluctuate (Baker & Kumar, 2022).

Hydrogen produced from renewable sources has the potential to decarbonize industries that are difficult to electrify, such as steel production, aviation, and long-haul transport (IEA, 2022). The EU has launched initiatives such as the Hydrogen Strategy to scale up hydrogen production, distribution, and usage (European Commission, 2020). Investments in electrolysis technology, which uses electricity from renewables to produce hydrogen from water, are crucial to making green hydrogen commercially viable (Friedmann et al., 2021).

- **Sustainable Industry and Circular Economy**

The transition to a sustainable industry and circular economy is central to reducing waste, minimizing resource consumption, and fostering environmentally responsible production methods (Ellen MacArthur Foundation, 2020). Research and innovation are driving new solutions in manufacturing, including the adoption of eco-friendly materials, waste reduction strategies, and digitalization for resource optimization (OECD, 2021). Industries are increasingly shifting from a linear model of production—where resources are extracted, used, and discarded—to a circular approach, where materials are reused, recycled, and repurposed to extend their lifecycle (Kirchherr et al., 2021). Innovations such as bio-based plastics, modular product designs, and industrial symbiosis are crucial in this transformation (Geissdoerfer et al., 2020).

- **Sustainable Agriculture and Food Systems**

Sustainable agriculture and food systems are essential for ensuring food security while minimizing environmental impact (FAO, 2021). Research and innovation in this sector focus on regenerative farming practices, precision agriculture, and alternative protein sources (Clark et al., 2021). Precision agriculture, which integrates digital technologies such as AI-driven analytics, drones, and IoT sensors, allows farmers to optimize water and fertilizer use, improving efficiency while reducing environmental degradation (Zhang et al., 2020). Additionally, the development of plant-based and lab-grown protein alternatives contributes to lowering the carbon footprint of food production (Tuomisto, 2022).

- **Green Mobility and Transport**

Green mobility and transport are fundamental to reducing the EU's carbon footprint and achieving the European Green Deal's sustainability goals (European Commission, 2021). Research and innovation in this sector are driving advancements in electric vehicles (EVs), hydrogen-powered transportation, and smart mobility solutions (IEA, 2021). The expansion of EV charging infrastructure, improvements in battery technology, and the development of sustainable aviation fuels are making low-carbon transport more accessible and efficient (Bakker et al., 2021). Furthermore, the integration of digital technologies, such as artificial

intelligence and real-time traffic management systems, is optimizing urban mobility and reducing congestion-related emissions (Smith & Jones, 2022).

The EU has launched several funding programs and initiatives to support R&I for the Green Deal, including:

- Horizon Europe (2021-2027): The EU's primary research and innovation framework program, which allocates significant funding to climate and environmental projects (European Commission, 2021).
- European Innovation Council (EIC) and Green Deal Call: Supporting startups and SMEs in developing breakthrough green technologies (EIC, 2021).
- Mission-Oriented Research Programs: Focused on climate adaptation, soil health, and ocean sustainability (OECD, 2020).
- LIFE Programme: Dedicated to environmental and climate action projects (European Commission, 2021).

3.Challenges and Opportunities for SMEs in Green Transition

SMEs, which represent 99% of businesses in the EU, play a crucial role in the green transition but face several challenges (Eurostat, 2021):

- Limited financial resources: Many SMEs struggle to invest in sustainable technologies due to financial constraints (OECD, 2021).
- Regulatory compliance: Adapting to new environmental regulations can be complex and costly (European Commission, 2021).
- Technological barriers: SMEs often lack access to cutting-edge green technologies and expertise (EIC, 2021).

Despite these challenges, opportunities exist for SMEs through:

- Participation in EU-funded R&I programs.
- Collaboration with research institutions and large corporations.
- Adoption of digital tools and green business models to enhance competitiveness.

The European Green Deal represents the European Union's ambitious roadmap for transforming its economy to achieve climate neutrality by 2050. This initiative integrates sustainability into industrial strategies, ensuring that businesses remain competitive while transitioning toward greener and more digitalized operations. The EU's approach emphasizes the reduction of carbon emissions, the promotion of circular economy principles, and the enhancement of resource efficiency.

As industries play a pivotal role in achieving the Green Deal's objectives, the European Commission has introduced an industrial strategy that aligns economic growth with environmental sustainability. This strategy focuses on enabling companies to adopt green technologies, invest in innovation, and adapt to new regulatory frameworks that promote a low-carbon economy. Furthermore, digital transformation is closely intertwined with the green transition. The EU recognizes that emerging digital technologies, such as artificial intelligence (AI), blockchain, and smart grids, can enhance sustainability by optimizing energy use, improving resource management, and fostering circular production systems.

This chapter explores the key EU priorities and regulations driving the green transition in the industrial sector. It examines legislative frameworks such as the Fit for 55 Package, the EU Taxonomy for Sustainable Activities, and the Circular Economy Action Plan, highlighting their impact on businesses and the broader economy. Additionally, the chapter discusses challenges and opportunities for industries as they navigate this transition, including access to financing, the role of innovation, and the need for workforce reskilling. By integrating sustainability and digitalization, the EU aims to ensure that European industries remain globally competitive while leading the way toward a carbon-neutral and resource-efficient future.

1. Policy and Initiative Overview.

The European Union's commitment to a green transition has deep historical roots, evolving progressively over several decades of global climate governance and environmental awareness. The EU's role as a global leader in sustainability emerged notably with its participation in landmark international agreements, beginning with the **Kyoto Protocol (1997)**, where Europe committed to significant greenhouse gas emissions reductions. Building upon this, the EU played a central role in negotiating and implementing the **Paris Agreement (2015)**, pledging ambitious climate goals and reinforcing its dedication to global climate action.

A critical turning point came in December 2019 with the unveiling of the **European Green Deal** by the European Commission, marking an unprecedented strategic shift. The Green Deal transformed sustainability from a sector-specific concern into the EU's overarching growth strategy. It aims not only at addressing climate change but also fundamentally reshaping

Europe's economy, society, and industry towards sustainability, resource efficiency, and climate neutrality by 2050.

In response to the COVID-19 pandemic and the resulting economic crisis, the EU intensified its green transition efforts by integrating sustainability and digital transformation into its recovery plans. This resulted in the establishment of the **Recovery and Resilience Facility (RRF)** in 2021, providing over €700 billion to support green investments, innovation, digitalization, and economic recovery across member states.

In July 2021, the EU further solidified its environmental commitments through the introduction of the ambitious **Fit for 55 Package**, a comprehensive legislative framework designed to accelerate emissions reduction by at least 55% by 2030 compared to 1990 levels. This package includes measures such as enhanced emissions trading systems (ETS), renewable energy directives, energy efficiency policies, and pioneering initiatives like the Carbon Border Adjustment Mechanism (CBAM), designed to prevent carbon leakage and reinforce Europe's global competitiveness.

Parallel to these initiatives, the **EU Taxonomy for Sustainable Activities**, introduced in 2020, became a pivotal tool in redirecting private and public investments toward environmentally sustainable economic activities, providing transparency and standardized criteria to evaluate sustainability performance across industries.

Collectively, these developments represent Europe's most ambitious and integrated policy response yet, positioning the EU as a global frontrunner in sustainability, innovation, and green economic transformation.

2. Impact on SMEs

The EU's industrial strategy and green transition policies profoundly influence European Small and Medium-sized Enterprises (SMEs), creating both opportunities and challenges.

Specific Benefits for SMEs:

- **Access to Sustainable Finance**: EU initiatives such as the Recovery and Resilience Facility (RRF) and InvestEU provide SMEs with increased financial resources to adopt greener technologies, enhance innovation, and improve energy efficiency.
- **Innovation and Competitiveness**: Policies such as the European Green Deal encourage SMEs to innovate in clean technologies, sustainability-driven products, and circular economy solutions, thus enhancing competitiveness in emerging markets.

- **Market Opportunities**: With growing consumer awareness and regulatory frameworks emphasizing sustainability, SMEs that proactively adopt sustainable practices benefit from expanding markets for green products and services.
- **Technical and Financial Support**: Programs like the Enterprise Europe Network (EEN) and Horizon Europe provide SMEs with support for innovation, technical guidance, networking opportunities, and grants specifically targeting sustainable projects.

ENERGY AND THE GREEN DEAL

The European Union aims, through Green Deal, to push forward a clean energy transition, by "decarbonising the EU's energy system" (Commission). Greenhouse emissions are a critical issue in the union, where 75% of these emissions come from the production and use of energy. Therefore, an innovative set of solutions is evident under the Green Deal on energy, focused on three key principles: a secure and affordable EU energy supply, an integrated and digitalised energy market, and energy efficiency through the utilisation of renewable resources.

The European Commission has set out a number of important aims in order to accomplish them. These include creating integrated grids and networked energy systems to enable the use of renewable energy sources, promoting cutting-edge technology and contemporary infrastructure, and enhancing energy efficiency through eco-design projects. The Commission also wants to empower consumers, especially by tackling energy poverty, decarbonize the gas industry, and encourage cross-sectoral energy integration. The EU is dedicated to advancing its energy standards and technology globally, with a focus on the development of offshore wind generation.

The European Commission has presented legislative recommendations as part of its larger plan to guarantee that EU policies on energy, transportation, taxes, and climate are in line with the overall objective of lowering net greenhouse gas emissions by at least 55% by 2030.

The National Energy and Climate Plans (NECPs) are an essential part of this effort. According to these plans, EU member states must develop 10-year plans outlining their plans to fulfill their energy and climate goals between 2021 and 2030. Energy efficiency, the utilization of renewable energy, lowering greenhouse gas emissions, connecting energy systems, and research and innovation are the five main topics that the NECPs focus on.

1. Policy Overview

- **Integration of Energy Systems**

The EU Strategy for Energy System Integration, a key element of the Green Deal, attempts to connect different energy carriers, such heat, gas, and electricity, with their corresponding

infrastructures and consuming sectors in order to establish a unified and effective energy network. This integrated strategy improves overall system efficiency and makes it easier to use renewable resources optimally. Through the use of electric vehicles and heat pumps, the approach places a strong emphasis on electrifying industries that have historically relied on fossil fuels, such as heating and transportation. The policy promotes the use of hydrogen and other renewable fuels in areas where direct electricity is difficult. In order to increase system flexibility and dependability, digital technology and energy storage solutions are also encouraged to be integrated.

- **Hydrogen Development**

In the EU's decarbonization initiatives, hydrogen is essential, especially for hard-to-electrify businesses and transportation modes. Less than 2% of Europe's energy consumption in 2022 came from hydrogen, which was mostly made from natural gas and resulted in high CO2 emissions. The REPowerEU plan, which supports the EU's hydrogen policy, lays out aggressive goals to create 10 million tonnes of renewable hydrogen and import an extra 10 million tonnes by 2030. About 10% of the EU's energy demands are anticipated to be satisfied by renewable hydrogen by 2050. As stated in the updated Renewable Energy Directive, the EU has created a comprehensive policy framework to facilitate this shift, which includes legally obligatory goals for the use of renewable hydrogen in industry and transportation.

- **Renewable Energy Offshore**

The European Union acknowledges the enormous potential of its five sea basins for producing offshore renewable energy from tidal, wind, and wave sources. Aiming to achieve at least 60 GW of offshore wind and 1 GW of ocean energy capacity by 2030, the EU Strategy on Offshore Renewable Energy, which was announced in 2020, scales up to 300 GW and 40 GW, respectively, by 2050.

- **Renovation Wave Initiative**

A large amount of the energy use and greenhouse gas emissions in the EU are caused by buildings. By 2030, the Renovation Wave initiative seeks to increase the energy efficiency of 35 million buildings by doubling the yearly rate of energy-related repairs. This program aims to cut emissions, use less energy, and generate green jobs in the building industry.

- **Reduction of Methane Emissions**

Methane is a powerful greenhouse gas that has a much greater potential to cause global warming than CO_2. The goal of the EU's 2020 Methane Strategy is to lower methane emissions from the waste, energy, and agricultural sectors. Methane emissions in the energy sector are

mostly caused by processes including flaring, venting, and leaks that occur during the extraction and transportation of fossil fuels.

- **Trans-European Networks for Energy (TEN-E)**

In order to integrate renewable energy sources and provide a secure energy supply throughout the EU, the TEN-E regulatory framework makes it easier to create cross-border energy infrastructure. With effect from June 2022, the updated TEN-E Regulation brings infrastructure planning into line with the goals of the European Green Deal. It encourages decarbonization-supporting projects like smart grids and hydrogen networks, but it does not support new natural gas projects.

2. The impact on SMEs

The European Green Deal has had a significant overall influence on SMEs, presenting both opportunities and problems. On the one hand, the shift to a clean energy system opens up new commercial prospects, especially in the fields of energy efficiency, renewable energy, and cutting-edge technologies. New funding sources, lower long-term energy costs, and a growing market for sustainable goods and services are all advantageous to SMEs. The transition to integrated energy systems, offshore wind, and hydrogen encourages innovation and competitiveness, opening up new green markets for SMEs.

But there are also a lot of difficulties with this change. Significant financial investments in infrastructure and technology may be necessary to comply with new rules, energy efficiency requirements, and emissions reductions. Many SMEs must retrain, deal with greater upfront costs, and have trouble obtaining green financing.

TRANSPORTATION AND THE GREEN DEAL

Transport remains the only major economic sector in the European Union, where carbon dioxide (CO2) emissions have risen since 1990. However, in the recent years, all across Europe, a massive transformation has been on the way. Cities are introducing simpler, safer, healthier, and more affordable alternatives to replace fossil-fuel vehicles. From shared electric cars and e-bikes to green buses, trains, including extensive new cycling lanes.

Yet, as the demand to reduce the carbon footprint grows, the energy efficiency of new passenger cars, vans, trucks, planes, and ships has improved — but not quickly enough to keep pace with the rise in overall transport emissions. And since the sheer increase in transport activity has driven up greenhouse gas (GHG) emissions, and the demand for all types of

transport is expected to keep rising, Europe must rethink its mobility system to meet its goal of becoming climate-neutral by 2050.

Achieving this will require promoting cleaner and more active transport modes, adopting cleaner fuels, and, where possible, reducing the need for mobility altogether.

1. Policy Overview

Transport accounts for a quarter of the EU's greenhouse gas emissions, and is still growing. To achieve climate neutrality by 2050, all modus of EU's transport, such as: road, rail, aviation, and waterborne transport will have to contribute significantly.

The European Green Deal (2019), in this context, set out few key priorities which aimed to make the transport sector more sustainable, and EU's measures more focused: multimodal transport, smart and connected mobility, fair transport pricing, sustainable alternative fuels, reduced urban pollution.

- **Multimodal Transport:** Shifting more freight from roads to rail and inland waterways will improve efficiency and reduce emissions. To support this shift, the EU will work to expand the capacity of railways and waterways and to improve the legislation promoting combined transport.

- **Smart and Connected Mobility:** According to the Green Deal", the EU will invest in digital and automated traffic management systems to reduce traffic congestion and pollution, particularly in cities, through funding programs like the Connecting Europe Facility.

- **Fair Transport Pricing:** The EU plans to align transport costs with environmental and health impacts by ending fossil fuel subsidies and revising tax exemptions for aviation and maritime fuels. In this context a revision of the Energy Taxation Directive will follow.

- **Sustainable Alternative Fuels:** By 2025, the EU aims to establish 1 million public refueling stations to support zero- and low-emission vehicles and increase the use of sustainable fuels across trans port modes.

- **Reducing Urban Pollution:** Stricter emissions standards for vehicles, improved regulations for ships and planes, and efforts to reduce urban transport pollution are key to improving air quality and achieving greener transport.

During the 2019 - 2024 mandate, the European Commission set a bold target to cut transport emissions by 90% by 2050. This plan emphasized the promotion of clean mobility to reduce the environmental impact of the transport sector. At the same time, the Commission focused on significant investments in digitalization and innovation to improve the efficiency and connectivity of the transport system. These goals were also outlined in the "Smart and Sustainable Mobility Strategy," (the EU's transport strategy towards 2030) which introduced 82 policy measures aimed at creating a more sustainable, smart, and resilient transport network.

The adoption of the "Fit for 55" legislative package on the other hand, set new targets for reducing transport emissions and introduced incentives to encourage the use of low-carbon and renewable fuels.

Furthermore, to decarbonize transport, the European Commission also focused on the electrification of vehicles and on increasing zero-emission solutions for the European rail transport. The Focus was also placed on the adoption of renewable and low-carbon fuels in the aviation and maritime sectors, and for that purpose, it had adopted several key policies such as the Alternative Fuels Infrastructure Regulation, the extension of the EU Emissions Trading System (EU ETS) to road, air, and waterborne transport, the set of new CO2 emission targets for heavy-duty vehicles, the legislation promoting renewable fuels in maritime and aviation, and the Trans-European Transport Network (TEN-T), which aims to connect all regions of the EU.

The Commission also placed special emphasis on greening the freight sector by encouraging a shift from road to rail and inland waterways and introduced incentives for multimodal freight operations.

On the international stage, the EU has taken a leading role in driving global efforts to reduce transport emissions. The expansion of the EU Emissions Trading System to aviation and maritime transport has inspired other countries to strengthen their green transport policies and raised ambitions within key global forums like the United Nations climate change conference (COP), the International Maritime Organisation (IMO), and the International Civil Aviation Organisation (ICAO).

The main goals and focus areas of the EU's transport policies and initiatives aim to significantly reduce transport emissions, enhance sustainability, and promote cleaner, more efficient mobility. Key objectives include:

- **Emission Reductions:** The EU targets a 90% reduction in transport emissions by 2050, with intermediate steps like a 55% reduction in car emissions by 2030 and a 50% reduction for vans.
- **Clean Mobility:** EU's policies and initiatives promote clean, low-carbon, and renewable fuels across all transport sectors, including aviation and maritime.
- **Electrification and Infrastructure:** The EU focuses on the electrification of vehicles and expanding infrastructure.
- **International Leadership:** The EU takes a leading role globally in promoting green transport policies, influencing other countries and international organizations to adopt similar measures.

These measures are part of the EU's broader strategy, including the European Green Deal and the "Fit for 55" package, which aim to create a sustainable, smart, and resilient transport system by 2030 and beyond.

2.Impact on SMEs

The European Union's Green Deal and related policies significantly impact small and medium-sized enterprises (SMEs) across Europe, particularly within the transport sector. These initiatives aim to reduce greenhouse gas emissions, promote sustainable practices, and transition towards cleaner technologies. While these goals are essential for environmental sustainability, they present both challenges and opportunities for SMEs, and in general for businesses.

Some of the key policies affecting SMEs across Europe are as follows:

- **The Extension of the EU Emissions Trading System (ETS) to Road Transport.** The EU plans to broaden the ETS by including emissions from road transport. This move is intended to make carbon emissions more costly, thereby encouraging companies to adopt renewable fuels and reduce their carbon footprints. However, it also means that SMEs in the transport sector will face additional costs associated with carbon allowances. A portion of the revenues from this system is earmarked for a Social Climate Fund, designed to support vulnerable households and micro-enterprises in adapting to these changes (European Commission Climate).
- **Promotion of Sustainable Alternative Fuels.** The EU is actively promoting the use of renewable fuels, such as Hydrotreated Vegetable Oil (HVO), to reduce emissions in heavy transport. HVO offers a practical solution for lowering emissions without

necessitating immediate, costly fleet overhauls. This approach allows SMEs to transition to cleaner fuels at a manageable pace, balancing environmental goals with financial considerations (European Commission).

- **Incentivizing Electric Vehicles (EVs) in Corporate Fleets:** To accelerate the adoption of EVs, the European Commission proposes ending tax breaks for petrol and diesel company cars. This policy aims to stimulate demand for EVs in corporate fleets, which constitute about 60% of new car registrations in the EU. While this shift presents opportunities for SMEs to modernize their fleets, it also requires investment in new vehicles and charging infrastructure (Reuters, 2025).

Implications for SMEs:

- SMEs may incur additional costs due to carbon pricing mechanisms under the expanded ETS. However, the Social Climate Fund aims to mitigate these impacts by providing financial support to smaller enterprises.

- Adopting sustainable fuels and transitioning to EVs may necessitate changes in operations, including investment in new technologies and training. While these changes can lead to long-term savings and environmental benefits, they require upfront investment.

- Embracing green technologies can enhance an SME's reputation and appeal to environmentally conscious consumers. It may also open up new business opportunities in a market increasingly focused on sustainability.

In summary, while the EU's Green Deal and associated policies present challenges for SMEs in the transport sector, they also offer opportunities for innovation and leadership in sustainability. SMEs that proactively adapt to these changes can position themselves favorably in a rapidly evolving market.

PROTECTING THE ENVIRONMENT AND OCEANS WITH THE GREEN DEAL

European seas, oceans and the environment are a source of natural and economic wealth for Europe and its citizens. To ensure that they continue supporting us in the future, we must preserve and protect them. The European Green Deal aims to protect biodiversity and ecosystems, reduce air, water and soil pollution, move towards a circular economy, and ensure the blue economy's and fishing sectors' sustainability. Through these key areas, the EU will

improve its citizens' health and quality of life and contribute to reducing greenhouse gas emissions. The green transition will stimulate innovation and sustainable practices, opening new opportunities for companies while contributing to long-term economic growth and job creation in the green and blue sectors.

1. Policy/Initiative Overview

The European Green Deal (EGD), adopted in 2019, is the EU's fundamental framework for achieving climate neutrality by 2050. It was a crucial turning point in Europe's environmental approach, setting out for the first time a comprehensive roadmap to reduce greenhouse gas emissions, protect biodiversity, promote a circular economy and protect the oceans. EGD-related initiatives were launched in response to growing environmental and climate challenges such as global warming, ocean pollution and biodiversity loss, which have had long-lasting and global consequences.

Several initiatives have been taken to protect the environment and the oceans within the EGD, such as legislation to reduce greenhouse gas emissions, a shift to renewable energy, and promoting a circular economy. In recent years, necessary measures have been taken to protect biodiversity and marine ecosystems, including developing strategies to reduce pollutants and sustainable fisheries. New rules have also been adopted to improve the management of the marine environment, including protecting the high seas and conserving marine ecosystems.

The Green Deal and other EU strategies are designed to support global cooperation and ensure that the EU contributes to achieving global environmental goals. The actions taken by the EU are often in line with global initiatives, as the EU recognises the importance of international harmonisation in protecting the oceans and the environment. For instance, the EU has consistently set high ambitions for CO_2 emission reduction and the transition to clean energy, aiming for climate neutrality by 2050, which aligns with the Paris agreement. Furthermore, the EU actively promotes the achievement of the UN Sustainable Development Goals (SDGs), particularly those related to life below water (SDG 14), biodiversity (SDG 15), and responsible consumption (SDG 12). The EU's Biodiversity Strategy aligns with the Convention on Biological Diversity (CBD) goals to protect and restore ecosystems, including marine ones.

Chronological overview of initiatives with its main goals and focus in the field of environment and ocean protection:

- 2020: The **European Biodiversity Strategy for 2030** [1] was launched to protect and restore biodiversity across Europe, focusing on protecting 30% of marine and terrestrial areas by 2030, aligning with global biodiversity goals under the Convention on Biological Diversity (CBD).

- 2020: The **Circular Economy Action Plan** [2] was introduced to promote a circular economy in Europe, emphasizing sustainable product design, recycling, and reducing waste, aiming to make the EU a leader in resource efficiency and waste reduction.
- 2020: The **Waste and Recycling Policy** [3] was strengthened as part of the EU's efforts to transition to a circular economy, focusing on improving waste management, stimulating recycling innovation, and limiting landfilling.
- 2020: The **Chemicals Strategy for Sustainability** [4] was adopted to create a toxic-free environment, reducing harmful chemicals in products and encouraging safer, green alternatives, contributing to a healthier environment and ocean protection.
- 2020: The **'Farm to Fork' Strategy** [5] was launched to create a sustainable food system, focusing on reducing the environmental impact of food production, promoting organic farming, and ensuring the sustainability of the food supply chain.
- 2020: The **Sustainable Batteries Regulation** [6] was introduced to ensure the sustainability of batteries, aiming to improve the recycling, sourcing, and environmental impact of batteries used in electric vehicles and other industries.
- 2021: The **Organic Action Plan** [7] was launched to scale up organic farming across the EU, aiming for 25% of EU agricultural land to be dedicated to organic farming by 2030, promoting sustainability and healthier food systems.
- 2021: The **8th Environment Action Programme** (EAP) [8] was adopted to guide EU environmental policy until 2030, focusing on key challenges like climate change, biodiversity loss, and pollution, with a strong emphasis on achieving a green transition and a circular economy.
- 2021: The **Sustainable Blue Economy Strategy** [9] was launched to align maritime activities with the European Green Deal, focusing on emissions reduction, sustainable fishing, and ocean protection, supporting the UN 2030 Agenda.
- 2021: The **Zero Pollution Action Plan** [10] was launched to reduce air, water, and soil pollution, setting ambitious targets for 2030 to ensure clean environments for both people and ecosystems, contributing to the EU’s climate and health goals.
- 2021: The **Common Fisheries Policy** (CFP) [11] focused on sustainable fisheries management, aiming to restore fish stocks to sustainable levels, reduce overfishing, and protect marine biodiversity, ensuring responsible fishing practices.
- 2021: The **Aquaculture Policy** [12] was updated with new strategic guidelines to improve sustainability and competitiveness in the EU aquaculture sector. It focuses on reducing environmental impact, supporting the green transition, and boosting innovation.

- 2022: The **High Seas Biodiversity Agreement (BBNJ)** was signed to create marine protected areas on the high seas, supporting the EU's goals for ocean protection and linking global agreements for coordinated action.
- 2023: The **Revised Maritime Security Strategy** focuses on protecting EU interests at sea, safeguarding natural resources, and upholding international law, particularly the UN Convention on the Law of the Sea. The strategy also addresses emerging threats, such as cyber and hybrid risks, and emphasizes the need for relevant training, particularly in cyber skills.

2. Impact on SMEs

The EU's environmental and ocean-focused policies and initiatives significantly impact European SMEs by pushing them toward greener practices and greater resource efficiency. For example, the Circular Economy Action Plan encourages SMEs to adopt sustainable product designs, improve recycling processes, and reduce waste, making them more competitive in a resource-efficient market. The Chemicals Strategy for Sustainability and Sustainable Batteries Regulation promote safer alternatives and environmentally friendly products, potentially requiring SMEs to innovate in their manufacturing processes. Similarly, the Farm to Fork and Organic Action Plan push SMEs in the food industry to align with sustainable practices, such as reducing environmental impacts and increasing organic farming practices, fostering growth in eco-friendly sectors. Moreover, initiatives like the Sustainable Blue Economy Strategy and Aquaculture Policy open new opportunities for SMEs in the maritime and aquaculture sectors, encouraging them to adopt sustainable fishing practices, innovation in marine industries, and environmentally friendly aquaculture techniques. Policies such as the Zero Pollution Action Plan and the Revised Maritime Security Strategy also drive SMEs to focus on pollution reduction and cybersecurity to comply with EU regulations. These actions push SMEs to innovate, adopt cleaner technologies, and embrace sustainable business models, ensuring their alignment with EU environmental goals while fostering long-term growth opportunities in new green sectors.

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CHAPTER 3: BEST PRACTICES – PROJECTS AND INITIATIVES

This chapter presents a collection of **inspiring case studies showcasing best practices** in the green transition from four European countries: North Macedonia, Spain, Slovenia, and Greece. The selected companies represent a range of key sectors—including printing, waste management, fisheries, manufacturing, energy, and food production—demonstrating how **diverse industries are embracing sustainable innovation**.

The companies highlighted were chosen based on clear selection criteria, including their innovative approaches, active engagement of employees and communities, and their measurable impact in advancing environmental goals. These organizations serve as role models,

illustrating how green strategies can be successfully integrated into business models to enhance both environmental responsibility and economic resilience.

Each case study offers insights into the initial challenges faced, the tools and methodologies applied, and the outcomes achieved. By sharing these real-world examples, the aim is to inspire other small and medium-sized enterprises (SMEs) and vocational education and training (VET) institutions to follow suit—leveraging green practices to future-proof their operations and contribute to a more sustainable Europe.

BEST PRACTICES - PROJECTS AND INITIATIVES (NORTH MACEDONIA)

The specific companies have been selected due to their innovative approach to the green transition, including their focus on active engagement of their employees and target groups in sustainable practices. They come from important sectors for the green transition such as the publishing industry and the waste management sector.

3.1 Case Study 1:

- **Company Name**: PROPOINT
- **Sector**: Printing / publishing
- **Location**: North Macedonia, Skopje region
- **Initial Challenges**: With its 65 employees, Propoint is a medium-sized company operating on the Macedonian market since 1996 as a "Trade company for the employment of persons with disabilities in the publishing industry." The company started with only 2 employees and over the years has grown to 500 plus clients and a reputation as one of the country's leading printing studios. Beyond its success in the printing industry, Propoint stands out as a serious and dedicated investor in new and green technologies which reduce company's environmental impact and improve its energy efficiency. This commitment was driven by two key factors: (1) the high operational costs associated with traditional printing processes and (2) an increasing awareness of the negative effects these operations could have on the local environment.
- **Tools/Methodologies Used**: Aiming to reduce energy costs, in 2018 the company invested in a solar power plant (photovoltaics) with a capacity to produce 425 kWh of energy, used for Propoint's operational needs. In just one year, the company achieved

500 MWh of production, reducing its dependency on fossil fuel-based energy, cutting operational costs, and even generating surplus green electricity. This investment alone resulted in a reduction of 470 tons of harmful carbon dioxide (CO2) emissions.

Following the success of its solar energy investment, Propoint tackled another operational challenge — the outdated petrol-based vehicles used for product distribution. Just one year later, the company replaced its fleet with new electric vehicles, now serving the Skopje region.

Propoint has also made other green investments, including the use of eco-friendly printing colors, modern, energy-efficient photocopiers and printing machines and much more.

- **Outcomes Achieved**: Propoint's dedication to the green transition is part of its vision to become a 100% green company. Through its strategic investments, the company has not only managed to save money but also made a significant contribution to reducing pollution and mitigating the negative effects of climate change. These efforts have also enhanced Propoint's public image, establishing it as a recognizable green brand in the region.

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3.2 Case Study 2:

- **Company Name**: PAKOMAK
- **Sector**: Waste management
- **Location**: North Macedonia
- **Initial Challenges**: Pakomak is a small-sized non-profit company dedicated to promoting environmentally responsible waste management. Founded in 2010 by 11 leading

companies in North Macedonia — including small and medium-sized businesses — Pakomak was established to address the growing challenges Macedonian companies faced with the disposal of packaging waste. in the Republic of North Macedonia 110.000 tons of packaging waste annually is generated, out of which approximately 31.900 tons is plastic (29%), 46.200 tons is paper (42%), 17.600 tons is glass (16%), 4.400 tons are aluminum and other fero-metal (4%) and 9.900 tons are composite and wood (9%). Approximately more than 65.000 tons packaging waste on annual base are generated by households and should be collected in Igloo containers for separate collection of: plastic, metal, glass and paper, and in reverse vending machines for separate collection of: PET bottles and aluminum cans.

Pakomak's mission is to build a sustainable system that ensures the proper and eco-friendly treatment of packaging waste, reducing environmental impact and encouraging businesses to adopt greener waste management practices. By offering practical solutions and raising awareness, Pakomak helps companies and others to fulfill their environmental responsibilities and meet their legal obligations under the European Packaging and Packaging Waste Directive 94/62/EC (1994).

Tools/Methodologies Used: Packomak has invested in trucks, bins, containers, collection points, trucks, recycling capacities, reverse vending machines. introduced modern and smart equipment for packaging waste separation and collection, reverse vending machines. Pakomak has also introduced various stimulating measures to encourage companies to commit to responsible disposal of their waste packaging, such as the international "Green Dot" symbol, placed on company's products, which indicates that a fee has been paid for the proper handling of the packaging waste after use.

Additionally, Pakomak has played an important role in influencing its founding organizations to adopt other green practices, such as improving energy efficiency, and encouraging them to become champions of environmental protection and sustainable business practices.

- **Outcomes Achieved**: Pakomak is the oldest and largest company in terms of registered producers and total packaging waste managed (approximately 42% of the market), Pakomak has consistently met national recycling targets since its founding. In 2022 alone, the company recycled 27,521 tons of packaging waste from its partner companies, surpassing national goals and demonstrating its strong commitment to environmental protection.

Pakomak collaborates closely with local authorities to establish and maintain separate waste collection systems, fully financed by fees paid by registered producers. The company has also

invested in innovative solutions like reverse vending machines, with 28 already installed in markets and plans to add 20-30 new machines annually, making recycling more accessible to the public.

Pakomak's Ecomak application has further strengthened community engagement by enabling users to donate green points to social causes. Since its launch, 15,236 users have joined the platform, with 13,390 denars (EUR 200 plus) donated to the SOS Children's Village. The user base grows by approximately 300 people per week, and Pakomak plans to expand donation opportunities to kindergartens, municipalities, and healthcare centers, promoting philanthropy and sustainability as part of everyday life.

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3.3 Case Study 3:

- **Company Name**: TRIGLAV
- **Sector**: Insurance
- **Location**: North Macedonia
- **Initial Challenges**: Triglav is a prominent insurance company in North Macedonia, operating as part of the Triglav Group, a leading insurance and financial services provider in the region. With a longstanding tradition in non-life insurance, the company combines experience with innovation to offer top-tier services to its clients. In recent years, Triglav has recognized the pressing need to address environmental challenges, particularly the air pollution in Skopje and the responsibility of businesses, especially influential ones like themselves, to lead by example in contributing to a more sustainable future. This has driven the company to adopt green practices aimed at facilitating the improving air quality in the country and promoting sustainability.

- **Tools/Methodologies Used**: The "Triglav Green League" was introduced by Triglav Osiguruvanje as part of the company's broader strategy to promote sustainability and combat the growing environmental challenges faced by Skopje and the wider region.

The Green League initiative was designed to encourage employees, customers, and the local community to adopt more eco-friendly habits, and jointly achieve reduction CO2 foodprint by 365 tones. The idea behind this program is to reduce the company's carbon footprint by promoting alternatives to traditional car commuting, such as walking, cycling, and using public transportation. The league created a platform where participants can track and improve their environmental behavior in a fun and engaging way, with the added benefit of promoting a healthier lifestyle for its employees and clients.

- **Outcomes Achieved**: Under the Triglav Green League, the company has organized a range of green events like running, biking, and hiking on a monthly basis. These activities have attracted a high number of participants from private companies, institutions, and individuals, fostering a strong community spirit around sustainability and active lifestyles.

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BEST PRACTICES - PROJECTS AND INITIATIVES (SPAIN)

The following companies have been selected, as they are related to two very important sectors such as the automotive and fishing sectors. They are outstanding examples of how SMEs in Bizkaia (Basque Country, Spain) are adopting sustainable practices and actively contributing to the ecological transition.

3.1 Case Study 1:

- **Company Name**: Nuuk Mobility
- **Sector**: Automotion

- **Location**: Amorebieta-Etxano, Spain.

- **Initial Challenges:** NUUK Mobility Solutions is a Basque company dedicated to the design and development of electric motorbike solutions. The company is born from a detected need based on the design and development of quality electric mobility products, robust and in accordance with European standards. From there, a broad business model is visualised, with the aim of responding to the current evolution of the light vehicle / mobility binomial within the framework of eMobility**.**

- **Tools/Methodologies Used**: Among its outstanding products are the Cargopro model, designed for delivery and logistics companies, and the Ciklo, focused on the home food delivery sector. These vehicles are equipped with connectivity systems that allow real-time monitoring of data such as consumption, type of driving, geolocation and telemetry, thus improving efficiency and safety in operations.

- **Outcomes Achieved**: The company has established partnerships with major customers specialising in home delivery, for whom it has supplied electric motorbikes adapted to delivery needs. The company has also been recognised for its commitment to cybersecurity, obtaining the AENOR Cybersecurity Certificate for its vehicles, ahead of the European regulations that will come into force in 2024.

3.2 Case Study 2:

- **Company Name**: Pevasa

- **Sector**: Fishing.

- **Location**: Bermeo, Spain.

- **Initial Challenges**: Pesquería Vasco-Montañesa, S.A. (Pevasa) is a company based in Bermeo, Bizkaia, dedicated to tropical tuna fishing, especially skipjack tuna, yellowfin tuna and albacore tuna. Founded in 1961, PEVASA has been a pioneer in the adoption of sustainable and responsible fishing practices.

- **Tools/Methodologies Used**: The company demonstrates its commitment to sustainable fishing through various international certifications and registrations. It has obtained Marine Stewardship Council (MSC) certification for its catches of skipjack and yellowfin

tuna in the Atlantic Ocean, guaranteeing that its practices comply with the highest sustainability standards. In addition, it was the first company in the world to achieve the Responsible Fishing Tuna certificate according to the UNE 195006 standard, which regulates both the control of fishing activity and the working and safety conditions on vessels. Its vessels are also registered with organisations such as ICCAT and IOTC, as well as the Proactive Vessel Register (PVR) of the International Seafood Sustainability Foundation (ISSF), which reinforces its commitment to traceability and responsible fishing. Thanks to these initiatives, the company actively contributes to the conservation of marine resources and the sustainability of the fishing sector.

- **Outcomes Achieved**: This company has made significant progress in the economic, environmental and social spheres. In economic terms, it has driven digital transformation through the implementation of blockchain technology, which earned it an award in 2022 for improving efficiency and transparency in its operations. It has also developed sustainable FADs in collaboration with ZUNIBAL, such as the ZUNFLOAT floating platform, which reduces the environmental impact associated with tuna fishing by minimising waste and protecting marine ecosystems.

On the social side, the company has worked to train new professionals in the sector, such as its collaboration with the Seychelles Maritime Academy to train future fishermen, thus strengthening the local fishing industry. These actions reflect its commitment to sustainability, balancing economic growth with environmental protection and social development in the communities linked to its activity.

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BEST PRACTICES – PROJECTS AND INITIATIVES (SLOVENIA)

The selected companies, including Mitol and Melamin, were chosen for their commitment to sustainability within industries like chemicals and manufacturing. These medium-sized companies actively work on green practices such as waste reduction and energy efficiency. Their involvement in the Competency Center for the Factories of the Future (KOC-TOP), led by MPŠ, demonstrates their dedication to sustainable development. MPŠ organized several workshops focusing on green and digital transitions, helping these companies adopt advanced

technologies and improve their environmental impact. The selected companies provide concrete examples of companies that have successfully made the sustainability transition using different methodologies such as ISO 14001, circular economy, energy efficiency and sustainable product development and production. Melamin, for example, despite facing a major accident in 2022, has significantly improved its safety measures and adopted greener practices in its manufacturing process. The company's efforts to minimize its environmental impact by implementing energy-saving measures and reducing waste is aligned with its commitment to sustainability, making it a relevant case for this discussion.

3.1 Case Study 1:

- **Company Name**: Mitol d.o.o.
- **Sector**: Adhesives and chemical products
- **Company size**: 50-99 employees
- **Location**: Sežana, Slovenia.
- **Initial Challenges:** Mitol faced the challenge of reducing environmental impact while maintaining high-quality production and creating sustainable products. They aimed to enhance energy efficiency, reduce waste, and use natural resources responsibly.

Tools/Methodologies Used:

Mitol implemented ISO 14001:2015, focusing on sustainable production processes, waste reduction, and the efficient use of natural resources. They also developed environmentally friendly adhesives and participated in responsible practices under the Responsible Care Program. This programme represents a unique initiative by the chemical industry to improve its health, safety and environmental performance globally. The aim is to continuously monitor and improve performance in these areas, as measured by 16 parameters. They have achieved the current state of sustainable responsibility through environmental impact studies, investments, production optimization and workforce training. The company also complies with and consistently implements legislative and other requirements and integrates environmental elements into its business development and annual business plans in the context of continuous improvement of its environmental performance. In collaboration with Cleangrad d.o.o., they implemented the project, funded by the European Union, developing recyclable panel walls for cleanroom applications in industries such as pharmaceuticals, healthcare, and nanotechnology. The project focuses on using adhesives with 65-80% natural ingredients, contributing to sustainable construction.

- **Outcomes Achieved**: Mitol achieved significant improvements in environmental impact, including a reduction in waste and energy consumption. They created environmentally friendly adhesive products that minimize the use of materials, enhance energy efficiency, and reduce waste.

3.2 Case Study 2: Melamin d.d.

- **Sector**: plastics manufacturing.
- **Location**: Kočevje, Slovenia.
- **Company size**: 200-250 employees
- **Initial Challenges**: Melamin, a leading manufacturer of melamine boards, faced significant challenges in improving its energy efficiency, reducing the environmental impact of its production processes, and adopting more sustainable practices in the handling and processing materials. The company recognized the need to adapt to an increasingly eco-conscious market and regulatory environment, pushing it to seek solutions for reducing energy consumption and emissions while increasing the use of sustainable materials in production.

Tools/Methodologies Used: To address these challenges, Melamin implemented a series of strategic methodologies focused on sustainability and energy efficiency. Key measures included:

- Energy efficiency programs: The Company adopted various strategies aimed at reducing energy consumption throughout its operations, including optimized machinery and production processes that are more energy-efficient.
- Carbon emission reduction: Melamin focused on reducing CO2 emissions by introducing cleaner energy sources, improving the efficiency of their processes, and optimizing the overall energy use across all stages of production.
- Material recycling initiatives: A crucial part of Melamin's sustainability efforts involved increasing the amount of recycled material used in the production of melamine boards. They worked on improving their recycling methods and material recovery processes, ensuring that more waste material was reused, rather than disposed of.
- Environmental standards and certifications: The company adhered to internationally recognized environmental standards, including ISO 14001, which ensures that their

environmental management systems are in line with best practices for reducing environmental impacts. Melamin is committed to transparent operations by publishing daily data on dust emissions and wastewater discharge from its in-house treatment plant on its website. This practice ensures that the company remains open about its environmental impact and takes responsibility for its actions in managing pollution and waste.

- Sustainable supply chain practices: Melamin integrated sustainability into its supply chain management by working with suppliers with similar environmental values. This extended the company's commitment to sustainability beyond its production site, influencing the materials and practices used throughout the entire value chain.
- Global responsible behavior: The company embraces and implements commitments outlined in the Global Charter of Responsible Behavior. This initiative, led by the Chamber of Commerce and Industry of Slovenia (GZS) and guided by the International Council of Chemical Associations (ICCA) and the European Chemical Industry Council (CEFIC), promotes ethical practices, responsibility, and sustainability in the chemical industry. By adhering to these principles, Melamin ensures that its operations are aligned with global standards for environmental and social responsibility.

- **Outcomes Achieved**: Melamin has successfully reduced the consumption of natural resources, increased the use of recycled materials, and minimized waste sent to landfills, contributing to greater sustainability in Slovenian industry. Through its projects, such as optimizing material usage and increasing recycling rates in production, as well as developing sustainable solutions to reduce environmental impact, the company has enhanced its competitiveness. The products, including melamine boards made from recycled materials and those certified for environmental standards, demonstrate the company’s commitment to sustainability. Additionally, Melamin’s efforts are supported by their adherence to environmental practices and transparency, such as publishing daily data on dust emissions and wastewater discharge, and their alignment with the Global Charter of Responsible Behavior. Recently, we joined the international H2SAVA project, where we are partnering in the development of hydrogen technologies and the use of hydrogen in polymer production. Hydrogen will play a key role in the decarbonization of industry, and the H2SAVA project will significantly contribute to achieving the EU's green transition goals.

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CHAPTER 3: BEST PRACTICES – PROJECTS AND INITIATIVES (GREECE)

The following Greek companies have been selected due to their involvement in sectors critical for the ecological transition, such as renewable energy and sustainable agriculture. These SMEs serve as exemplary models of how Greek businesses are embracing sustainable practices and making significant contributions to Greece's Green Deal objectives.

3.1 Case Study 1:

- **Company Name**: Polygreen
- **Sector**: Renewable Energy and Waste Management
- **Location**: Athens, Greece.
- **Initial Challenges:** Polygreen is a Greek company focused on providing integrated solutions for the recycling and reuse of waste materials. Initially, the company faced significant challenges in waste segregation and the lack of efficient waste management infrastructures. With the growing demand for sustainable practices and increasing pressure from EU environmental regulations, Polygreen saw an opportunity to innovate by developing a circular economy model..
- **Tools/Methodologies Used**: Polygreen developed a state-of-the-art system for waste management and recycling that includes automated sorting technologies, waste-to-energy solutions, and an online platform that connects local waste producers with recycling facilities. Their smart waste bins are equipped with sensors to monitor waste levels, optimizing collection and reducing fuel consumption in transport logistics.
- **Outcomes Achieved**: The company has been successfully recycling over 100,000 tons of waste annually and has contributed to reducing carbon emissions significantly. Polygreen's model has been adopted by several municipalities in Greece, making it a leader in sustainable waste management. Furthermore, Polygreen's waste-to-energy

plants have produced over 5 MW of renewable energy, powered local communities and contributed to Greece's green energy objectives.

3.2 Case Study 2:

- **Company Name** Green Cola
- **Sector**: Sustainable Food and Beverage
- **Location**: Athens, Greece
- **Initial Challenges**: Green Cola faced the challenge of entering a highly competitive beverage market with a unique, environmentally friendly product. The company sought to offer an alternative to traditional soft drinks by using natural ingredients and minimal environmental impact. The challenge was not only to create a product that resonated with sustainability-conscious consumers but also to establish an efficient production process that aligned with environmental goals.
- **Tools/Methodologies Used**: Green Cola uses a proprietary formula to replace sugar with stevia, a natural sweetener, and uses recyclable packaging for all their products. They also implemented energy-saving processes in production and logistics, minimizing their carbon footprint. Additionally, the company adopted a comprehensive waste management system to ensure that by-products are either reused or recycled.
- **Outcomes Achieved**: Green Cola's commitment to sustainability has resulted in its rapid growth, expanding to international markets. The company has reduced its environmental footprint, lowering energy consumption during production by 15%. Green Cola has also become a recognized brand for sustainability, earning certifications from several environmental and quality standards, making it an excellent example of green innovation in the beverage industry.

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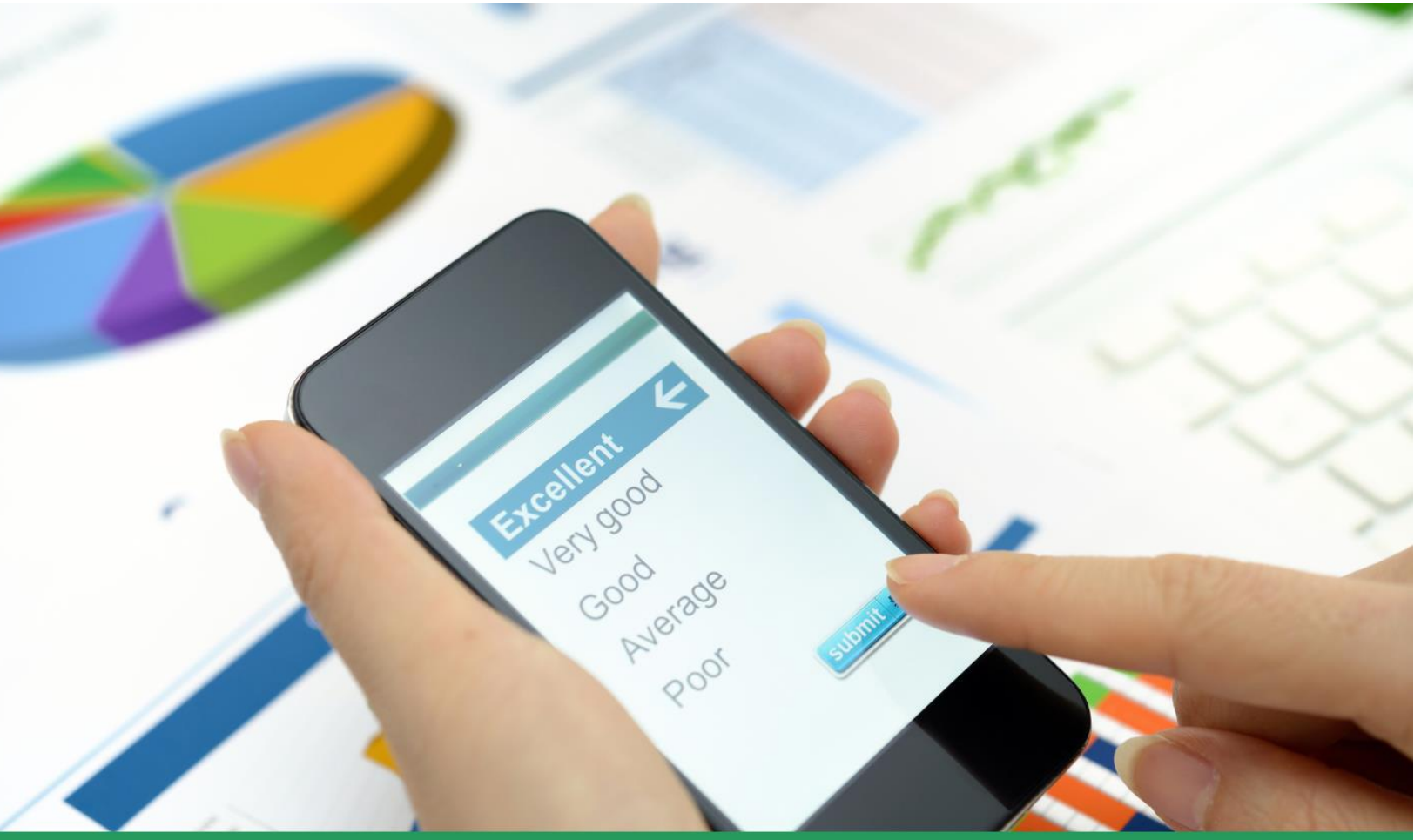


SUMMARY OF THE QUESTIONNAIRES FIELD RESEARCH

GREENLEAD

As part of the European Erasmus+ project "GREENLEAD," **a survey was conducted targeting small and medium-sized enterprises (SMEs) and vocational education and training** (VET) institutions. The main objective of the project is to define and develop a new professional profile known as the "Green Leader," as well as to establish the functions of a future "Green Division" within organizations. This profile aims to support the transition toward more sustainable practices in alignment with the environmental and climate goals set by the European Union.

The purpose of the survey was to gather insights into the needs, perceptions, and expectations of SMEs and VET providers regarding sustainability. The collected data will be instrumental in creating a specialized competency framework and designing a training program tailored to the realities of the business environment, thus supporting the integration of green strategies into daily operations.

We sincerely thank all respondents for their valuable participation, which plays a key role in shaping this new sustainability-oriented professional profile.

This report presents a summary of the responses collected from all participating countries: Spain, North Macedonia, Slovenia, and Greece.

In total, 250 responses were received, providing a valuable overview of the perspectives and needs of SMEs and VET institutions across these regions.

The following sections present a consolidated summary of the survey results, bringing together the insights gathered from all participating countries.

GREECE

In Greece, Innovation Hive conducted the survey using a multi-channel approach to ensure broad participation, primarily targeting SMEs in the Thessaly region, where the organization operates. The survey was distributed via email to SMEs within its established network and in collaboration with the Chamber of Larissa. Additionally, social media posts were utilized to reach a wider audience, while VET educators were specifically contacted through direct phone calls and emails to encourage their engagement. Since another project partner, AKMI, was responsible for distributing and compiling survey results in Athens, Innovation Hive focused its efforts on Thessaly. Despite these efforts, there were notable challenges in obtaining responses from all targeted participants. However, the 24 SMEs that did respond showed significant interest in further collaboration, highlighting the relevance of the survey topic within the business community.

NORTH MACEDONIA

In North Macedonia, the survey was conducted through a multi-channel approach which aimed to maximize outreach and engagement. The primary method involved directly distributing the questionnaire, accompanied by a concise project description, to over 1,000 email addresses of small and medium-sized enterprises (SMEs) across the country. This outreach also extended to domestic and transnational chambers of commerce operating on the territory of North Macedonia, vocational education and training (VET) centers, and other relevant educational institutions.

To further enhance participation, key target groups were contacted through phone calls and informal face-to-face meetings, providing an opportunity to promote the project and its objectives while at the same time encouraging stakeholders to take part in the survey. Additionally, a brief overview of the survey, along with a link to the online questionnaire, was disseminated across all of Eco Logic's communication channels, including Facebook, Instagram, LinkedIn, and the organization's official website.

As a result of these efforts, 79 individuals responded to the invitation to participate in the survey. Among them, 11 were representatives from the VET sector, while the remaining 68 were professionals from local SMEs spanning diverse industries, including agriculture, construction, transportation, energy, and other sectors.

SLOVENIA

In Slovenia, the survey was conducted by sending an official invitation to participate, which was distributed by a project team member employed at the Jožef Stefan International Postgraduate School (IPS). The invitation was sent to approximately 1,400 email addresses of SMEs and 120 email addresses of VET organizations. Additionally, the invitation was shared on the Facebook and LinkedIn pages of the project partner IPS. In total, we received 67 responses—16 from VET institutions and 51 from SMEs. Additionally, some invitations to participate were also sent through direct personal contact, either by phone or in person.

Some VET institutions also expressed interest in further collaboration within the project activities, including the Institute of the Republic of Slovenia for VET (CPI) and B&B Education Center. B&B has recently accredited an undergraduate program in Sustainable Environmental Management and is in the process of accrediting a postgraduate program in Sustainable Management, which aligns with the objectives of the Greenlead project. In the first phase, when the project develops the Green Leader competence framework, profile, and training curriculum, B&B can provide added value as a target group from the VET sector, as well as later during the testing phase of the developed materials.

SPAIN

In Spain, the survey was implemented across two key regions: the province of Teruel and the Basque Country, areas known for their distinct economic profiles and active engagement in sustainability initiatives. Local partners carried out the distribution through a mix of digital and face-to-face methods, combining email outreach and social media campaigns with in-person meetings and professional gatherings. This blended approach allowed for meaningful connections with relevant stakeholders, particularly among SMEs, and ensured a strong level of participation without major obstacles in reaching target audiences.

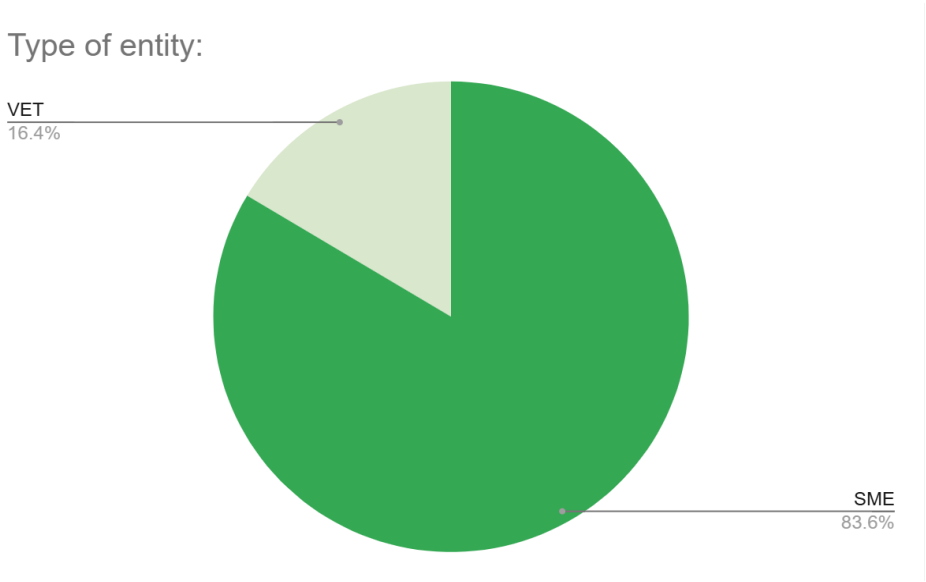
The responses reflected a rich variety of sectors, including both traditional and emerging industries. From retail and manufacturing to hospitality, education, energy, and public administration, the data offers a valuable snapshot of how sustainability is being perceived and approached across different fields. Similarly, there was a wide range of organizational sizes represented — from small family-run businesses to medium-sized enterprises and a few larger entities — underscoring the diversity of voices involved in Spain's green transition. While participants did not emphasize particular challenges or expectations, their broad and engaged participation points to a general openness to sustainability dialogue and an interest in contributing to ongoing efforts within their sectors.

INFORMATION ABOUT PARTICIPANTS IN THE SURVEY

The survey conducted within the framework of the project aimed to gain a deeper understanding of the profile of the actors involved in the green transition, both from the business and educational sectors. Detailed information was collected regarding the characteristics of the participating entities, their geographic location, the economic sectors they belong to, their size, and the roles of the individuals who responded. This analysis provides context for the findings and enables more accurate conclusions about the needs, challenges, and opportunities different types of organizations face in their path toward sustainability.

1. TYPE OF ENTITY

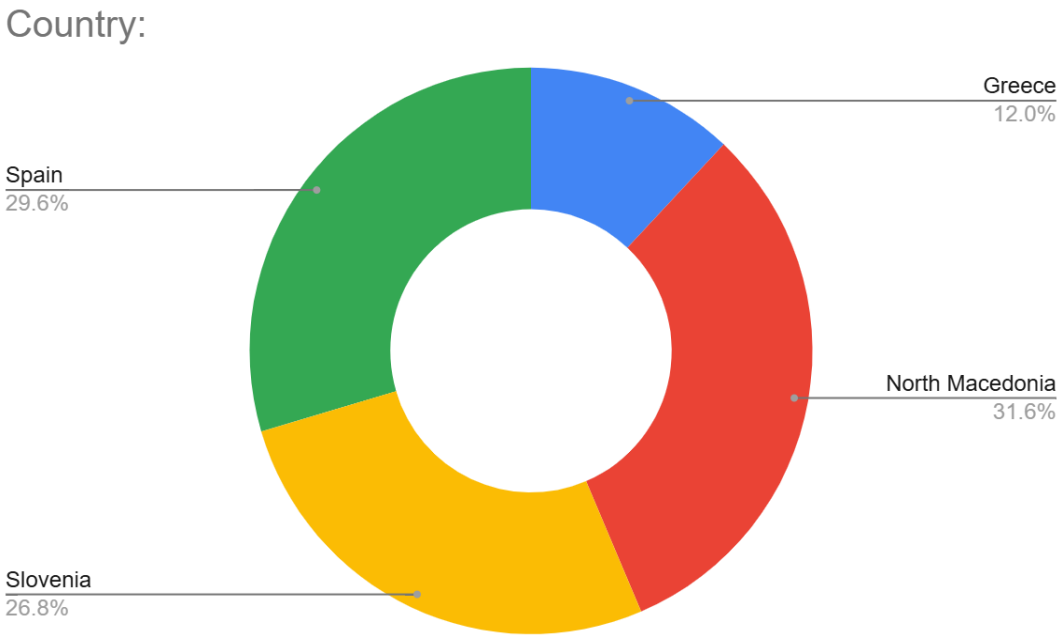
The vast majority of survey participants — **83,6%** — represented **Small and Medium-sized Enterprises (SMEs)**, while only **16,4%** came from **Vocational Education and Training (VET) providers**. This strong SME representation highlights the project's clear focus on understanding the practical challenges and needs of businesses in the green transition. However, the inclusion of VET actors also emphasizes the relevance of training and education in supporting this transformation. The synergy between these two groups is essential for bridging the skills gap and enabling effective, long-term sustainability practices.



2. COUNTRY

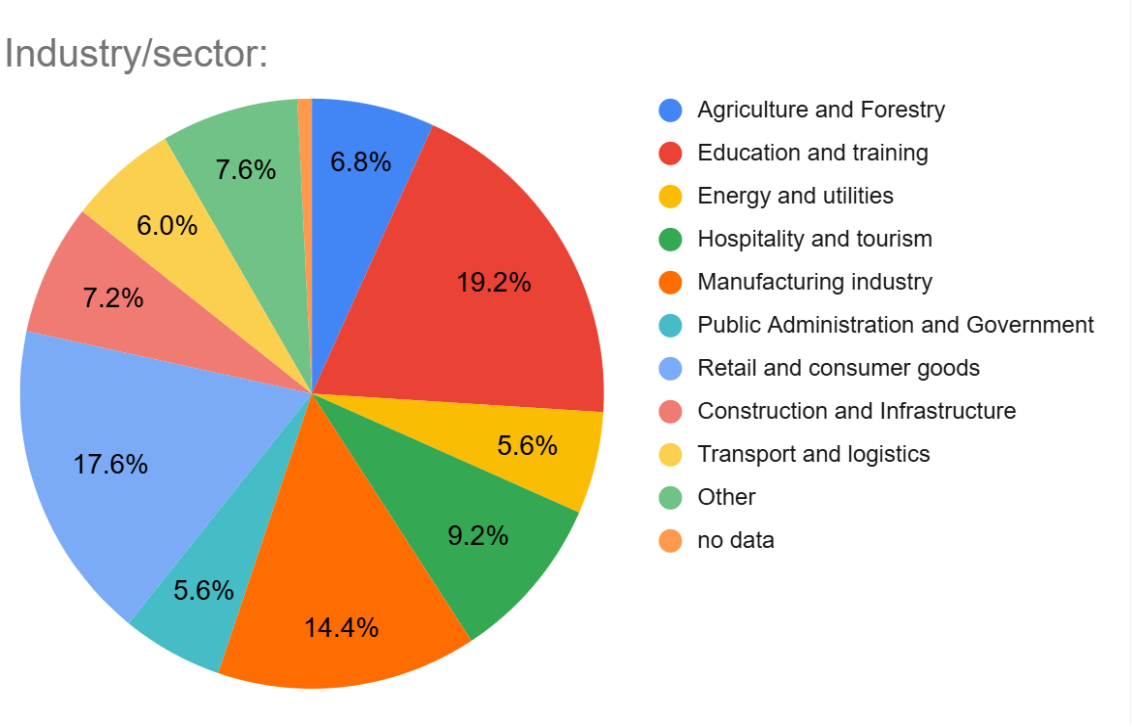
The respondents were geographically distributed across four countries, with **North Macedonia** contributing the largest share at **31,6%**, followed by **Spain** with **29,6%**, **Slovenia** at **26,8%**, and

Greece at **12%**. This balanced distribution allows for a comparative understanding of green transition efforts across different national contexts. The strong representation from North Macedonia and Spain suggests a high level of engagement with sustainability issues in these countries, while the contributions from Slovenia and Greece ensure broader regional relevance.



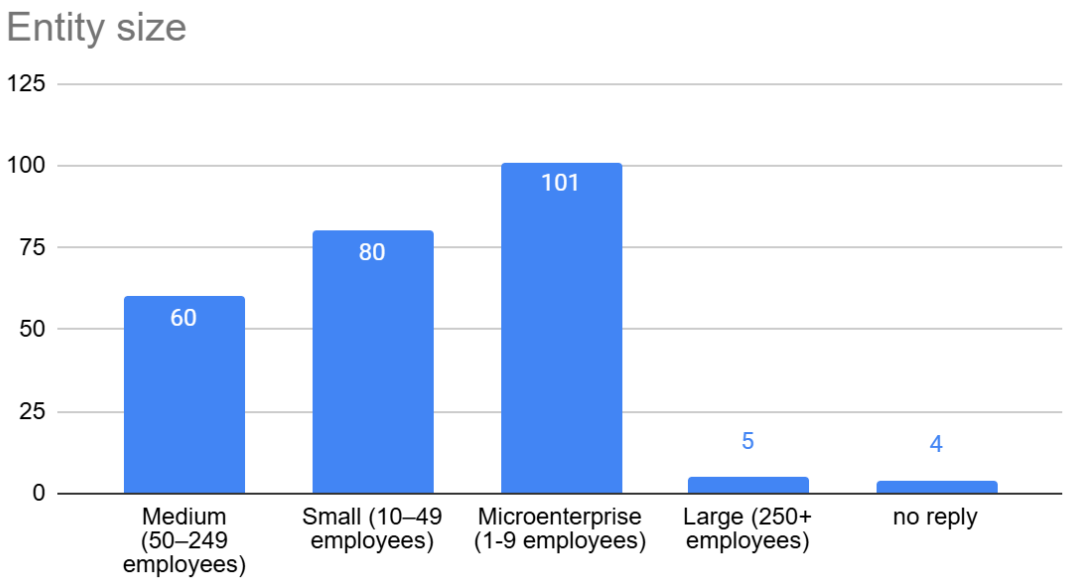
3. INDUSTRY/SECTOR

The survey covered a diverse range of sectors, with **Education and Training** taking the lead at **19,2%** of all respondents. This was followed by **Retail and Consumer Goods** (**17,6%**), **Manufacturing and Industry** (**14,4%**), and **Hospitality and Tourism** (**9,2%**). Other sectors such as **Construction and Infrastructure** made up **7,2%**, while **Agriculture and Forestry** accounted for **6,8%**, and **Transport and logistics** for **6%**. The results reflect a broad engagement across both production and service sectors, highlighting that sustainability is a cross-cutting concern. The strong presence of educational and industrial players suggests a solid foundation for knowledge dissemination and applied implementation in green transition strategies.



4. ENTITY SIZE

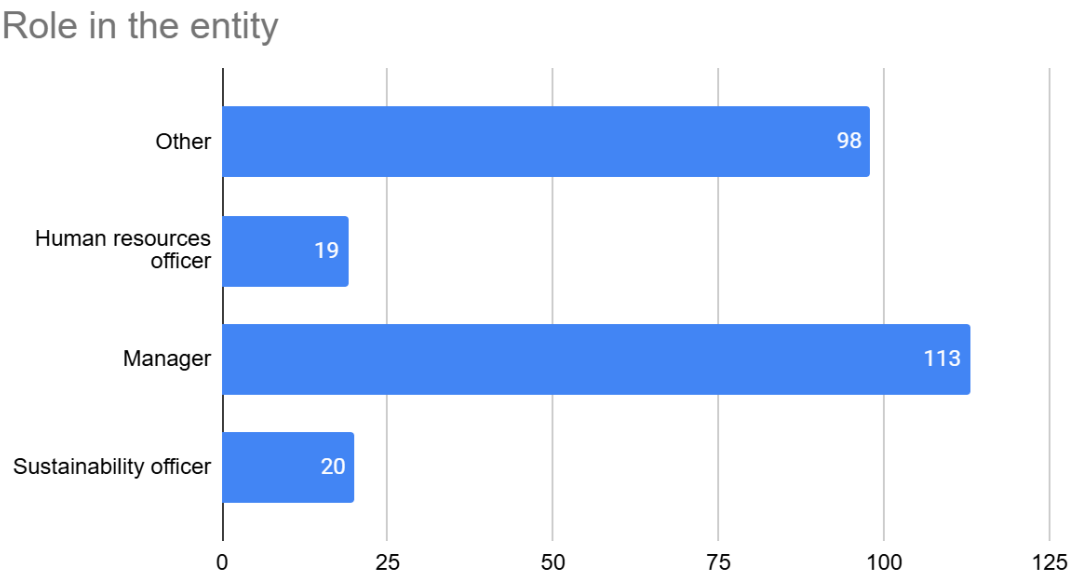
Regarding organizational size, **microenterprises** (1–9 employees) were the **most represented**, with 101 responses, followed by **small enterprises** (10–49 employees) with **80**, and **medium-sized** ones (50–249 employees) with **60** responses. **Large companies** (250+ employees) accounted for **only 5 responses**.



This distribution reaffirms the dominant role of SMEs in the European business landscape and highlights the importance of designing public policies and resources tailored to their capacities. Since these organizations often operate with limited resources, it is crucial to provide them with practical support, accessible tools, and continuous training that allows them to integrate sustainability into their operations without compromising economic viability.

5. ROLE IN THE ENTITY

The largest group of respondents were **managers**, accounting for **113 answers**, followed by **other categories** with **98 replies**. Other key roles included **sustainability/environment managers** (**20**) and **human resources officers** (**19**). This breakdown reflects a strong presence of both strategic and operational personnel, ensuring the survey captures a wide range of perspectives—from leadership to implementation. The noticeable share of sustainability-focused roles also indicates growing internal specialization in environmental topics within SMEs and institutions.

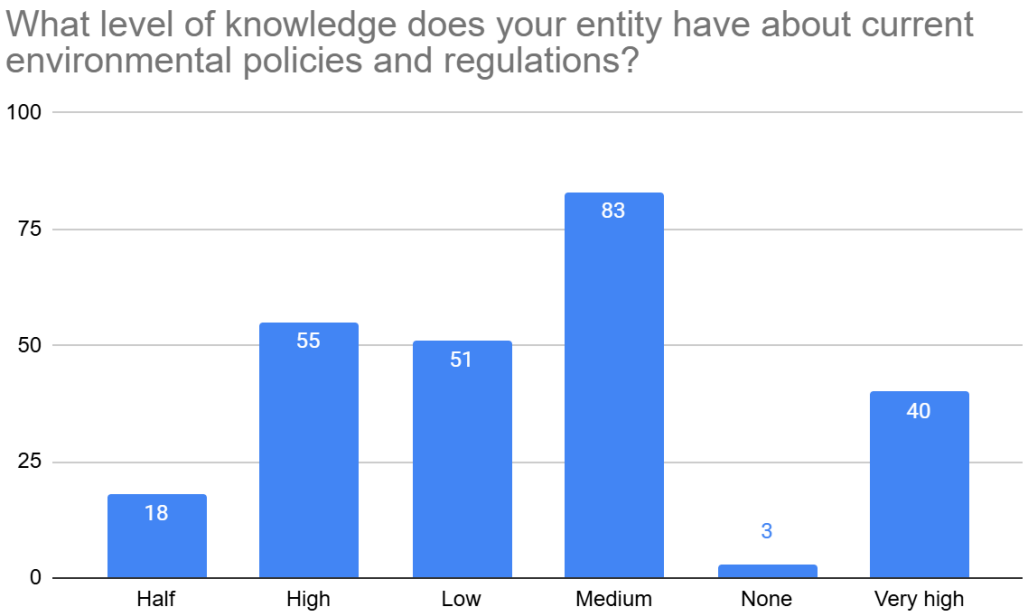


KNOWLEDGE ABOUT ENVIRONMENTAL POLICIES AND IMPACT

6. LEVEL OF KNOWLEDGE OF YOUR ENTITY ABOUT CURRENT ENVIRONMENTAL POLICIES AND REGULATIONS

The majority of respondents — **83** — assessed their entity's knowledge of environmental regulations as **medium**. Meanwhile,55 rated it as **high**, and **51** as **low**, indicating a broad range of understanding. Only **40** considered their knowledge **very high**, while **18** described it as **partial ("half")**. Notably, **3** reported having **no knowledge at all**.

These results demonstrate that while a foundational awareness exists among most entities, deep and comprehensive understanding remains limited. This signals a clear need for focused training and capacity-building to ensure more consistent and informed implementation of

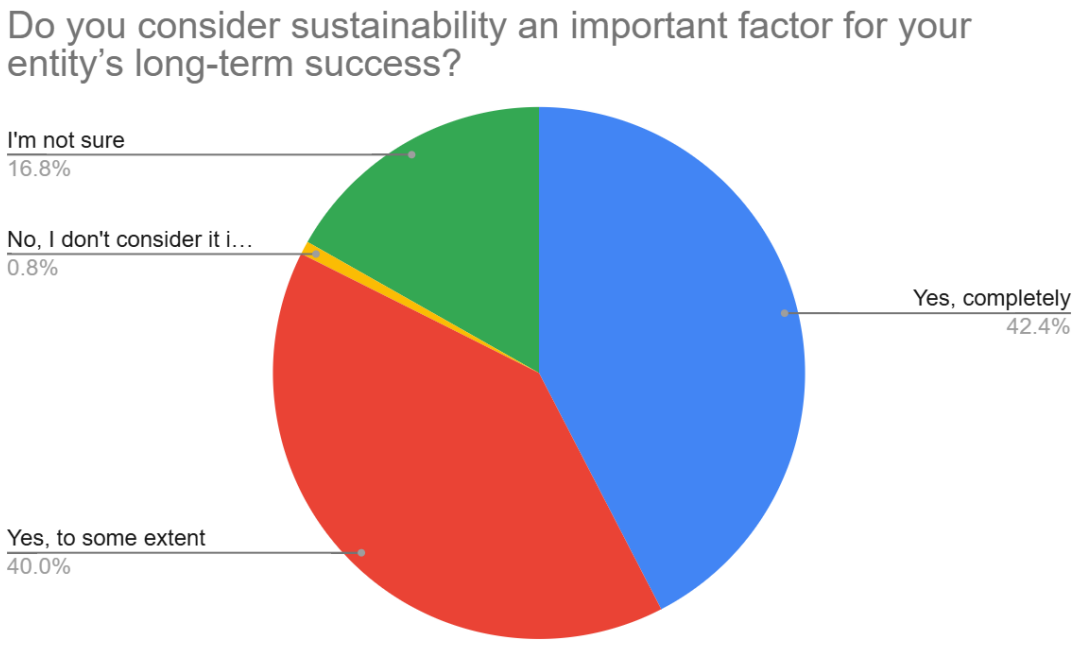


environmental compliance strategies across organizations.

7. DO YOU CONSIDER SUSTAINABILITY AN IMPORTANT FACTOR FOR YOUR ENTITY'S LONG-TERM SUCCESS?

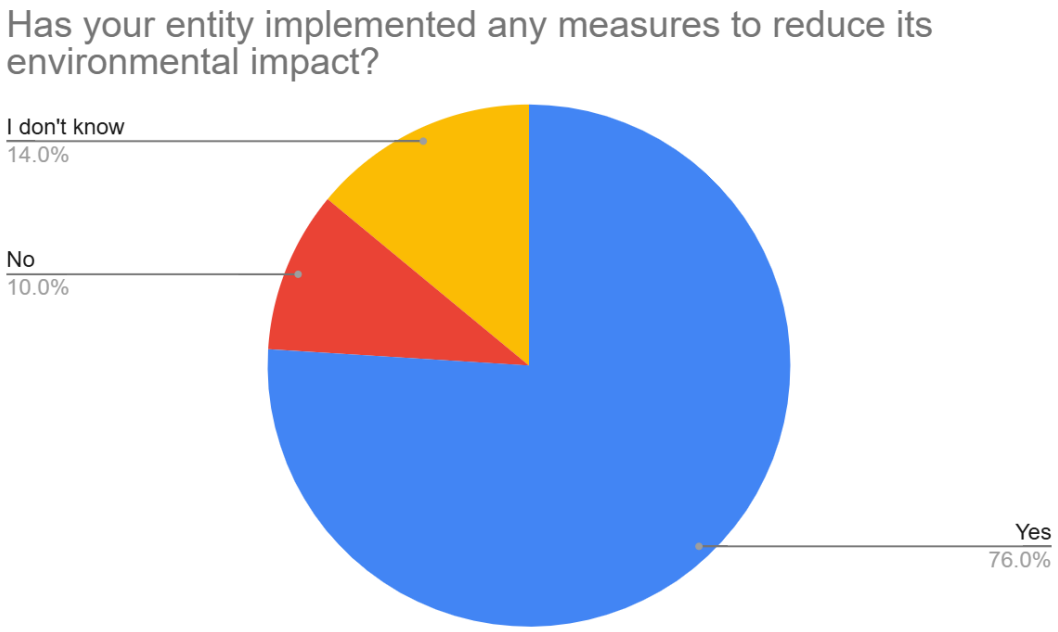
A majority —106 — of respondents believe that sustainability is important **completely** for their organization's long-term success. An additional **100** reported **to some extent**, while only a very small fraction (**2**) stated that sustainability is **not important** to them. Another option that we have to consider is that **42** people replied that they **are not sure** about the role of sustainability in their long-term strategy.

These findings show that sustainability is widely recognized as a strategic factor for resilience and competitiveness. However, the high percentage of uncertain responses suggests that more awareness-building and clarification of sustainability's business benefits are still needed — especially for those who are unsure of its direct relevance to their operational goals.



8. HAS YOUR ENTITY IMPLEMENTED ENVIRONMENTAL IMPACT REDUCTION MEASURES?

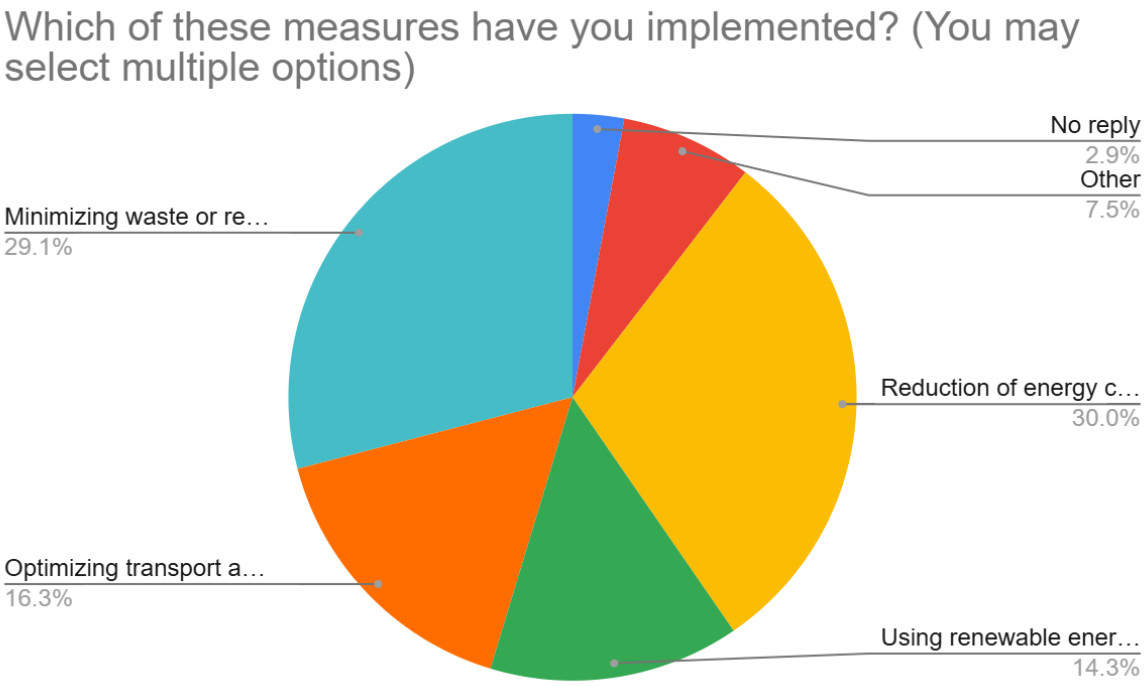
A substantial **190** of respondents confirmed that their entity has already implemented measures to reduce environmental impact. Meanwhile, **35** reported uncertainty (**"I don't know"**), and only **25** stated definitively that **no measures** have been taken.



These numbers reflect a growing commitment among organizations toward sustainability actions. However, the relatively high share of unsure responses suggests either limited internal communication about green initiatives or a lack of formalized sustainability strategies. Strengthening transparency and integrating environmental action into core operations could further boost effectiveness and awareness.

9. WHICH MEASURES HAVE YOU IMPLEMENTED?

Among those who reported taking environmental action, the most common initiative was **Reducing energy consumption** selected by **30%** of respondents. **Waste minimization or recycling** specifically was noted by **29,1%**, **Optimizing transport and logistics** by **16,3%** and **Using renewable energy sources** by **14,3%**. Only **2,9%** decided not to reply, while a **7,5%** selected **"Other"**, indicating other aspects.



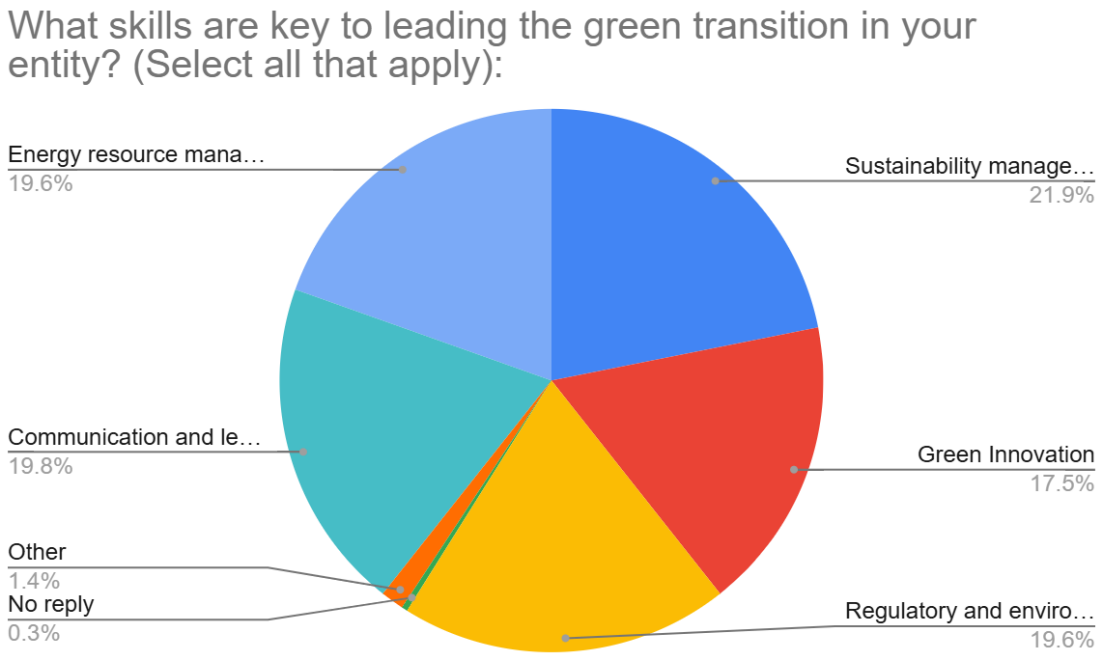
These results show that while practical actions like energy efficiency and waste reduction are widely adopted, there remains a significant share of respondents who are either unaware of what's been implemented or not actively involved in those processes. This underscores the need for better internal coordination, communication, and possibly greater involvement of all staff in sustainability initiatives.

SKILLS NEED FOR GREEN LEADERS

10. WHAT SKILLS ARE KEY TO LEADING THE GREEN TRANSITION IN YOUR ENTITY

An overwhelming majority of respondents highlighted the importance of a comprehensive skill set to lead the green transition effectively. Among the most frequently mentioned competencies were **sustainability management, green innovation, communication and leadership, energy resource management, and regulatory and environmental compliance knowledge**. These five skills appeared consistently across the vast majority of responses, often in combination, underscoring the interconnected nature of the expertise required. While sustainability management and green innovation were the most cited individually, communication and leadership skills also stood out as a recurring theme—often emphasized on their own or paired with technical knowledge. The emphasis on regulatory compliance and energy management further reflects the operational and legal complexities involved in implementing sustainable practices.

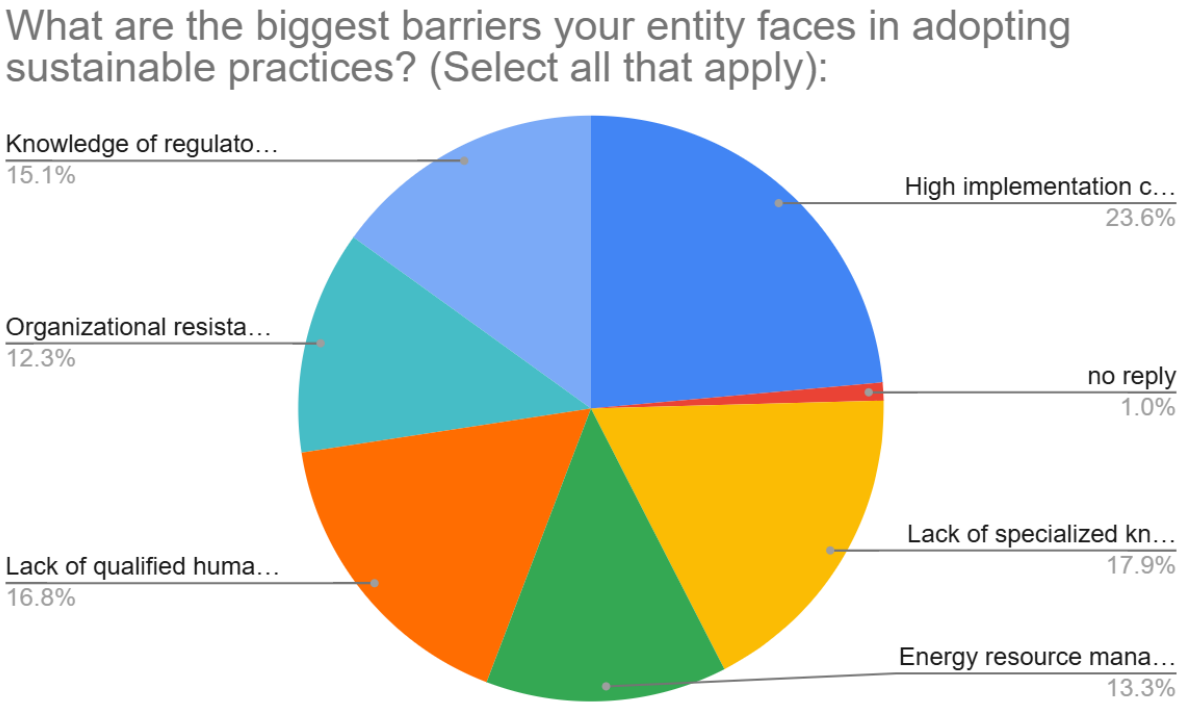
These results reaffirm that the green transition is widely seen as a **multidisciplinary challenge**, one that demands not only environmental or technical knowledge but also strategic thinking, effective leadership, and regulatory awareness. This strongly suggests the need for integrated training programs that combine technical, managerial, and communicative competencies, enabling professionals to address sustainability from multiple angles and apply it meaningfully across diverse sectors.



11. MAIN BARRIERS TO ADOPTING SUSTAINABLE PRACTICES

The data clearly indicates that **high implementation costs** are perceived as the most critical barrier to adopting sustainable practices, overwhelmingly cited by the majority of respondents. However, financial constraints are not the only concern. A considerable portion of participants also pointed to a l**ack of specialized knowledge and insufficient access to qualified human resources**, highlighting significant skills and expertise gaps within organizations. In addition, **challenges in energy resource management and difficulties navigating regulatory and environmental compliance** requirements were frequently mentioned, revealing how operational and legal complexity can hinder sustainability efforts. Furthermore, a notable number of respondents mentioned **organizational resistance**, suggesting that internal culture and readiness for change also play a substantial role in slowing down progress.

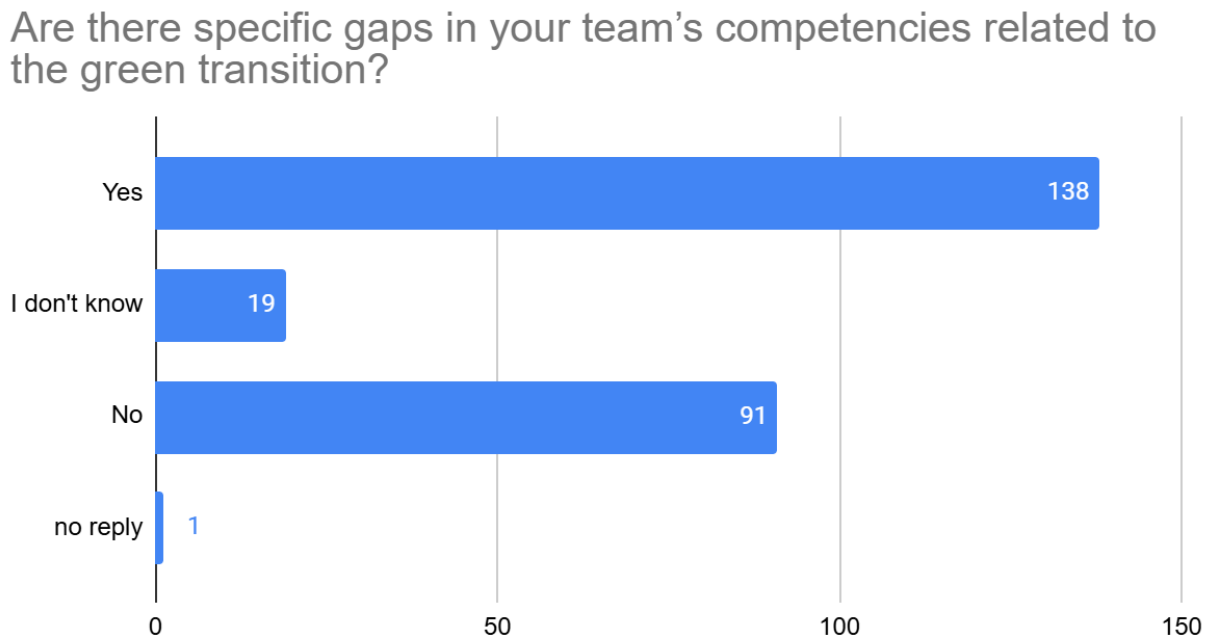
Taken together, these findings illustrate that the path to sustainability is obstructed by a multidimensional set of challenges, rather than a single dominant factor. Addressing these issues will require an integrated response — one that combines financial support, capacity-building and upskilling, regulatory simplification, and cultural change within organizations. Only through this comprehensive approach can the green transition become more accessible and achievable for a broad range of entities.



12. ARE THERE SKILLS GAPS IN YOUR TEAM REGARDING THE GREEN TRANSITION?

A clear majority — **138** — of respondents acknowledged that their teams have **specific competency gaps** related to the green transition. In contrast, **91** indicated that they do **not see any gaps**, and **19** were **uncertain**.

This result highlights a widespread recognition of the need for upskilling and reskilling to meet the demands of sustainability transformations. The relatively high number of "I don't know" responses suggests that some organizations may lack clear internal assessments of their competencies, further underlining the need for structured evaluations and targeted training strategies.



13. SPECIFIC SKILLS GAPS IDENTIFIED

While a majority of respondents acknowledged the presence of skills gaps within their teams, the open-ended responses reveal that these gaps are diverse, multifaceted, and often deeply embedded in both knowledge and practice. Many participants pointed to a **general lack of knowledge about sustainability**, especially in relation to specific regulations, environmental legislation, and how to apply them in real-world contexts. Several comments emphasized that this **lack of awareness** is particularly evident among staff with lower levels of formal education or in organizations where no dedicated sustainability role exists, such as an environmental manager or sustainability officer.

Another recurring theme was the **absence of practical, experience-based training**. Respondents highlighted that while awareness of sustainability is growing, there is a gap between theoretical understanding and practical application — especially in areas like energy efficiency, waste reduction, sustainable materials, and circular economy practices. There is also a sense that existing training offers are either too generic or disconnected from the day-to-day realities of small and medium-sized enterprises (SMEs). Many called for **more hands-on, sector-specific learning opportunities, including peer learning, real case studies, and concrete guidance on implementation.**

Moreover, some responses pointed to **internal organizational challenges**, including lack of initiative, low motivation, or resistance to change from staff. Others noted that the **burden of sustainability often falls on a single individual or department**, making progress difficult without broader team involvement or leadership buy-in. In this context, the demand is not only for technical skills but also for green leadership, change management, and internal communication. Together, these insights suggest that to effectively close the competency gap, interventions must go beyond simple knowledge transfer — they must promote **organizational culture change, encourage cross-functional collaboration, and embed sustainability as a shared responsibility** across all levels of the entity.

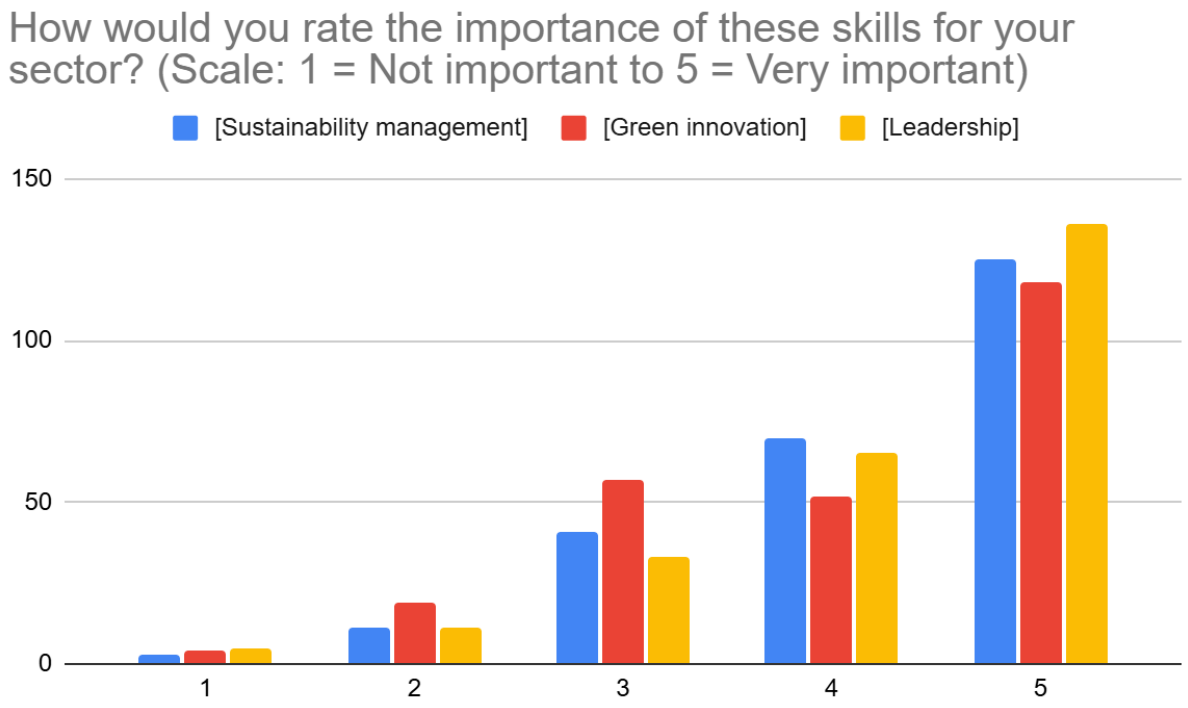
14. IMPORTANCE OF SKILLS: SUSTAINABILITY MANAGEMENT, GREEN INNOVATION AND LEADERSHIP

The data clearly illustrates that Sustainability Management, Green Innovation, and Leadership are all widely regarded as essential competencies for driving the green transition — but with Leadership emerging as the most highly valued skill overall. Looking at the distribution across a 1-to-5 scale (with 5 being “most important”), the vast majority of respondents selected the highest importance level (5) for all three skill areas: **125 for Sustainability Management, 118 for Green Innovation, and 136 for Leadership**. This strong clustering at the top end of the scale demonstrates a near-universal recognition of these skills as critical enablers of effective and lasting sustainability change.

While Sustainability Management and Green Innovation also received high ratings, their mid-scale distributions show slightly more variation, suggesting that while these skills are valued, some respondents may perceive them as more context-dependent or possibly already partially covered within their organizations. Leadership, on the other hand, consistently ranked highest, with fewer responses in the lower ranges and a strong spike at level 5. This reinforces the idea

that sustainability transformation is not just a technical challenge, but also a leadership one — requiring vision, communication, and strategic coordination across teams.

In sum, this data confirms the need for cross-cutting training and capacity-building that addresses not only technical sustainability knowledge and innovation capacity but also empowers individuals to lead change, engage others, and drive action across their organizations.

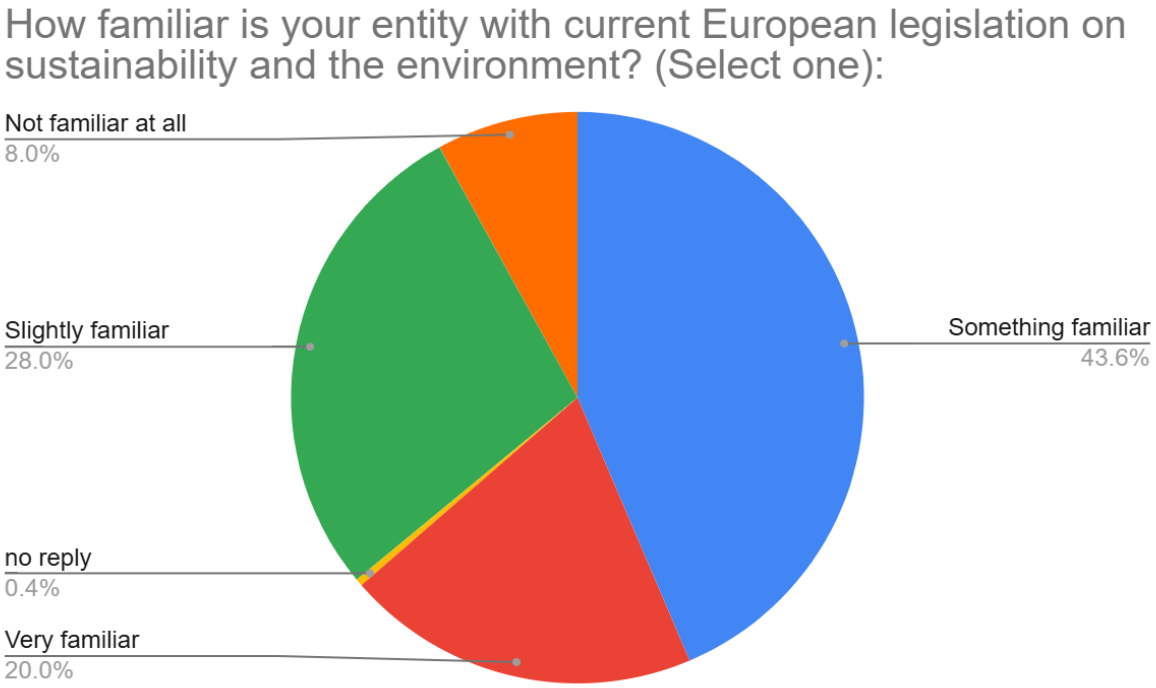


EUROPEAN SUSTAINABILITY LEGISLATION

15. FAMILIARITY WITH CURRENT EUROPEAN LEGISLATION ON SUSTAINABILITY AND ENVIRONMENT

The most common response was **"something familiar"**, chosen by **43,6%** of participants, indicating moderate awareness of EU environmental laws. **28%** reported being only **slightly familiar**, while **20%** considered themselves **very familiar**. A smaller proportion indicated they were **not familiar at all (8%)**.

This distribution shows that while a significant portion of respondents have at least some familiarity with EU sustainability legislation, **in-depth knowledge is relatively limited**. These insights underline the need for better information dissemination and training to ensure businesses can confidently navigate and comply with evolving legal frameworks.

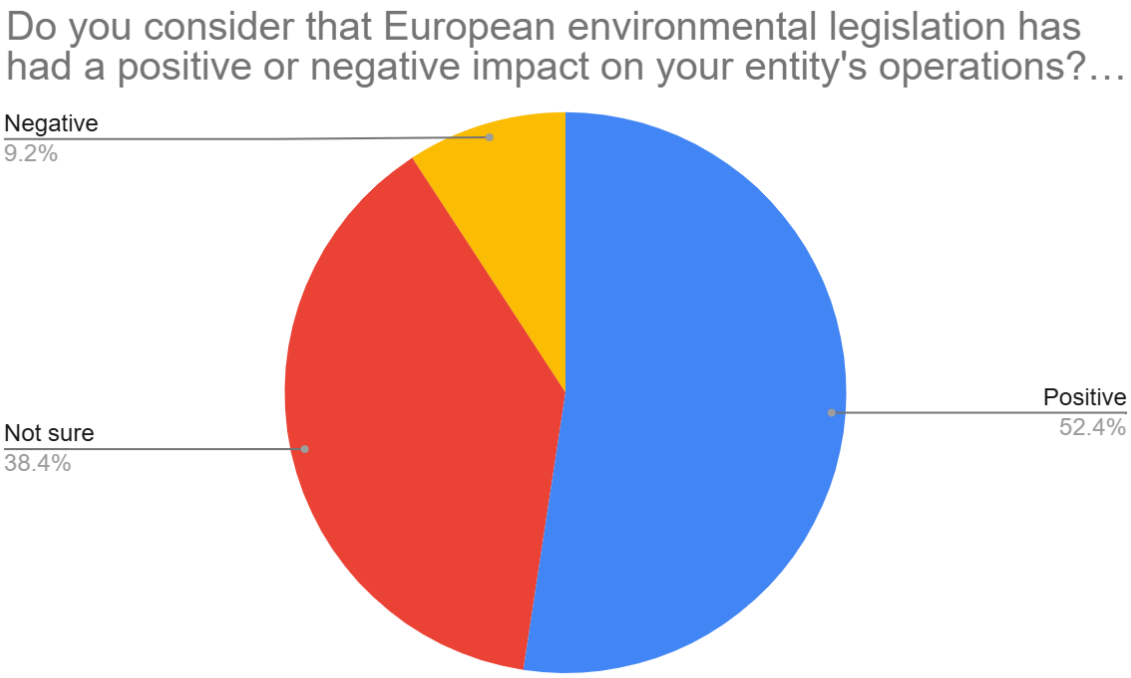


16. PERCEIVED IMPACT OF EUROPEAN LEGISLATION ON THE ENTITY

A majority of respondents (**52,4%**) believe that European environmental legislation has had a **positive** impact on their entity's operations. An additional **38,4%** are **unsure**, and only **9,2%** considered the impact to be **negative**. These results suggest that most SMEs recognize the constructive role of EU environmental regulations, particularly in helping to align business practices with broader sustainability objectives. Many likely see these policies as providing a

clear framework for responsible operations, resource efficiency, and long-term environmental compliance.

However, the relatively high level of uncertainty — combined with the small but notable share of negative perceptions — indicates that more effort is needed to communicate the practical benefits and requirements of EU legislation. This includes helping organizations better understand how regulations apply to their specific context, what support mechanisms exist to ease compliance, and how legal obligations can be translated into competitive advantages such as innovation, funding access, or improved brand value.

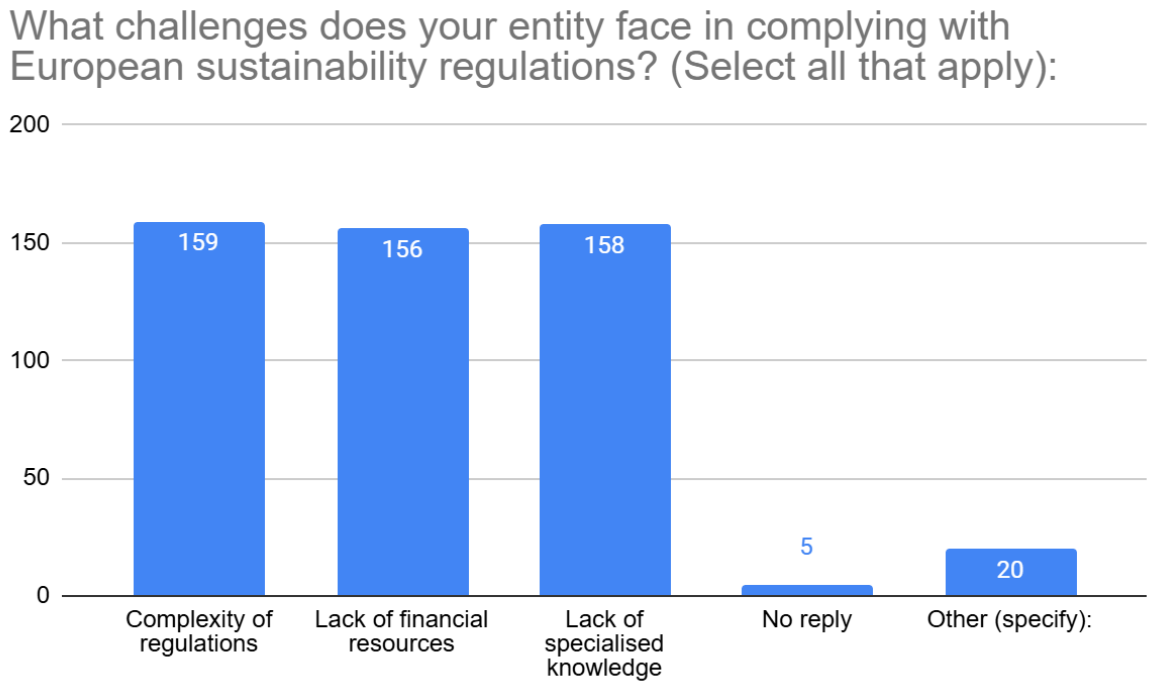


17. CHALLENGES IN COMPLYING WITH EUROPEAN REGULATIONS

The majority of respondents (**66,3%**) selected a **combination of barriers** as their main challenge, including **lack of financial resources**, **lack of specialized knowledge**, and **regulatory complexity**. More specific responses identified **lack of specialized knowledge** alone (**16,8%**), followed by **regulatory complexity** alone (**11,6%**), and **"Other"** (**5,3%**).

These findings clearly demonstrate that compliance with sustainability regulations is hindered by **both technical and structural limitations**. Addressing these barriers will require coordinated support in the form of simplified legal guidance, targeted education, and financial assistance for implementation—particularly for SMEs with limited internal capacity.

In addition to the predefined categories, several respondents selected “Other” and provided a variety of comments that point to deeper contextual and organizational barriers. These included expressions of uncertainty or lack of clarity about expectations, as well as internal constraints such as limited time, staff shortages, or lack of focus. Some also mentioned broader systemic issues, such as competitive pressures to exploit public funding or a general lack of engagement within their teams. These insights suggest that beyond formal barriers, many SMEs also face soft obstacles like unclear objectives, competing priorities, or insufficient strategic alignment. This highlights the need for more tailored support tools, including examples of good practice, peer learning, and sector-specific dialogue, to help businesses define their sustainability goals and translate them into actionable plans.

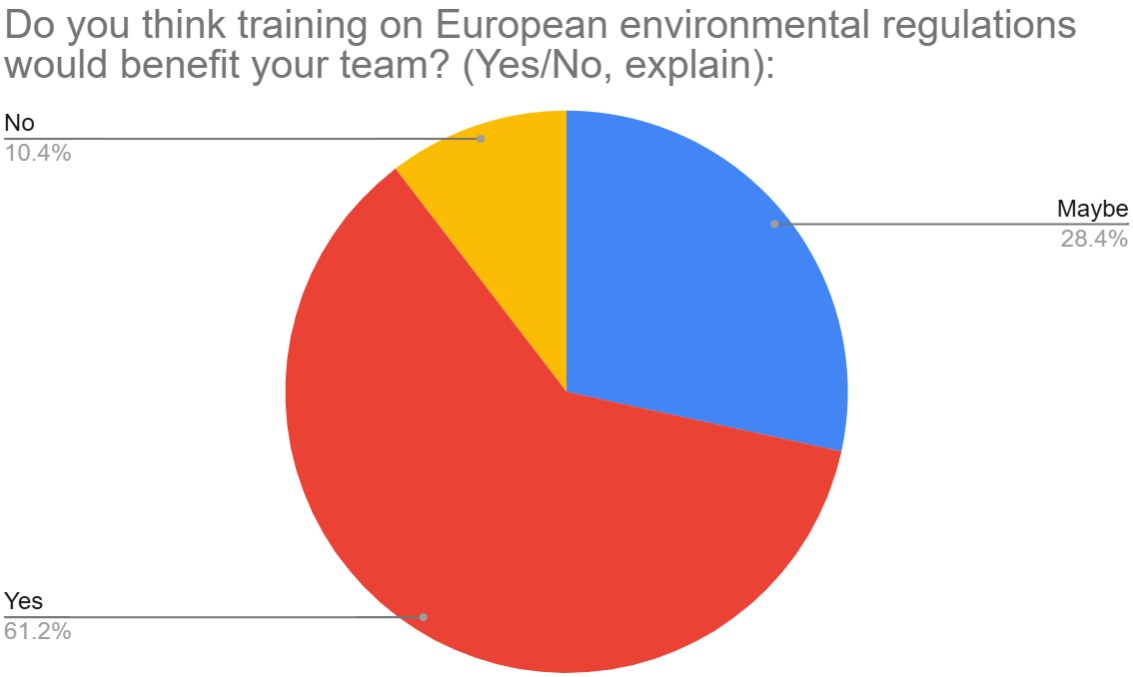


18. WOULD TRAINING ON EU ENVIRONMENTAL REGULATIONS BENEFIT YOUR TEAM?

More than half of the respondents (**61,2%**) believe that **training on European environmental regulations would benefit their team**. Another **28,4%** answered **“maybe”**, showing interest but likely dependent on content or delivery format. Meanwhile, only a small portion (**10,4%**) responded **“no”**.

These results highlight a strong demand for **educational support tailored to real-world implementation** of EU environmental policies. The relatively high number of hesitant or

uncertain responses suggests that, for maximum effectiveness, such training should be practical, sector-specific, and directly linked to everyday business operations.



19. PERCEIVED OPPORTUNITIES IN EU ENVIRONMENTAL REGULATIONS

Responses to this question reveal mixed perceptions regarding the opportunities offered by European environmental regulations. While many respondents expressed uncertainty or lacked awareness, others highlighted clear benefits such as improved competitiveness, customer trust, and enhanced reputation through compliance with EU standards.

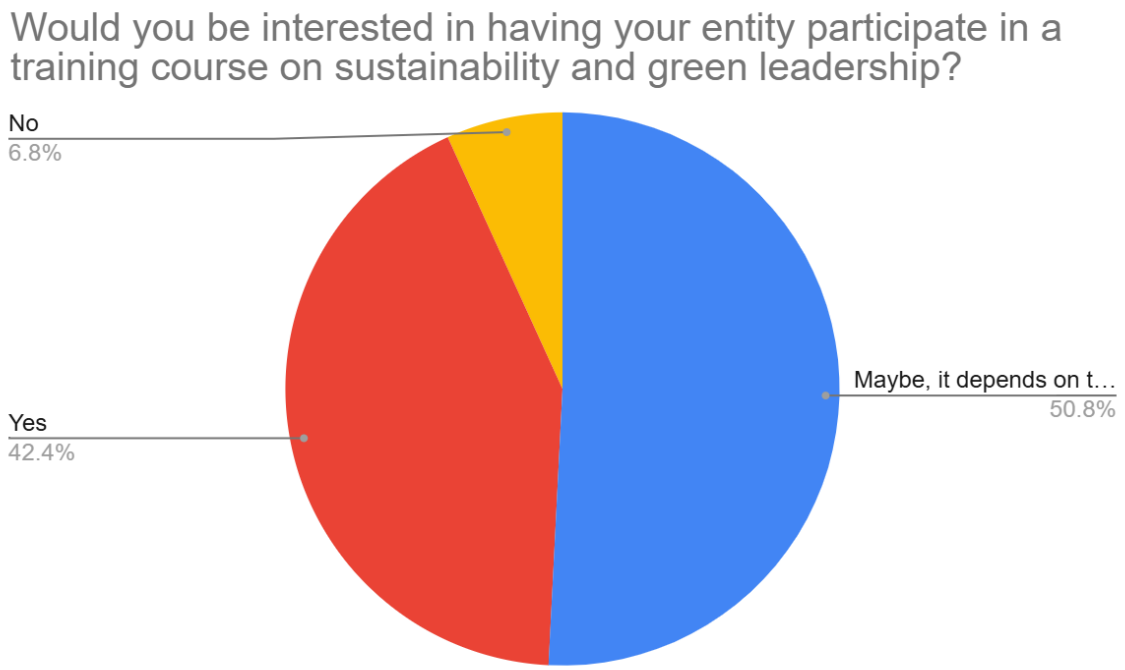
Several respondents pointed to o**perational advantages, including resource efficiency, energy savings, and the potential to access funding and innovation opportunities** tied to green and digital transitions. EU regulations were also seen as **encouraging modernization and more sustainable business models**. However, many comments underscored **barriers to accessing these opportunities, including limited knowledge, bureaucratic challenges, and unfair competition** from imports not subject to the same standards. Some SMEs also cited difficulties with **national-level implementation or a lack of time and internal resources**.

INTEREST IN TRAINING

20. INTEREST IN PARTICIPATING IN A SUSTAINABILITY AND GREEN LEADERSHIP COURSE

More than half of the respondents (**50,8%**) expressed **conditional interest** in participating in a training course on sustainability and green leadership — depending on the course content. Additionally, **42,4%** gave a clear **"yes"**, confirming strong enthusiasm and demand. Only a small minority (**6,8%**) indicated **no interest**.

These results show a very positive outlook on training opportunities, with the vast majority open to further learning. It also suggests that the **relevance and customization of content** will be key to maximizing participation and engagement.



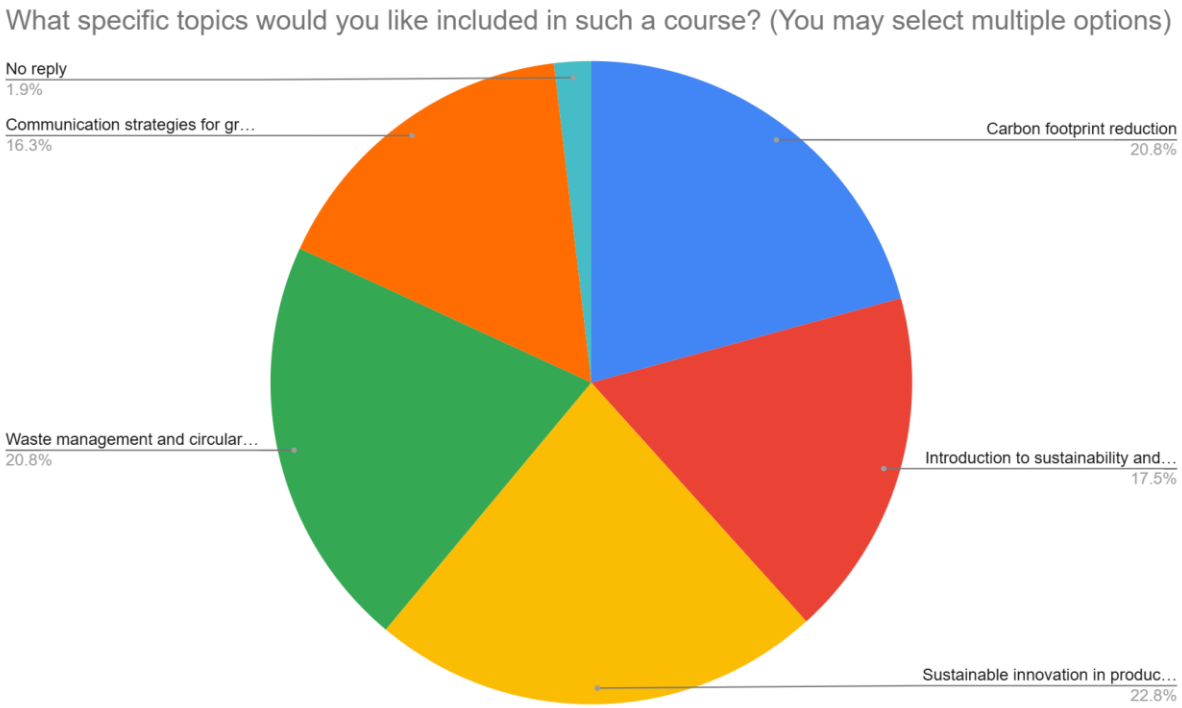
21. PREFERRED TOPICS FOR THE TRAINING COURSE

Participants were asked to select from a list of five key topics and to suggest any additional issues they considered relevant for a training course on sustainability. The responses show strong overall interest in all proposed topics, with the highest number of selections going to:

- Carbon footprint reduction
- Sustainable innovation in products and services
- Waste management and the circular economy
- Communication strategies for green initiatives

- Introduction to sustainability and its benefits for SMEs

A large number of respondents selected multiple or all the options, reflecting a broad understanding of the interconnected challenges and opportunities linked to the green transition. Notably, many also emphasized that these areas should be approached not just from an introductory perspective, but through technical, hands-on, and sector-specific training.



In the open comment section, respondents suggested additional themes such as **ecolabelling, green procurement, sustainable mobility, and planning and investment strategies for environmental improvements**. Others underlined the need for real-world case studies, regulatory guidance, and methods for measuring sustainability outcomes. A few called for training that goes beyond awareness, incorporating practical tools and solutions that can be directly applied in daily operations.

CONCLUSION

The GREENLEAD survey results offer critical insights that directly inform the creation of a new professional profile: the "Green Leader." With 250 responses collected from SMEs and VET institutions across Spain, North Macedonia, Slovenia, and Greece, the survey highlights both shared challenges and region-specific dynamics shaping the transition toward sustainability. These findings form the foundation for developing a comprehensive competency framework and training curriculum that responds to the real needs of those driving the green transition on the ground.

One of the most prominent insights is the widespread acknowledgment of sustainability as a key driver of long-term success. Respondents overwhelmingly confirmed that sustainability is integral to their strategic vision. Moreover, many have already taken measures such as reducing energy consumption and improving waste management. However, the adoption of further sustainability practices is hindered by structural and operational barriers—including high implementation costs, limited financial and human resources, and a lack of specialized knowledge. These obstacles underscore the need for a professional who not only understands sustainability from a technical and regulatory standpoint but can also lead change within their organization.

The Green Leader, therefore, must embody a unique blend of competencies. Survey participants repeatedly emphasized the importance of sustainability management, green innovation, energy resource management, and environmental regulatory compliance. In addition, leadership and communication emerged as the most valued cross-cutting skills—pointing to the need for individuals who can inspire, guide, and align teams across different departments. These competencies should be core pillars in the design of the Green Leader profile, as they enable professionals to bridge the gap between vision and action.

Equally essential is the Green Leader's ability to navigate and implement European environmental legislation. While the majority of respondents expressed a positive view of these regulations, many also admitted to a limited understanding of their practical implications. As such, the Green Leader must be equipped to interpret EU laws, translate them into actionable strategies, and use them to unlock opportunities for funding, innovation, and competitive advantage.

Interest in a structured, high-quality training course on green leadership was strong, with over 93% of participants indicating a willingness to engage. Preferred topics included carbon footprint reduction, sustainable innovation, circular economy practices, communication strategies, and the benefits of sustainability for SMEs. Importantly, respondents called for

training that is not merely introductory but technical, hands-on, and applicable to real-world business contexts. They also expressed a desire for training to include additional areas such as ecolabelling, sustainable mobility, and regulatory navigation—highlighting the need for a competency framework that is both comprehensive and adaptable.

Ultimately, the survey results validate the need for the Green Leader as a new professional role—one that integrates technical expertise, regulatory understanding, strategic thinking, and the soft skills necessary to drive organizational change. The forthcoming competency framework should reflect this complexity, offering a clear roadmap for the development of skills through modular, practical, and sector-sensitive training. In doing so, the GREENLEAD project will contribute to shaping a generation of professionals capable of embedding sustainability at the core of business operations—thereby aligning with EU climate objectives and ensuring a resilient, future-ready economy.