

Training needs in Green Competences and Entrepreneurship for the European young rural population

















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#### 1. INTRODUCTION

The Green Up Yourself project is part of the "Erasmus +" programme. Its main objective is to promote entrepreneurship and employability of young people living in rural areas in the European Union (EU).

The project aims to develop a training programme designed to promote the employability of young rural people in green jobs and entrepreneurship, based on the results of extensive research, which are presented in this report.

Therefore, the aim of this study is to identify the training needs in relation to the competences described by the European Green Competences (GreenComp) and Entrepreneurship (EntreComp) frameworks among the young rural population, to collect Best Practices on green entrepreneurship and to identify green employment niches in each of the participating countries.

The project led by Spain through the Fundación Santa María la Real (FSMLR) has the participation of five entities distributed in different EU member countries, which are: Cyprus(CARDET)<sup>1</sup>, Slovenia (STEP)<sup>2</sup>, Greece (iED)<sup>3</sup>, Italy (CIAPE)<sup>4</sup>, North Macedonia<sup>5</sup> (LAG)<sup>6</sup>, countries in which this research has been carried out and whose entities have been involved in the collection of the information obtained.

This document compiles the objectives of the project in section two, followed by the methodology used, which is detailed in the third section; the fourth section presents the state of the art on youth and rural green employment and entrepreneurship and the existing training needs; the fifth section reflects the results obtained, subdivided into three sections; the sixth section concludes with the main findings of the research and finally the last section presents the recommendations to be taken into account for the development of the training programme.

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<sup>&</sup>lt;sup>1</sup> Centre for Advancement of Research and Development in Educational Technology LTD-CARDET.

<sup>&</sup>lt;sup>2</sup> STEP Institut, zavod za psihologijo dela in podjetnistvo.

<sup>&</sup>lt;sup>3</sup> Institute of Entrepreneurship Development.

<sup>&</sup>lt;sup>4</sup> CIAPE - Centro Italiano per l'aprendimento permanente.

<sup>&</sup>lt;sup>5</sup> According to the Council of the European Union, North Macedonia is in the process of joining the EU and has had candidate country status since December 2005. <a href="https://bit.ly/471a4zz">https://bit.ly/471a4zz</a>

<sup>&</sup>lt;sup>6</sup> LAG Aaro Lider Krivoaastani.

#### 2. PROJECT OBJECTIVES

The General Objective of the Green Up Yourself project is "To boost the entrepreneurship and employability of young people living in rural areas in the European Union through training in green and entrepreneurial skills, as well as through the promotion of green entrepreneurship".

Specifically, this report aims to respond to Specific Objective 1, which consists of "Identifying training needs, green employment niches and good practices related to green employment in the European Union" in order to develop a training module aimed at young people living in rural areas and to promote their employability and green entrepreneurship in the EU.

This training programme will draw on the research presented here, which includes an updated "State of the Art" on green jobs and entrepreneurship in the six participating EU member countries. It will also help to determine the contents that should shape the learning units of the training programme and will highlight innovative initiatives related to green jobs and entrepreneurship.

#### 3. METHODOLOGY

In order to achieve this objective, a **mixed methodology** has been used, consisting of several techniques that combine the review of secondary sources and both quantitative and qualitative methods, which have been divided into the following phases:

#### 1. Secondary sources review phase:

First, a preliminary study was carried out on the current situation of green employment in Europe and the entrepreneurial characteristics of the project partner countries and, finally, a literature review of the opportunities offered by young, green and rural entrepreneurship was carried out. In total, 83 bibliographical references have been reviewed. Secondly, after this review, emerging green employment niches and possible training to access them were identified, which were later complemented with the information obtained from the interviews.

#### 2. Best practice collection phase:

The entities participating in **the project have collected a total of 68 good practices of green business**<sup>7</sup>, among which initiatives promoted by young people and/or implemented in rural areas have been considered.

#### 3. Quantitative analysis phase:

Once the context of youth and rural employment and green entrepreneurship in the six EU member states participating in the project had been analysed, the quantitative techniques were implemented, carrying out a total of 4 surveys to different profiles and reaching a total of 430 participants: 322 young people from rural environments<sup>8</sup>, 14

<sup>&</sup>lt;sup>7</sup> To be considered "green" businesses, they must engage in one or more of the following activities, as defined by the ILO (2016): increase the efficiency of energy and raw material consumption; contribute to limiting greenhouse gas emissions; minimise waste and pollution; and, contribute to protecting and restoring ecosystems.

<sup>&</sup>lt;sup>8</sup> For the selection of the rural population, the DEGree of URBAnisation (DEGURBA) classification has been followed, identifying those young people living in categories 2 and 3, i.e. those residing in intermediate density areas (where less than 50% of the population lives in rural cells and less than 50% in high density

companies belonging to green sectors, 71 professionals working with young and rural population and 23 professionals from public administration and third sector<sup>9</sup>.

#### 4. Qualitative analysis phase:

Fourthly, in order to deepen the information previously detected, **32 interviews** were carried out: 12 with young rural people; 11 with professionals working with young rural people or with an interest in working in rural areas; and 9 with green companies whose main activities are related to caring for the planet.

#### 5. Final analysis phase:

Finally, the information obtained through the different research methodologies has been triangulated in order to reproduce this analysis in the results section. And this report has been prepared, concluding with a set of recommendations to be followed for the development of the subsequent training module.

#### 4. STATE OF THE ART

#### 4.1. GREEN JOBS IN EUROPE, ORIGIN AND DEFINITION

The intensifying effects of climate change at the global level have promoted increasing political commitments dedicated to preserving biodiversity and stopping environmental degradation. In 2015, the Paris Agreement was adopted at the international level, a treaty committed to stopping and reducing the global average temperature (United Nations, 2015) and, since then, reducing the number of greenhouse gas (GHG) emissions has become a priority for Europe, where various directives and regulations have been developed with the aim of leading the energy transition towards greater use of renewable energies, committing to achieve climate neutrality by 2050 (European Commission, 2019).

This context has, over the last two decades, driven the emergence of new jobs focused on achieving and contributing to more sustainable development, popularly known as "green jobs". Currently, there is no unified definition of what is considered a green job, but there is a unified definition of the activities involved. Institutions such as the International Labour Organization (ILO) and the United Nations Environment Programme (UNEP) identify green jobs as those that contribute to achieving sustainable development, i.e. those "decent jobs that contribute to preserving and restoring the environment" (ILO, 2016:1). These jobs can be located either in traditional sectors, such as manufacturing or construction, or in new and emerging sectors, such as renewable energy and energy efficiency (UNEP, 2008). Therefore, in the context of this project, green jobs have been considered to be all those, regardless of the sector in which they are located, that allow the performance of one or more of the activities envisaged by the ILO (2016) presented in Figure 1:

clusters); and sparsely populated areas (where more than 50% of the population lives in rural cells) (Eurostat, 2022).

<sup>&</sup>lt;sup>9</sup> Note: The surveys were translated from English by each entity into their national language, with the exception of Italy and Slovenia, where the surveys were distributed in English. In the case of Cyprus, the surveys were translated into Greek.

Figure 1. List of green jobs



Source: own elaboration

Internationally, tens of millions of green jobs have been created and are expected to grow even further (UNEP, 2011), potentially creating up to 24 million jobs by 2030 globally (ILO, 2018). The European Green Deal (European Commission, 2019) establishes that the transition to a new decarbonised economy must be fair, especially for those groups negatively affected by the transition and those located in more vulnerable geographical areas, such as rural areas (ILO, 2018).

# 4.2. OPPORTUNITIES FOR GREEN ENTREPRENEURSHIP AMONG EUROPEAN YOUTH AND IN RURAL AREAS

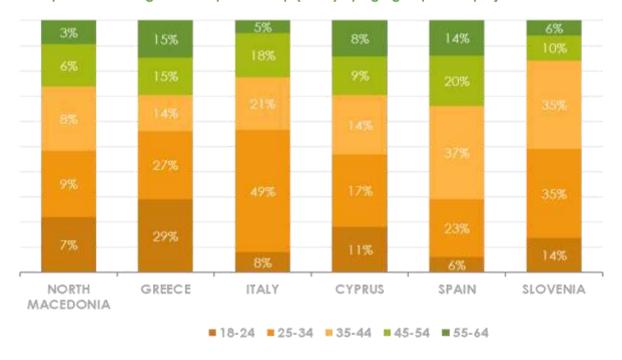
#### 4.2.1. ENTREPRENEURSHIP AMONG EUROPEAN YOUTH

According to the Global Entrepreneurship Monitor (GEM), the leading global benchmark on the state of entrepreneurship, entrepreneurship refers to the process in which a person becomes the owner, co-owner or founder of one or more businesses that have persisted in the market for a period of between 0 and 42 months (3.5 years) (GEM, 2023a). Green entrepreneurship is thus understood as the foundation of a business dedicated to preserving and/or restoring the environment. Entrepreneurial profiles are very diverse and refer to those people who are in the initial stages of consolidating a company (Díaz-Catalán and Díaz-Chorne, 2016).

According to GEM, entrepreneurial initiative is associated with factors related to the characteristics of the individual, on the one hand, and to the favourable conditions offered by the environment, on the other (GEM, 2023b), and it will depend on the tools and instruments provided by the government that this entrepreneurial activity will achieve greater or lesser development (González-Morales et al., 2020). With regard to the characteristics of the individual, the profile of young entrepreneurs is characterised by their greater enthusiasm and knowledge of new trends and technologies, even though they have less knowledge and experience in the business world (GEM, 2023a); their motivations are more linked to non-monetary reasons, such as the desire for autonomy, self-realisation, usefulness and worth (Soto-

Simeone and Kautonen, 2020). With regard to the conditions provided by the context, in Europe there are various lines of action to promote entrepreneurship motivated by the European 2020 strategy (European Commission, 2010) which, in collaboration with the Organisation for Economic Cooperation and Development (OECD), includes lines of funding for the member countries of the European Union to improve their policies and measures to support entrepreneurship. Microfinance has so far been one of the most important European instruments to stimulate business creation (González-Morales et al., 2020) and certain groups, such as the young population or women, have specific lines of financing to promote young and equitable entrepreneurship (European Commission, 2010).

However, there are significant differences in the situation of entrepreneurship among EU member states, with those lines of action present in countries belonging to the Eurozone being more favourable (Serrasqueiro et al., 2018; González-Morales et al., 2020). According to the latest report published by GEM, in general terms, young people aged 18-35 are more likely to start new businesses, with a Total early-stage Entrepreneurial Activity (TEA) higher than the population aged 35-64 in 37 of the 49 EU economies. This situation puts those countries with a larger presence of young people in a more advantageous situation for entrepreneurship, to the detriment of those with an older population, as is the case in most Northern European countries (GEM, 2023a). In line with the indicator proposed by GEM to measure entrepreneurship at the national level, we present below the Total early-stage Entrepreneurial Activity (TEA) rates of the project member countries: North Macedonia, Greece, Italy, Cyprus, Spain and Slovenia.



Graph 1. Percentage of entrepreneurship ("TEA") by age group in the project countries

Source: Own elaboration based on national GEM reports for Spain (OEE, 2023), Italy (FAM, 2020), Slovenia (Širec, K. and Crnogaj, 2023), Greece (Yiotopoulos et al., 2019), Cyprus (Polyviou et al., 2021) and North Macedonia (GEM, 2014). This graph has been produced using the most up-to-date age-disaggregated Total early-stage Entrepreneurial Activity (TEA) data available for each country. In the cases of Greece, Italy, Spain and Slovenia, the TEA has been calculated based on the total number of entrepreneurs. In the cases of Cyprus and North Macedonia, the TEA has been calculated in relation to the total population of the different age groups.

Generally, in more developed regions, entrepreneurship seems to be led by adults, while in developing countries, entrepreneurship is more prevalent among young people (GEM, 2019). However, the present research shows that there are important differences between the project member countries; in the case of **Greece**, it is the country where we find the highest level of entrepreneurship among the youngest population (aged 18-24), followed by younger adults (aged 25-34) who predominate in **Italy** (49%), **Cyprus** (17%), **North Macedonia** (9%) and **Slovenia** (35%). The prevalence of older entrepreneurs (35-44) is highest in **Slovenia** (35%) and **Spain** (37%).

In **Greece**, we find a higher level of early-stage entrepreneurship among the younger population, possibly motivated by the country's high youth unemployment. However, this situation risks not being favourable, as early entrepreneurship may increase the risk of failure due to the limited experience and training of entrepreneurs, despite the passion and dynamism associated with youth (Yiotopoulos et al., 2019). In the case of **Italy**, entrepreneurial activity has decreased in both older and younger age groups, according to the latest available data for 2019, with **limited opportunities to gain work experience and late access to the labour market being some of the factors that have led to a lower level of entrepreneurship among the young population (FAM, 2020). In the same way, figures from <b>Cyprus and North Macedonia** reflect the interest of young people and young adults in entrepreneurship during the early stages of their professional careers (GEM, 2014; Polyviou et al., 2021).

In the same line, the case of **Slovenia** illustrates how, despite the ageing of the population, those between 25 and 44 years of age are more likely to be entrepreneurs (Širec, K. and Crnogaj, 2023), similar to the case of **Spain**, which presents a scenario more opposite to the rest of the members, with a predominance of adult entrepreneurs between 35 and 44 years of age. The young population, on the other hand, is predominant among those businesses associated with medium-high technological levels, mostly driven by young men (OEE, 2023).

In terms of observed gender differences, we find that **men**, in general, **are still more likely to be entrepreneurs** and for every 7 men, 4 women are entrepreneurs, according to the most recent data from 2022 (GEM, 2023a).

#### 4.2.2. YOUTH AND GREEN ENTREPRENEURSHIP IN RURAL AREAS

Since the publication of the Green Paper in 2003 and the European Entrepreneurship Programme in 2004, the importance of fostering entrepreneurship has been highlighted as a contribution to rural development and to achieving sustainable and inclusive growth, both objectives of the Europe 2020 strategy (European Commission, 2010). For this reason, the promotion of rural entrepreneurship and the creation of new green businesses are at the heart of this strategy, which includes specific support for this purpose in the framework of rural development programmes, co-financed by the European Agricultural Fund for Rural Development (EAFRD) (EU, 2013).

However, the conditions for rural entrepreneurship have not been favourable due to an ageing population and increasing competitiveness as a result of globalisation (EU, 2012), leading to a decline in agricultural employment and incomes. In 2007, 82% of employment in European rural areas was in non-farming sectors and 35% of farmers were engaged in other additional gainful activity (European Commission, 2017). This situation has encouraged the implementation of concrete policy measures by EU member states to promote innovation in agribusiness start-ups, especially (EU, 2012), while seeking to foster entrepreneurship among young people (European Commission, 2010).

Unfortunately, the predominant context of depopulation of rural areas in Europe (European Commission, 2021) means that the rural entrepreneurial population faces particular challenges such as accessibility, low population density or socio-economic structure (EU, 2012), presenting an even more complex scenario for young rural entrepreneurs. Fewer and fewer young farmers are interested in continuing the family farming tradition and the barriers to entry for new young people interested in the sector are increasing, such as difficulties in accessing land, credit and low rates of return for agricultural enterprises (EU, 2012).

Fortunately, the rise of teleworking, the diversification of rural economies and green businesses are favouring opportunities for entrepreneurship in rural areas. With the possibility of teleworking, more and more young people are considering returning to rural areas and starting a business in these environments, with agri-food and tourism entrepreneurship being the most popular, especially in the case of Spain (UPTA, 2020). For their part, European funds aimed at rural development (EAFRD) are encouraging the creation of new economic activities and diversifying non-agricultural activities, with an emphasis on facilitating the integration of young people and women in rural areas, promoting their entrepreneurial spirit while at the same time managing resources sustainably (EU, 2013).

This context creates a scenario in which, despite the difficulties inherent to the rural environment, the emerging global challenges linked to food security, biodiversity conservation and climate change, present new **opportunities in terms of green employment and entrepreneurship, given their essential links with key raw materials** and even tourism and leisure activities (EU, 2012).

#### 4.3. TRAINING NEEDS FOR GREEN JOBS AND ENTREPRENEURSHIP

The decarbonisation of the economy is bringing about major changes in the labour market due to its impact on the entire production system (Government of Spain, 2016; 2019) which, in turn, will require new training needs (CEDEFOP, 2022) not only linked to the creation of businesses, but also to the search for more sustainable, or green, entrepreneurship that will contribute to the transition towards a new decarbonised economy (European Commission, 2019). In this sense, the European Union has published two competence models that contribute to achieving this goal: the **GreenComp** sustainability competence framework (European Commission, 2022a) and the **EntreComp** entrepreneurial competence framework (Bacigalupo et al., 2016).

The GreenComp framework of sustainability competences, also known as green competences, has been recommended for capacity building around learning for environmental sustainability and is understood as knowledge, skills and attitudes, which reflect an appreciation of and commitment to take action to protect the planet (European Commission, 2022a). This framework includes a total of 12 competences, grouped into 4 areas, presented in table 1 below:

Table 1. Sustainability competences according to the GreenComp framework:

AREAS OF COMPETENCE	COMPETENCE	DESCRIPTION			
Competences related to valuing sustainability	Valuing sustainability	Reflection on own actions and their impact			
	Supporting fairness	Understanding the linkage between environmental and social justice			
	Promoting nature	Reflecting an empathetic attitude towards the planet			
Competences related to embracing complexity in sustainability	Systems thinking	Understanding the interconnection between systems			
	Critical thinking	Ability to question and confront uncertainty			
	Problem framing Identification of problems in specific co				
Competences related to envisioning sustainable futures	Futures literacy	Understanding the future as a variety of alternatives and compatible with sustainability			
	Adaptability	Ability to manage and decision-making in the face of complex sustainability challenges			
	Exploratory thinking	Ability to relate and link thoughts from different disciplines			
	Political agency	Knowing how to identify political responsibility and demand effective measures for sustainability			
Competences related to acting for sustainability	Collective action	Acting for sustainability in collaboration with others			
	Individual initiative	Knowing our own potential and being proactive in contributing to sustainability			

Source: own elaboration based on the GreenComp framework proposed by the European Union (European Commission, 2022a).

On the other hand, entrepreneurial competences, reflected in the EntreComp framework, are those that **reflect the ability to transform ideas into actions that generate value for others than ourselves**, popularly known as entrepreneurship, that transversal competence that seeks to transform opportunities into value for any field, including social and ecological entrepreneurship (Bacigalupo et al., 2016). The EntreComp framework is composed of 3 main dimensions broken down into 15 competences, detailed in Table 2.

Table 2. Entrepreneurial competences according to the EntreComp framework

AREAS OF COMPETENCE	COMPETENCE DESCRIPTION				
	Spotting opportunities	Ability to identify opportunities for value creation			
	Creativity	Ability to develop creative and innovative ideas			
Competences related to ideas and opportunities	Vision	Visualise future scenarios and focus my efforts and actions to achieve them.			
	Valuing ideas	Ability to recognise the potential of ideas and get the most out of them			
	Ethical and sustainable thinking	Ability to assess the consequences and impact of actions in order to act responsibly			
Competences related to resource management	Self-awareness and self-efficacy	Ability to recognise ourselves as being able to influence the way events happen			
	Motivation and perseverance	Ability to stay focused and not give up despite pressure			
	Mobilising resources	Ability to obtain and manage resources, whether tangible or intangible, and to make the best possible use of them			
resource management	Financial and economic literacy	Have the financial and economic knowledge to calculate the costs of implementing an idea and to manage its financing.			
	Mobilising others	Ability to inspire and motivate other member of a team			
	Taking the initiative	Ability to act independently to achieve objectives			
	Planning and management	Ability to define priorities and develop action plans			
Competences related to actions	Coping with ambiguity, uncertainty and risk	Ability to make decisions even when the result of the action is uncertain			
	Working with others	Ability to cooperate with others and resolve problems			
	Learning through experience	Ability to learn from both successes and failures			

Source: own elaboration based on the EntreComp framework proposed by the European Union (Bacigalupo et al., 2016).

Training in green skills, together with entrepreneurial skills, is a strategic objective to contribute to the creation of business models that recognise the complexity of achieving sustainability. The first ones allow developing a pro-sustainability mindset that contributes to thinking, planning and acting with empathy (European Commission, 2022a) and, the second ones, to the development of autonomy and responsibility when acting while generating value for society (Bacigalupo et al., 2016). Training in both contributes to the training of professionals who know how to optimise the opportunities presented by the current context, contributing to the creation of sustainable business models.

#### 5. RESULTS

The results obtained are presented below, divided into three subsections. The first one compiles the green job opportunities detected in the partner countries of the project; the second one presents the good practices collected in terms of green entrepreneurship; and the third one compiles the training needs detected in the young rural population in terms of the acquisition of green and entrepreneurial skills, as well as their needs for access to these skills and to the green labour market.

#### 5.1. GREEN EMPLOYMENT NICHES AND TRAINING OPPORTUNITIES

According to the International Labour Organisation (ILO), the transition to a more sustainable economic model will bring about changes in the global labour market; and, although it is estimated that it may lead to the loss of 6 million jobs linked to less sustainable economic activities, it is expected to result in a parallel growth of some 24 million jobs. In total, **green jobs could generate around 18 million jobs globally**, especially as a result of advances in energy efficiency in buildings, the use of energy from renewable sources and the increased use of electric vehicles (ILO, 2018). According to UNEP (2011), up to eight sectors will experience the greatest changes during this transition in the coming years: agriculture, forestry, fisheries, energy, manufacturing, recycling, construction and transport.

Below, thanks to the review of secondary sources and interviews with green companies, we present the green employment niches detected among the project member countries: Italy, Greece, Cyprus, Slovenia, North Macedonia and Spain, where we find a widespread commitment. In all cases, they are trying to increase the number of green jobs and are taking policy measures to promote them, to a greater or lesser extent.

As previously mentioned, the green economy offers huge opportunities for job creation, covering sectors traditionally associated with the environment, such as renewable energy management or recycling, to other emerging sectors such as sustainable mobility (Avsec and Kaučič, 2018). Given the scope and diversity of the new green employment niches detected in the countries analysed, we will follow the categorisation proposed by Fundación Biodiversidad (2023), dividing jobs into three areas: firstly, those linked to climate, i.e. those activities dedicated to reducing greenhouse gas (GHG) emissions and mitigating the risk of climate change; secondly, those linked to the protection of biodiversity, i.e. economic sectors dedicated to the conservation and responsible management of natural and biological resources; and thirdly, those related transversally to both.

### 5.1.1. GREEN JOB NICHES IDENTIFIED IN THE FIELD OF CLIMATE AND CLIMATE CHANGE RISK REDUCTION

In this field, **economic activities dedicated to the production of renewable energies, the energy rehabilitation of buildings and the implementation of more sustainable means of transport have been particularly identified.** 

Regarding **employment niches in the renewable energy sectors**; in general terms, the transition towards the use of renewable energy has a great potential for job creation, according to the report "A 100% Renewable Energy Vision for the European Union", published by the European Renewable Energy Council, **employment in this sector could increase by 30-36% annually until 2030 in the EU** (compared to 2009 data) if the target of 45% of renewable energy in final energy consumption by 2030 is met (Gospodarska zbornica Slovenije, 2017). In this case, **employment** 

niches have been discovered in all project member countries. The improvement and optimisation of energy systems is leading to the emergence of new technical jobs related to the implementation of renewable energy sources, especially solar photovoltaic and wind energy (IRENA, 2023), as well as other specialised jobs such as energy managers (Gelisio and Gisotti, 2019). A further increase in these employment niches is expected in the near future, especially in Greece (IEA, 2020) and Cyprus (IRENA, 2023).

The search for greater energy efficiency is favouring parallel green employment niches in the construction sector, specifically, those **activities dedicated to the energy rehabilitation of buildings** are emerging, especially in the cases of Slovenia (Avsec and Kaučič, 2018), North Macedonia (Nedanovski, 2013), Italy (Unioncamere, 2021a) and Spain (Fundación Biodiversidad, 2023). These employment niches are characterised by their demand for specialist profiles such as energy engineers or more technical profiles such as professional electricians or plumbers (Russo, 2022; Forética, 2022; ATEI, 2022a).

Transversely, green employment niches are emerging linked to **new technological innovations associated with the search for greater energy efficiency**, both in buildings and materials, e.g. manufacturing and installation of energy control systems, thermal insulation or LED lighting technology. This represents a great opportunity for the generation of new businesses and jobs, especially where energy efficiency measures are still lacking, such as in North Macedonia (Nedanovski, 2013; Mitevska et al., 2019). Consequently, **employment niches are also emerging in the manufacturing sector**, such as in Slovenia, where significant growth is expected in the development of technologies dedicated to increasing energy or material efficiency (especially in the wood processing, metallurgy, electrical and electronics industries) (Avsec and Kaučič, 2018) (Avsec and Kaučič, 2018). Or in Italy or Spain, where Information and Communication Technologies (ICT) in the field of construction are developing significantly and there is an increasing demand for IT profiles and ICT systems engineers to carry out activities linked to the optimisation of energy systems (Russo, 2022; Unioncamere, 2022a; ATEI, 2022b; Fundación Biodiversidad, 2023;).

And finally, important employment niches are also being promoted in the **mobility and transport sector**, especially in Spain, where measures are being taken to introduce renewable energy sources for electric transport (with a target of 5 million electric vehicles in operation by 2030) or vehicles using biofuels (ATEI, 2021a; Fundación Biodiversidad, 2023). The same applies to Italy, where technical jobs such as motor vehicle repairers (Unioncamere, 2021a) or specialised 'mobility managers' (Ecnopoly, 2022) are in demand; Slovenia, where employment opportunities are emerging more in relation to public transport (Avsec and Kaučič, 2018); or, in North Macedonia, where, although employment opportunities in this sector are still little explored, being one of the most polluting sectors in the country (WBG, 2014), major changes are expected in this sector given its initiative in working on the electrification of personal vehicles, especially those related to electric chargers.

As a consequence of changes in the transport sector, employment is also expected to intensify in **industrial sectors** dedicated to metal products, especially those related to the manufacture of machinery, equipment and transport vehicles; this will affect the metal and metal products industries (Unioncamere, 2022a) and the electrical and electronics industry (Unioncamere, 2021a), including also mechanical services (Unioncamere, 2021a). These employment niches have been detected especially in the cases of Italy and Spain.

### 5.1.2. GREEN EMPLOYMENT NICHES IDENTIFIED IN THE FIELD OF BIODIVERSITY

Although less present than the employment niches identified in the climate field, employment opportunities have also been identified in the field of biodiversity conservation and protection, particularly in the fields of sustainable agriculture, tourism and forestry management.

In Slovenia, organic farming is generating significant employment opportunities (Avsec and Kaučič, 2018). As is the case in Greece, where particular emphasis is being placed on enhancing employment opportunities in **sustainable agriculture** (European Commission, 2022b). In Spain, on the other hand, employment opportunities are emerging, in general, to work on farms that include agriculture, livestock and beekeeping because of their potential to mitigate the depopulation of rural areas (Fundación Biodiversidad, 202

In the same way, the option of **sustainable tourism** is an activity that is becoming increasingly popular in several countries, as is the case in Greece, promoting jobs linked to the sale of local products (European Commission, 2022b), or in Italy (Gelisio and Gisotti, 2019) and Spain, where employment niches related to nature tourism are also emerging, especially jobs such as nature guides and environmental interpreters (Fundación Biodiversidad, 2023

Finally, employment niches have also been identified in **the forestry sectors** in Slovenia (Avsec and Kaučič, 2018) and Spain (Morgan and Konecta Fundación, 2021; ATEI, 2021b; Fundación Biodiversidad, 2023). These jobs are linked to sustainable forest resource management activities and promote specific jobs such as forestry workers engaged in forest clearing, maintenance and reforestation. These jobs are particularly important in the prevention of forest fires (Fundación Biodiversidad, 2023) which, in recent years, have been increasing in the six member countries of this project (EP, 2021a; 2021b; 2022; EuroNews, 2023).

#### 5.1.3. TRANSVERSAL GREEN EMPLOYMENT NICHES

In parallel, we have identified green employment niches that could address both objectives: the fight against climate change and the preservation of biodiversity. The functions of these jobs are more closely linked to more specialised professions, and are located especially in the service sector and the management of resources such as waste or water.

In the cases of Italy and Spain, significant employment opportunities have been identified linked to more specialised **service jobs**, such as in the field of law (environmental lawyers), design (green designers), marketing (environmental marketing experts), IT (environmental IT specialist), auditing (environmental quality certifiers) or finance (green accountants) (Unioncamere, 2021b; Unioncamere and Fondazione Symbola, 2022; Fundación Biodiversidad, 2023).

Similarly, waste management, both municipal waste and waste from different industries and sectors, is also boosting the number of jobs, especially as countries commit to a circular economy<sup>10</sup> and engage in activities such as recycling. This is the case in Spain, Italy and Slovenia, where waste management currently offers a high level of employment at national level and is expected to grow even more in the future (Avsec and Kaučič, 2018; Russo, 2022; ISTAS and Ecoembes, 2019; Forética, 2022). For its part, we find in North Macedonia, a greater involvement with the water resources management sector, given the inefficiency of the

<sup>&</sup>lt;sup>10</sup> The circular economy refers to the implementation of a circular production system, which aims to optimise resources by keeping them as long as possible in the production process, reintroducing the waste generated into the process as often as possible (Government of Spain, 2020).

current system, so it is expected that with the improvement of water management, a large number of jobs will emerge in North Macedonia linked to this activity (WBG, 2014). Similarly, Cyprus presents future opportunities in both waste and water management due to the high number of changes expected in both sectors (ICEX, 2022).

Figure 2. Identified sectors with green employment niches

Source: own elaboration

### 5.1.4. TRAINING OFFER ON ACCESS TO EMPLOYMENT NICHES AND GREEN ENTREPRENEURSHIP

In general terms, EU member countries still have skills gaps that limit their ability to take advantage of the opportunities offered by green growth, many of these skills needs are linked to the performance of specific skills in science, technology, engineering and mathematics jobs along with a shortage of "new" green skills (CEDEFOP, 2010).

The demand for green jobs that **are emerging internationally requires both technical and specialised professional profiles** and, in both cases, training on environmental issues such as eco-sustainability, energy saving or the circular economy will be increasingly required (Unioncamere, 2021b). For this reason, in Europe, it is still pertinent to update education systems that address these challenges and, **while building on existing skills, updates are needed at both sectoral and transversal levels** to continue to promote a greener and more sustainable economy (CEDEFOP, 2021). In <u>Annex 1</u> we show some of the training courses currently in place in the project member countries that give access to some of the green jobs identified or provide training for the development of green enterprises.

#### 5.2. GOOD ENTREPRENEURIAL PRACTICES DETECTED

After reviewing the potential emerging employment niches, a total of **68 good practices in green entrepreneurship from the member countries** were compiled and analysed. In order to be considered a good practice, those green entrepreneurial companies or projects, programmes, initiatives or activities that promote green entrepreneurship and that, in addition, offer benefits not only to the population as a whole, but also to specific groups such as the young and/or rural population, have been selected. For their selection, it has been taken into account, mainly, that their main activity is considered as green entrepreneurship, but initiatives that especially promote employment and entrepreneurship in rural environments and/or among the youth population have also been included.

The **list of the good practices identified is available in Annex II**, where the names of the projects, their location and activity are listed, together with other details of their application, such as the specific benefits of the business for the population, its innovative nature or the barriers and/or problems detected during its implementation<sup>11</sup>.

A large number of initiatives have been detected that correspond to identified employment niches, especially in the agricultural, energy rehabilitation and renewable energy implementation, waste management and forestry sectors. The largest number of initiatives are concentrated in the production of ecological and organic food products, as well as recycled manufacturing products, followed by those dedicated to the implementation of energy measures and the reuse of waste for the production of new products, especially in the wood sector. A large number of initiatives consider the implementation of circular systems in a transversal way and some of them even provide services to other companies for this purpose. And, although to a lesser extent, initiatives focused on environmental protection, responsible management of material resources and sustainable tourism have also been collected.

In the same way, **initiatives have been identified that focus on promoting social impact and act as motivators in the emergence of new sustainable business models.** These include, for example, service initiatives dedicated to promoting the planning of sustainable futures, learning programmes on digital tools and the economic and social benefits of sustainable business models, or creative business development programmes.

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<sup>&</sup>lt;sup>11</sup> During the selection of these good practices by the entities, priority was given to the search at the national level and, in those cases where this was not possible, the search was extended to the international level.

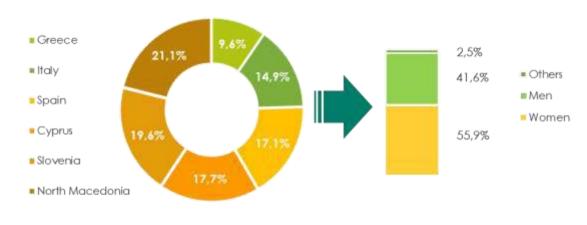
# 5.3. TRAINING NEEDS AND GREEN OPPORTUNITIES FOR YOUNG RURAL PEOPLE

The identification of training needs among the young rural population has been based on various research techniques, both quantitative and qualitative, which have been summarised in three sub-sections. Each of them is introduced by presenting the details of the samples of each survey and continues with the results obtained from the triangulation of both research techniques, surveys and interviews.

### 5.3.1. TRAINING NEEDS OF YOUNG PEOPLE LIVING IN RURAL AREAS FOR THE ACQUISITION OF GREEN AND ENTREPRENEURIAL SKILLS

Thanks to the mixed analysis methodology of surveys and interviews with young people from rural areas and green businesses, the main training needs of young people in terms of competences to be able to participate effectively in the green labour market have been identified. For this purpose, the knowledge related to sustainability and entrepreneurial competences defined by the European frameworks GreenComp and EntreComp have been taken as a reference.

- 12 young people from rural areas in the project member countries were interviewed and 322 were surveyed, with a proportion of 41.6% male and 55.9% female. In total, **334 rural youth participated** in the research.



Graph 2. Distribution of the rural youth survey sample (16-30 years old):

Source: own elaboration

- In addition, **23 green companies participated** in the project, 9 of them were interviewed and 14 were surveyed. These companies are present throughout the six member countries of the project and are engaged in activities related to environmental care.

Cyprus 14% 14% ■ Greece Micro enterprises 14% Italy Small enterprises 35,70% 57,10% Medium-sized North Macedonia enterprises ■ Slovenia ■ Spain Agriculture, forestry and fisheries Other service activities 14,30% Health care and social work 14,30% activities 50% ..... Manufacturing industry 7,10% Water supply; sewerage; 7,10% waste management and decontamination Electricity, gas, steam and airactivities conditioning supply

Graph 3. Distribution of the survey sample on green business by country, size and sector (%):

Source: own elaboration

### - ANALYSIS OF THE LEVEL OF SUSTAINABILITY SKILLS AMONG YOUNG PEOPLE AND THEIR DEMAND IN THE LABOUR MARKET

From the information obtained from the interviews as well as from the youth surveys, it appears that the majority of young rural Europeans are not familiar with the formal concept of "sustainability skills" or "green skills", but are familiar with the more generic knowledge to which they refer: caring for the planet. 42.9% of young rural Europeans have heard of green skills only a few times, a difference of almost 14 points over those who have heard of them quite a lot (29.2%) or many times (10.2%)<sup>12</sup>.

When describing the meaning of these competences, more than half of the sample, **56.8%**, **consider that they have them**, followed by 29.8% who do not know if they have them and 13.4% who say that they do not have them. Similarly, when asked about these competences

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<sup>&</sup>lt;sup>12</sup> 17.7% have never heard of sustainability or green competences.

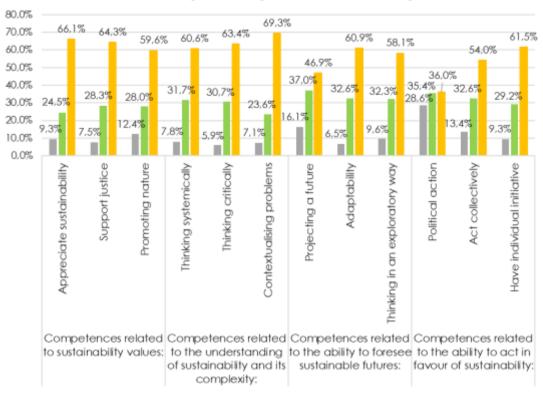
in a disaggregated way<sup>13</sup>, we find that, in general terms, **most rural young people consider** that they have most of the competences related to sustainability values and understanding their complexity, but they show greater diversity in relation to those linked to their ability to anticipate sustainable futures and act in favour of sustainability.

- Regarding competences related to sustainability values, the competence most valued by green businesses is valuing sustainability (in 71.4% of cases), which is also the one most present among the young rural population, with 66.1%. Meanwhile, supporting fairness and promoting nature are both demanded in 50% of the cases, below even the figures expressed by rural youth, whose self-assessment indicates that they are available in 64.3% and 59.6% respectively, presenting a positive scenario for rural youth.
- The same happens with **competences related to embracing complexity in sustainability**, where the most demanded are **critical thinking and problem framing**, both at 64.3% (which are possessed by 63.4% and 69.3% of young people). And, although **systems thinking** is more valued in 57.1% of the cases, but not so much in demand (by 42.9%), rural young people consider having it in 60.6% of the cases.
- However, in the **competences related to envisioning sustainable futures**, we find lower figures when considering the self-assessment of the young rural population and, although those young people who say they can project a future (46.9%), adapt (60.9%) and think in an exploratory way (58.1%) continue to predominate, the difference with those who say they do not know if they have these competences is smaller (37%, 32.6% and 32.3%, respectively). However, these three skills are equally in demand by the labour market in 57.1% of all cases.
- Similarly, regarding those **competences related to acting for sustainability**, we find greater confusion among the young rural population, with increasingly similar percentages between those who say they have them and those who do not know if they have them: the competences related to **political agency** (36% vs. 35.4%) **and collective action** (54% vs. 32.6%). Although these differences dissipate regarding the **ability to have individual initiative**, in which those young people who consider that they have them again predominate (61.5%). However, once again, the labour market values positively all of them, acting politically (57.1% collectively) and with individual initiative (50%).

Graph 4 shows the competences most prevalent among the young rural population, according to their self-assessment, and Graph 5 shows the most demanded and valued competences:

<sup>&</sup>lt;sup>13</sup> The questions aimed at finding out whether the rural youth population had green and entrepreneurial competences included a list of these competences together with their definition and examples. The answer options to choose from were: a) No, I do not have this competence, b) I do not know if I have this competence, because I do not apply it most of the time and c) Yes, I have this competence, because I apply it most of the time.

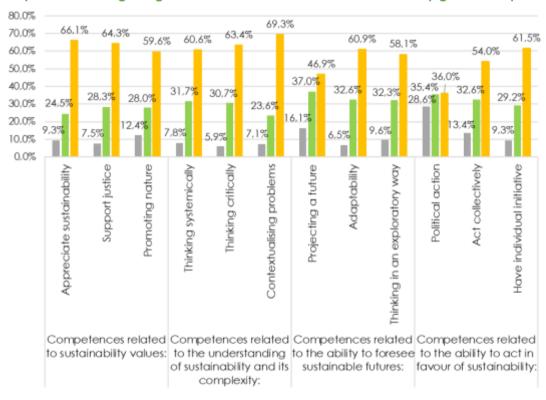
Graph 4. Percentage of young rural population with green skills:



■They do not have the competence ■They don't know if they have it ■They have the competence

Source: own elaboration

Graph 5. Percentage of green skills most valued and demanded by green companies:



■ They do not have the competence ■ They don't know if they have it ■ They have the competence

Source: own elaboration

In conclusion, despite the existence of a high self-perception among the young rural population of the possession of green competences, the proportion of those who say they do not have or do not know if they possess these competences is remarkable and remains between 33.8% and 53.1% across all the competences analysed. And, in those skills groups most linked to envisioning sustainable futures and acting for sustainability, despite finding greater confusion among young people about their possession of these skills than in other skills groups, the levels of labour market demand for these skills are maintained, at least in 50% of cases (with the exception of the skill "acting politically", although this continues to be positively valued).

The information obtained from the interviews with rural youth indicates that **these skills training courses are outdated in the university systems** and, although the survey of green companies shows that 57.1% of them offer training in these skills to their workers, there are still a significant number that do not (42.9%); **both factors limit the possibilities for rural youth to train in green skills.** 

100% of the green companies surveyed say that they demand green skills from their candidates and the majority of the young rural population is aware of this high demand: 62.4% believe that these skills are in demand in the labour market and 69.9% believe that training in these skills could increase their possibilities of getting a green job or starting a green business. Accordingly, 71% are interested in training to acquire or expand their green skills.

In addition to the transversal competences mentioned above, companies expressed during the interviews a particular demand for more technical knowledge related to waste management, renewable energies, sustainable agricultural production, carbon footprint measurement or green certifications.

On the other hand, in the interviews with the young people, they generally recognised the importance of these training programmes both to improve their employability and to learn how to take care of the environment, but they mentioned that they had not been trained in them mainly because they were unaware of the existence of these training programmes. However, they also highlighted some external limitations to training in them, such as the difficulty in finding complete and accredited training programmes, the excessive specialisation of the existing offer provided by companies for the young people and the lack of updating of the training provided by universities in relation to the needs of the labour market.

### - ANALYSIS OF THE LEVEL OF ENTREPRENEURIAL SKILLS AMONG YOUNG PEOPLE AND THE DEMAND FOR THEM IN THE LABOUR MARKET

In contrast to green competences, the young rural population is more aware of the term and the vast majority, 91.7%, have heard of them (38.2% a little, 40.1% quite a lot and 13.4% many times). Similarly, when asked if they have these skills or not in general terms, there is a greater difference in the proportion of responses compared to green skills: 46.9% think they have them, followed by 37.9% who do not know and 15.2% who do not know.

Following the EntreComp framework, we split the competences of these entrepreneurial skills and compared them with those demanded by the green labour market and **found a greater** alignment with what is demanded or valued in the green labour market and the self-reported

**competences of young rural people**, with those most in demand coinciding in all groups of competences with those most in demand with those most possessed. However, **there is less demand for competences that could be particularly favourable for entrepreneurship:** 

- Regarding competences related to ideas and opportunities, this is where we find the highest proportion between possession and demand from the green labour market: the most demanded competence of this group is the ability to think in an ethical and sustainable way (71.4%), which 71.1% of the young rural people say they possess; secondly, the labour market demands the capacity for vision (64.3%), which is also present in 64% of the young people and, thirdly, 50% demand creativity and valuing ideas, competences that the young people consider they have in 68.9% and 65.5%, respectively. Finally, less than half of the companies (42.9%) demand the ability to detect opportunities, although this competence is valued by 57.1%, coinciding relatively well with 55.3% of young people who say they possess it.
- Among the competences related to the management of resources, the competence that young people in rural areas most reported having is motivation and perseverance (70.8%), which is also the one most in demand by the enterprises in this group (57.1%). And, despite the fact that 64.6% of the young rural people report having the capacity for self-awareness and self-efficacy, this is only demanded by 42.9% of the enterprises (although it is valued in 57.1% of the cases). The ability to mobilise others and financial literacy are valued by 57.1% to 64.3%, but not specifically demanded and, similarly, nearly half of the young people (54% and 46.3%, respectively) report having them (although 35.1% and 33.5% do not know if they have these skills). And finally, the ability to mobilise resources is equally valued and demanded in 42.9% of cases, although 54.3% of young people say they have them.
- From the group of **competences related to actions**, the competences that young rural people say they have the most are the **ability to learn through experience** (80.4%) and the **ability to work with others** (77%), which are also the most demanded by the labour market: learning through experience in 71.4% and the ability to work with others in 85.7%. Secondly, the skills related to **taking initiative and the ability to plan and manage** are in demand by 64.3% and 50%, similar to the percentages of young people who say they possess them, 62.7% and 63.4%, respectively. Finally, **coping with ambiguity**, **uncertainty and risk** is also demanded by only 50%, coinciding with the doubts of the young people: 54% say they have it, followed by 37.9% who do not know if they have this competence.

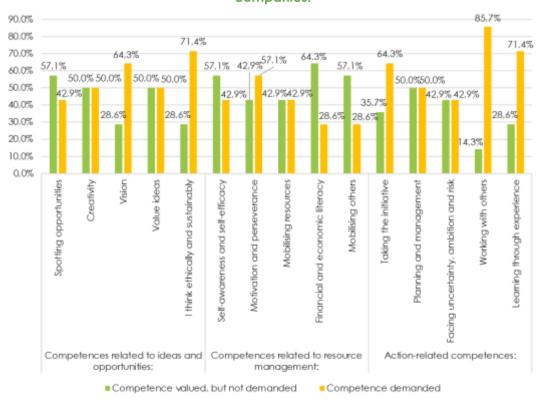
The following graphs 6 and 7 show the entrepreneurial skills most present in the young rural people, according to their self-assessment, and those most demanded or valued by green businesses:

90.0% 77,0% 80,4% 80.0% 71.1% 70.8% 68.9% 64.0% 65.5% 70,0% 64.6% 62,7% 63.4% 60,0% 55.3% 54.0% 54.0% 46.3% 50.0% 36.6% 35,1% 40.0% 35.4% 33.5% 31,7% 30,1% 29.2% 28,0% 25,8% 27,3% 30.0% 23,9% 24.5% 18.9% 16,5% 20.0% 9.3% 8,11 8, 10.0% 0,0% Vision aking the initiative Working with others Mobilising resources Mobilising others Planning and management uncertainty, ambition and risk eaming through experience. Spotfing opportunities Creativity Value ideas think ethically and sustainably Self-awareness and self-efficacy Motivation and perseverance Financial and economic literacy acing Competences related to ideas Competences related to resource Action-related competences: and opportunities: management: ■ They do not have the competence ■ They don't know if they have it ■ They have the competence

Graph 6: Percentage of the rural youth people with entrepreneurial skills:

Source: own elaboration

Graph 7: Percentage of entrepreneurial competences most valued and demanded by green companies:



Source: own elaboration

Despite the correlation between entrepreneurial skills demanded and possessed, we find that those skills that are more favourable for entrepreneurial activity are less demanded by the green labour market, such as skills related to spotting opportunities, self-awareness and self-efficacy, financial literacy and the ability to mobilise others. These competences are positively valued but not specifically demanded in the surveys, but they are also some of the most frequently mentioned during the interviews when it comes to boosting green entrepreneurship. When asked about the most demanded entrepreneurial competences in the interviews with green businesses, the importance of competences such as confidence, leadership, creativity, communication skills and knowledge to identify opportunities were highlighted as key elements for building businesses.

71.4% of the green businesses surveyed demand entrepreneurial skills, in line with the perception of the young rural people, 73.6% of whom consider that these skills are currently in demand and 73.3% think that being trained in these skills would increase their opportunities to get a green job or to start a green business. In line with this, 69.6% are interested in learning or expanding their entrepreneurial skills.

Regarding training opportunities in entrepreneurial skills, interviews with the youth in rural areas showed a lack of interest in training in these skills or a lack of awareness of the existence of such training. Interest in entrepreneurship is perceived more as an individual activity for which one has natural skills or for which one develops them after a long professional experience, reducing the interest in training in these skills. When exploring the limitations to this training, although they report that free online training is available in abundance, the existing training is superficial and the training obtained during their educational stage is limited. At the same time, in some cases, a greater knowledge of how to access this training, where to find information on the subject or who to consult has been detected. Thus, there is a latent need among the young rural people for more support services aimed at raising awareness of these skills and their benefits in order to promote their interest.

## - COMPARATIVE ANALYSIS OF THE LEVEL OF GREEN AND ENTREPRENEURIAL SKILLS AMONG RURAL AND URBAN YOUTH

Regarding the differences detected in relation to the urban population, apparently, no special training needs have been detected in comparison with the young urban population. The companies do not find any notable differences in relation to the presence of green or entrepreneurial skills among the young people who come to their companies depending on whether they are rural or urban. The survey of green companies shows that 38.4% say that the young people who come to them from rural areas do have green skills, but 38.4% say they do not. In the same way, only 38.4% of them consider that they have entrepreneurial skills. The information obtained from the interviews with green companies is varied: on the one hand, only in two cases was mentioned that the young rural population has more green skills than the urban population; on another occasion, that the young rural population does not have these green skills and that the young urban population is more competitive than the rural population (referring to the greater presence of entrepreneurial skills); but the majority (5 interviewees) do not relate these skills to the rural nature, but see it as a more individual matter that depends on the level of studies and personal interests. However, at the same time, the companies pointed out during the interviews that, despite having procedures for detecting them, it is difficult to know precisely if this type of skills is present among their job seekers.

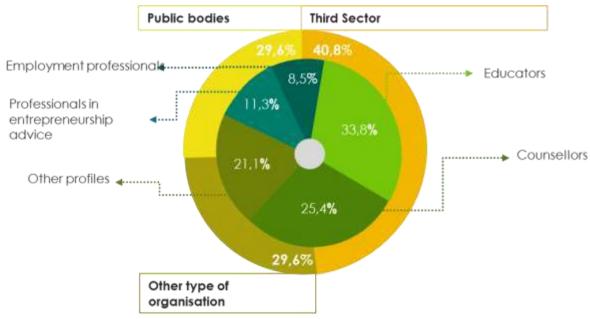
In conclusion, 100% and 92.9% of green companies consider that green and entrepreneurial skills will be increasingly demanded by green companies in the future and it is necessary to promote this type of skills-oriented training in order to help young people to keep up to date with the dynamic needs of the labour market and to obtain the necessary knowledge to encourage them to become entrepreneurs themselves.

5.3.2. SERVICE REQUIRED BY THE YOUNG RURAL PEOPLE IN RELATION TO TRAINING FOR ACCESS TO EMPLOYMENT AND GREEN ENTREPRENEURSHIP.

The information gathered in this section was based on 71 surveys and 11 interviews with professionals working to promote rural youth employability, and 23 surveys with professionals from the public administration and the third sector.

The sample of **youth employability workers** surveyed shows a representation of 5 different profiles: educators (33.8%), employment advisors (25.4%), other profiles dedicated to youth employability (21.1%), specific professionals in entrepreneurship advice (11.3%), and employment officers (8.5%). These profiles belong to social entities of the Third Sector (40.8%), to the public administration (29.6%) or to other types of organisations (29.6%), as shown in graph 8. In total, the average representation of the six member countries is 16.6%.

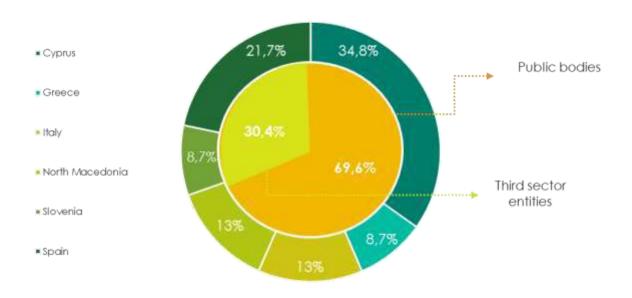
Graph 8. Distribution of the survey sample of youth professionals according to their professional profile and the type of organisation they belong to (%):



Source: own elaboration

- The survey of **public administrations and third sector entities** has a distribution of 69.6% and 30.4%, respectively, with a minimum country representation of around 10% (details in Graph 9).

Graph 9: Distribution of the survey sample of public administrations and third sector entities by country (%):



Source: own elaboration

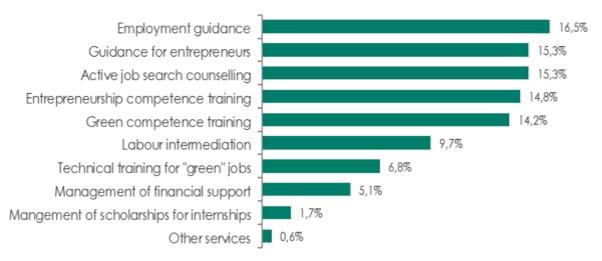
#### SERVICES AVAILABLE TO RURAL YOUTH

This section explores how employment and green entrepreneurship are promoted by public administrations and social entities for the young rural population based on the information obtained from interviews with the public administration and the third sector and surveys and interviews with professionals working in the field of youth employability.

In general, the vast majority of the public and third sector organisations surveyed have programmes or initiatives for young people to find green jobs (91.3%) or start green entrepreneurship (87%); however, when asked about programmes aimed at young people living in rural areas, the majority stated that they have few programmes or initiatives for them to find jobs or promote green entrepreneurship (47.8% and 39.1%, respectively). Although to a lesser scale, it should be noted that 38.8% offer quite a few employment programmes and 26.1% offer green entrepreneurship programmes, which are rated as very or fairly effective (60% and 57.9%, respectively).

In the same way, although with slightly higher figures, the survey addressed to youth professionals shows that the entities present in the 6 countries have **specialised counselling** and/or training services in employment or green entrepreneurship for the young rural population in 66.2% of the cases. Among the main specialised services offered by the entities surveyed are: 1) employment advice (16.50%), 2) job search advice (15.30%) and guidance for entrepreneurs (15.30%), 3) training in entrepreneurial skills (14.80%), and 4) training in green skills (14.20%). Graph 10 shows more broadly the proportion of services offered.

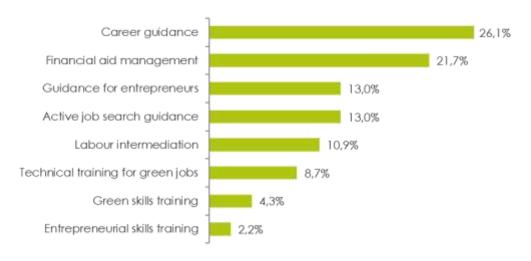
Graph 10. Services offered by the entities surveyed for young people from rural areas who want to find a green job or start a green business:



Source: own elaboration

Among the entities that do offer specialised services to the young rural people, **the majority** indicate that they have a high or very high demand for counselling and/or training services in employment or green entrepreneurship (51.1%), followed closely by those that have little or no demand (48.9%). Particularly, the services most in demand by the young rural population, represented in graph 11, are 1) employment guidance (26.1%), 2) management of individual financial aid or project financing (21.7%), 3) advice for active job search (13%) and guidance for entrepreneurs (13%) and 4) labour intermediation (10.9%). And, although training in green and entrepreneurial skills is not among them, when asked specifically if the rural youth demand them, the majority of youth workers indicated broadly that they do (78.7% and 87.2%, respectively).

Graph 11. Services most in demand by young rural people



Source: own elaboration

These figures reflect the interest of the young rural population in training in this type of skills, although not as a priority compared to other services. However, youth professionals rate with an average of 8.4 out of 10 the importance of training in green or entrepreneurial skills for young rural people (not only to be inserted in green jobs, but also in any other type of employment given its benefits at a personal and professional level, as reported in the interviews). In the same way, public bodies and representatives of the third sector consider this training to be necessary in 91.3% and 87% of the cases. Taking into account that the rural youth population has greater difficulties in finding employment than the young population living in urban areas (according to 66.2% of the surveyed youth workers), the role of public authorities and third sector entities in promoting employment and green entrepreneurship among young people in rural areas is considered to be quite or very important (87%).

Despite the fact that these results point to the relevance of this type of services to improve the employment situation of the young rural population, **public entities and members of the third sector** rate the national promotion of employment and green entrepreneurship among this group at 5.2 on a scale of 1 to 10.

In this context, the surveys of youth employability professionals have shown that the **main** reasons for not offering specialised services (presented in Graph 12) are: 1) lack of financial and logistical resources to implement services of this type (41.7%), 2) transfer of these services to other entities (16.7%) or that they have not yet considered offering the service (16.7%) and, 3) lack of knowledge about the job opportunities offered by green employment and entrepreneurship (12.5%).

Graph 12. Reasons why organisations do not offer specialised counselling and/or training services in employment or green entrepreneurship to young people from rural areas:



Source: own elaboration

These results point to the importance of training in green and entrepreneurial skills from the perspective of those profiles specialised in the job opportunities of the young and rural population, while pointing to the low coverage of services for training in this respect and the low perception of the young rural people as a priority in the demand for services to access the green labour market.

### 5.3.3. THE NEED TO PROMOTE GREEN EMPLOYMENT AND ENTREPRENEURSHIP AMONG YOUNG RURAL PEOPLE.

This section is based on the information obtained from various techniques listed above, particularly from the following sources: surveys and interviews with the young rural population, interviews with green businesses, surveys with public bodies and third sector entities, and interviews and surveys with youth employability workers<sup>14</sup>.

### - GREEN EMPLOYMENT IS PERCEIVED AS A JOB OPPORTUNITY TO A GREATER DEGREE THAN GREEN ENTREPRENEURSHIP

73.9% of the public bodies and third sector entities surveyed consider that green jobs or green entrepreneurship are perceived by rural youth as a job opportunity, coinciding to a large extent with the information obtained in the interviews and the survey of rural youth. The results of the interviews with rural youth reflect the existence of a good perception of green jobs, most of them consider these jobs as a job opportunity and most of those who are currently employed in one, want to keep it in the long term (none of them made use of any employment service to access it). On the other hand, the majority of those who have no professional experience in this field have also considered participating in it because of its positive implications for the environment and its prospects for future growth; and those who have not considered it have mentioned not being familiar with this type of job as the main reason for not having been interested in it.

In general, the youth survey shows that **75.5% of rural youth are aware of the meaning of green jobs** and are aware of their presence in various sectors of the economy. And, although the majority (33.2%) have considered working in a green job on some occasion and 28.3% have considered it on several occasions, there is a significant proportion of **32.3% of rural youth who have never considered it (Graph 13).** 

Regarding green entrepreneurship, we find a slightly more negative perception of its employment opportunities. The surveys show that 61.5% of rural youth have never considered starting a green business (Graph 14). On the other hand, none of the young people interviewed have any entrepreneurial experience and, although 8 of the 12 young people consider entrepreneurship as a job opportunity for them, they do so with numerous factors linked to their still limited professional experience, the lack of resources and knowledge to start a business or the lack of confidence in green development at the national level 15. Of the 12 people interviewed, half of them have considered starting a green business, but all of them will do so in the future, when they have more training and resources. Their reasons are similar to those previously mentioned for green employment: its positive implications for the environment

<sup>15</sup> This case has been detected specifically in the 2 interviews conducted among the young rural population in North Macedonia.

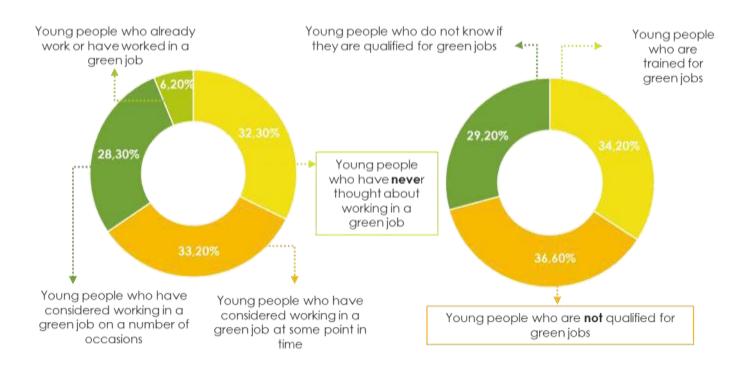
<sup>&</sup>lt;sup>14</sup> Details of the samples that make up each of the techniques are available in the methodological section. And the more detailed proportions of the surveys can be found in the previous results sections 5.3.1 and 5.3.2.

and future growth perspectives, although in this case, other reasons are added such as taking advantage of grants and subsidies for young people and women available at the national level<sup>16</sup>.

These results show that, although the majority of young people consider green jobs as a job opportunity, there is still a significant proportion who are not familiar with them or have doubts about if they have the skills to carry them out, as shown in Graph 13: the majority of young people do not consider themselves able to carry out a green job (36.6%), followed by those who do (34.2%) and those who do not know (29.2% of cases). Similarly, although green entrepreneurship is considered a job opportunity, young people do not perceive it as a real possibility in the short term.

No statistical differences were found by gender in terms of knowledge of green jobs or if they have ever considered participating in them. However, there is less confidence among young women when asked if they have the skills to access it. The majority of women (44.4%) do not consider themselves qualified for a green job compared to a majority of young men (45.5%) who consider themselves qualified <sup>17</sup>.

Graph 13. Percentage of young people who have considered participating in green jobs and their perception of their training for their performance:



Source: own elaboration

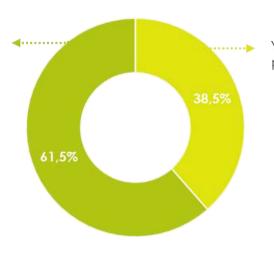
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<sup>&</sup>lt;sup>16</sup> The availability of grants and support for entrepreneurship for young people and women has been specifically mentioned in the interviews conducted with young people in Spain.

 $<sup>^{17}</sup>$  x2 = 19.190 p = .001

Graph 14. Percentage of young people who have considered entrepreneurship

Young people who have **never** thought about starting a green business



Young people who have at some point considered starting a green business

Source: own elaboration

Interviews with youth employability practitioners agree in their positive perspective on green job opportunities and the greater difficulties for young people to start any kind of business. With the exception of professionals in North Macedonia (where these jobs are considered to be still emerging), professionals consider that green jobs offer significant employment opportunities for rural youth. In Spain, however, the difficulty of access to these jobs has also been highlighted, not so much because of the rural condition of the people, but because of the high privatisation and low supply of public employment, especially of those jobs located in waste management. And, although they also perceive the potential of green entrepreneurship for rural employment, they agree that it is still very dependent on the presence of aid and grants which, at present, are limited.

Due to this context, youth employability practitioners point out that work guidance for rural youth is complex as there is no adequate guidance from school stages to promote work in rural areas. Therefore, they consider that, in general terms, institutions dedicated to training or career guidance do encourage young rural people to try to access green jobs, but the information provided in schools is considered outdated and existing training outside school does not tend to generate links with companies. They feel that access to these services is not encouraged more because there is a lack of awareness of the training needs in the "green" area which has been linked, in some cases, to the great dynamism that these sectors are experiencing.

<sup>&</sup>lt;sup>18</sup> This has been especially mentioned in interviews with rural youth and youth employability practitioners in Italy.

<sup>&</sup>lt;sup>19</sup> This lack of knowledge about green employment opportunities was especially mentioned by youth employability practitioners in North Macedonia.

And, regarding green entrepreneurship, we find that in most countries youth professionals report that institutions dedicated to training or career guidance do encourage young rural people to start green businesses, although they generally point out that they are not sufficient, highlighting two main limitations: 1) despite the existence of various training programmes (especially online) on entrepreneurship development, these approaches are often very theoretical and generic in nature and rarely address the specific needs and situations of rural youth. And, 2) there is often a lack of financial resources, which makes it difficult for young entrepreneurs to get their projects off the ground. In this sense, in those cases where it has been considered that young rural people are not encouraged to start green businesses (Slovenia, Italy and Northern Macedonia), another limitation has been pointed out, such as the lack of knowledge among professionals in the field of training and job guidance.

The public authorities and third sector organisations can play a key role in **making the employment opportunities offered by green jobs visible to those who are not yet familiar with them and in empowering those who, although aware of them, do not currently consider themselves capable of doing them.** In the same way, knowing the opportunities offered by green entrepreneurship for the young people can contribute to improving the current perception of their job opportunities in their region. However, there is a **strong need to update existing training programmes and provide them with as many resources as possible, preferably adapted to the reality of the young rural people.** 

### - STRATEGIES TO PROMOTE GREEN EMPLOYMENT AND ENTREPRENEURSHIP AMONG YOUNG RURAL PEOPLE

In view of these needs regarding services and training programmes aimed at the young rural people, we compiled the proposals extracted from the interviews with the different profiles: young people, green businesses and youth employability practitioners, in order to provide input for the final recommendations of this research.

Tables 3 and 4 below summarise the strategic proposals extracted from all the interviews to promote both training in green and entrepreneurial skills and increased access to employment and green entrepreneurship.

Table 3: List of strategies to promote green skills and entrepreneurship training from the perspective of rural youth, green businesses and youth employability practitioners

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#### PROMOTING TRAINING IN GREEN AND ENTREPRENEURIAL SKILLS

 Promote training in these competences among teachers so that they can be taught to the pupils from the school stages onwards.

**RURAL YOUTH** 

- Create more relations between municipalities and educational institutions and provide this training at local level.
- Take advantage of online resources for training, given their benefits for the rural population, but without abandoning faceto-face meetings, which help to create networks and reduce the feeling of loneliness.
- Within online training, promote live sessions that allow interaction and proximity among the young rural population.
- 5. Use **new educational strategies**, such as mobile applications, that allow training in these competences in an interactive way.
- 6. Provide more practical training on entrepreneurship.

#### **GREEN BUSINESSES**

- Offer training in skills from companies, where they could also apply this knowledge through internships in companies.
- Boost the confidence of the young rural people in order to motivate them to seek opportunities to improve their training in such a dynamic context.
- Create networks from the companies with the young people to help them develop these competences and act as tutors to make them aware of the needs of the labour market.
- Try to show young people the importance of giving value to small day-to-day actions, which is how these competences are internalised.
- 5. Raise awareness of the importance of training, even for those jobs where it might not be considered necessary, such as in the agriculture sector.

### YOUTH EMPLOYABILITY PRACTITIONERS

- 1. Train teachers and trainers in these skills in order to encourage a greater transmission of these skills to the local youth population.
- Facilitate meetings between companies and young people to promote knowledge of this type of training and act as motivators.
- Carry out awareness-raising campaigns, create open forums, strengthen links with schools and offer free training and mentoring programmes to promote knowledge and access of young people to these trainings.
- 4. Act as motivators for training in these competences by making visible the transformative power of these competences, not only at a professional level, but also at a personal level. As well as their potential impact at local level.
- 5. Adapt to the new needs of the young people, especially to the new ways of interacting with them and to the new teaching approaches available, for example by offering more practical or technological training, and by taking advantage of less formal teaching methodologies.

Source: own elaboration

Table 4: List of strategies to promote access to employment and green entrepreneurship from the perspective of rural youth, green businesses and youth employability practitioners

### RURAL YOUTH

#### **GREEN BUSINESSES**

### YOUTH EMPLOYABILITY PRACTITIONERS

#### PROMOTING GREEN JOBS AND ENTREPRENEURSHIP

- Know the benefits and advantages of green jobs at environmental, social and labour level in order to motivate them to participate in the green labour market.
- 2. Learn about successful business cases of young rural people and facilitate meetings with them and the young rural population.
- Know about the opportunities available in the green sector through tools such as: employment platforms or green business maps.
- 4. Provide specific services that allow rural youth to 1) learn about green employment opportunities, 2) training available to access these jobs and 3) advice on available grants for entrepreneurship or training in these areas.
- 5. Encourage the participation of companies in the schools through visits and performances.
- 6. **Promote more inclusive spaces** in green jobs for social minorities.

- 1. Take advantage of the link between the young rural population and the natural environment and promote these jobs by raising awareness of their multiple benefits at social and environmental level.
- 2. Foster entrepreneurship and involve young people in green initiatives, providing them with access to information and thus fostering a closer relationship between companies and young people.
- Strengthen links between green businesses and the young people, keeping them informed about market trends and offering internship services and certified training in fields such as renewable energies or sustainable agriculture.
- Publicise good practices detected in other territories and how these can be adapted to other local and national contexts.
- Educate young people in values to encourage their interest in ethical and sustainable jobs.

- Promote meetings between entrepreneurs in rural areas to act as motivators and prevent feelings of loneliness among young people trying to become entrepreneurs.
  - Raise awareness of green jobs among trainers and job advisors so that they can optimally promote them among the young rural population or outsiders interested in moving to rural areas.
- 3. Promote the link between sustainability and entrepreneurship from the earliest educational stages.
- 4. Showcase the potential of rural areas and their unique green employment opportunities through awareness raising campaigns on green entrepreneurship in rural areas.
- 5. Promote training opportunities among migrant youth interested in moving to rural areas<sup>20</sup>.

Source: own elaboration

<sup>&</sup>lt;sup>20</sup> Interviews with employability practitioners in Spain have pointed out that opportunities in green jobs are not being differentiated from other conventional jobs and training opportunities are scarce for young migrants, who already have difficulties in accessing free training due to delays in the procedures for their legal regulation in the country.

The compilation of proposals regarding how to improve skills training and greater participation in the green labour market shows that there is an alignment between several of the proposals of the different profiles interviewed, with a **particular coincidence in the following points:** 

- The need to promote these training and interests from the earliest educational stages.
- Strengthen links between the different agents (young people, businesses and social entities) for the establishment of networks that inspire and motivate the young rural people to participate in the green labour market.
- Offer real opportunities for young people to participate in the green labour market through internships in green businesses.
- And, update existing training in relation to the new needs of the young people, who demand greater practicality and depth of the knowledge acquired.

#### 6. CONCLUSIONS

The findings of this report confirm the opportunities offered by the green labour market in Europe after the identification of green employment niches in 12 different sectors across the 6 European countries analysed and the tracking of 68 good practices that promote these activities.

The diversity of methodologies used has made it possible to understand the **training needs of rural youth in terms of green and entrepreneurial skills** from different profiles and approaches, determining that this collective perceives the benefits of training in green and entrepreneurial skills, however:

- Despite the presence of green and entrepreneurial skills among the young rural population, there is still a considerable proportion of young people who cannot identify whether they have them and/or are not aware of the existence of such training.
- There is a greater lack of confidence among young women when considering their participation in green jobs.
- Existing skills training is considered outdated in the educational systems and too specialised when provided by companies. In fact, the most predominant training is characterised by being online, theoretical and not very practical.
- The entrepreneurial skills least demanded by green businesses are also the most favourable for business entrepreneurship, and it is precisely in the self-assessment of these skills that young rural people require the most training.
- These skills are still difficult for green businesses to detect in their selection processes.

In the same way, there is a need to expand the training services available to the young rural population, both in terms of skills training and access to the green labour market:

- Training in green and entrepreneurial skills is in demand among rural youth, although not as a priority compared to other employment services. And, at the same time, it is highly valued by the experts interviewed when it comes to favouring employment opportunities for the young rural people.
- Despite the existence of specialised services for the labour insertion of the young rural population in the green labour market, they are not considered to be sufficient. There is still a strong need for counselling and support services for both training and green entrepreneurship opportunities, especially due to the dynamic nature of these services.
- There is a need for further adaptation of existing training for young rural people to address both the needs of rural contexts and the new needs of the green labour market.
- There is still a need for further information on the opportunities offered by the green labour market among those young people who are not familiar with it. In this respect, there is also a need to further promote the job opportunities of green entrepreneurship, given the increased distrust of the young population due to the high dependence on grants and support and their limited knowledge and professional experience.
- There is still a need to continue working to ensure that green work environments offer real opportunities for social inclusion.

# 7. RECOMMENDATIONS FOR SATISFYING THE TRAINING NEEDS OF THE YOUNG RURAL PEOPLE

The recommendations in this section are aimed at summarising the most relevant information for the development of future training programmes that include green and entrepreneurial skills:

## Regarding the content of the trainings, it is recommended:

- Competence training courses should provide mainly practical knowledge, enabling
  the knowledge of how to apply the competences learnt to be updated according to
  the needs of the labour market.
- Promote the **participation of green businesses** in the trainings in order to provide first-hand knowledge of green job opportunities and the benefits of green jobs.
- Include in the training courses **success stories and organise meetings with young rural entrepreneurs** to motivate creativity and the enthusiasm for entrepreneurship among the young people.
- Complementing skills training with technical training in areas such as waste management, renewable energy, sustainable agricultural production, carbon footprint measurement or green certifications.
- Include a **gender perspective** in its design to reduce the knowledge and participation gap in the green labour market.
- Consider information relating to rural contexts:
  - Knowledge about the **specific difficulties of entrepreneurship**, such as the absence of commercial premises or registers of available commercial premises, and strategies to deal with them.
  - Knowledge about **cooperative business strategies**, such as sharing resources or dealers with the rest of the rural population, in order to try to share costs as much as possible and to increase the competitiveness of rural businesses in comparison to multinational companies.
  - Knowledge about the **problems associated with access to farmland** in agribusiness development and strategies to fight it.

## Concerning the organisation of training courses:

- Despite the benefits that online training brings to rural areas, it is recommended **not to leave the face-to-face sessions** in order to encourage the creation of networks and links between the different agents in the area (young people, companies, public administrations and social entities). These meetings strengthen relationships and allow young people to feel more supported in their career projects.
- Future trainings should be **more innovative in their teaching methodologies** and include the use of ICT tools and interactive or less official teaching methods.
- It is recommended to provide opportunities for young rural people to put into practice the knowledge learned in green businesses through **internships**. This will promote that training opportunities are linked to job opportunities.
- It is recommended that **training in competences be accompanied by certifications**, with the aim of helping companies to detect these competences during the recruitment process.
- It is appropriate to **offer a wide range of training at different levels**, covering from the earliest educational levels to more specialised ones and **accessible to groups at risk of social exclusion**, such as young migrants or people from minority groups.

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# ANNEX I: TRAINING FOR GREEN ENTREPRENEURSHIP AND GREEN JOBS

Country	Training Course	Link for further information
North Macedonia	<ul> <li>The South East European University offers a training programme dedicated to green economy and sustainable development and others focused on providing a comprehensive training in the field of sustainable energy systems.</li> </ul>	https://www.seeu.edu.mk/en/faculties/ be/be-study-programmes?id=246
		https://www.masterstudies.com/instituti ons/seeu/energy-management-and- sustainable-development
	<ul> <li>The "YES Foundation" offers a programme to support green business ideas and support entrepreneurial activities in the territory.</li> </ul>	https://wbc-rti.info/object/call/22874
	<ul> <li>Courses in sustainable development, renewable energy and environmental engineering are offered at Cyprus University of Technology.</li> </ul>	CYPRUS UNIVERSITY OF TECHNOLOGY (cut.ac.cy)
Cyprus		University of Cyprus, FOSS Research Centre for Sustainable Energy   Office of International Programs (princeton.edu)
	<ul> <li>Courses related to green employment, including modules on climate change, environmental protection and renewable energy at the University of Cyprus.</li> </ul>	Home - Department of Civil and Environmental Engineering (ucy.ac.cy)
Greece	e e e e e e e e e e e e e e e e e e e	https://www.agrofossilfree.eu/es/univers idad-agricola-de-atenas/
	- International Master's Programme (MSc) "Sustainable Tourism Development: Heritage, Environment, Society	https://www.tourismheritage.hua.gr/
	<ul> <li>National Technical University of Athens offers training in Renewable Energy Engineering.</li> </ul>	https://www.ece.ntua.gr/en/undergrad uate/courses/3244
Slovenia	<ul> <li>Katapult is a private initiative whose objective is to contribute to the promotion of local entrepreneurship.</li> </ul>	https://katapult.si/
	- The <b>University of Little Indiana</b> offers a renewed Public	http://www.ef.uni- lj.si/podiplomsko/javni_sektor
	<ul> <li>Greendex project, promoted by the Slovenian National Agency MOVIT, has trainings focused on carbon footprint reduction.</li> </ul>	https://greendex.world/

Italy	<ul> <li>Training in Building Energy Certification by the University of Catania.</li> <li>The Energy for Schools programme (Energia per le scuole) launched by Enel aims to respond to the most current demands of the energy sector.</li> </ul>	https://www.cutgana.unict.it/terza-missione/certificazione-energetica-degli-edifici  https://www.enel.com/it/media/esplora/ricerca-comunicati-stampa/press/2023/02/enel-presenta-energie-per-la-scuola-un-ponte-tra-imprese-e-formazione-per-la-transizione-energetica
	<ul> <li>The Università Politecnica delle Marche offers diverse training in management for sustainability, environmental sciences, innovative agricultural systems or environmental engineering.</li> <li>And various educational institutions such as the Politecnico di Milano, the University of Pavia and Parma offer training in green technologies.</li> </ul>	https://www.repubblica.it/green-and-blue/2022/06/20/news/universita_green_economy_ambiente_crisi_climatica-351458992/
	<ul> <li>The universities of Bologna, Brescia, Rome, Sapienza and Federico II offer training in resource economics and sustainable development; global challenges and global sustainability.</li> <li>And universities such as Bocconi and Luiss offer training in energy efficiency.</li> </ul>	https://spaziopubblico.fpcgil.it/corsi-di- studi-transizione-ecologica/
Spain	<ul> <li>Universities such as the Polytechnic University of Madrid, the University of Zaragoza, the University of Coruña or the Instituto Superior de Medio Ambiente have specialised training in renewable energies and energy efficiency in building, industry and transport.</li> </ul>	
	- The <b>Universities of Andalusia and Barcelona</b> offer both degree and postgraduate courses in organic agriculture and livestock farming.	https://www.unia.es/estudios-y- acceso/oferta-academica/masteres- oficiales/master-oficial-en-agricultura-y- ganaderia-ecologicas https://www.ub.edu/masterae/
	<ul> <li>Spain offers Vocational and Educational Training (VET) for activities in sustainable transport, management and installation of renewable energy sources, energy rehabilitation of buildings, forestry and agriculture.</li> </ul>	https://www.todofp.es/que- estudiar/loe.html
	<ul> <li>Spain offers professional certificates that allow the performance of activities in the waste management sector, the management and installation of renewable energy sources, the energy rehabilitation of buildings, and in the forestry sector.</li> </ul>	esformativas/RXBuscadorEFRED/Busque

# ANNEX II: GOOD PRACTICES OF GREEN ENTREPRENEURSHIPS IDENTIFIED

# Transforming Plastic Waste into Sustainable Products (Belgium)

Eco-oh! collects, sorts, cleans, and recycles household plastic waste into durable, sustainable products for gardens, construction, and infrastructure.



Name of the promoting organisation: Eco-oh!,

Location where it has been implemented: Laakdal, Belgium

Target group: General public & Businesses

**Objectives:** Reduce plastic waste and promote sustainability by creating recyclable products.

## Benefits to the entity and the target population

Eco-oh! creates sustainable products, reduces landfill waste, and promotes recycling. The public benefits through access to environmentally friendly products and reduced pollution.

#### Innovative character:

Eco-oh! uniquely recycles mixed household plastics that often go unrecycled, turning them into high-quality, sustainable products.

## Barriers and problems detected during implementation:

Challenges could include sourcing and sorting diverse types of plastic waste and managing variability in waste quality and composition.

Link to the website: <a href="http://www.eco-oh.com/">http://www.eco-oh.com/</a>

## Sustainable Fashion from Recycled Materials (Spain)

Ecoalf is a sustainable fashion brand turning waste materials into high-quality clothing and accessories, aiming to reduce environmental impact.



Name of the promoting organisation: Ecoalf

Location where it has been implemented: Madrid, Spain

Target group: Conscious consumers.

**Objectives:** Minimize waste and pollution by creating high-quality products from

recycled materials.

## Benefits to the entity and the target population:

Ecoalf reduces waste and pollution, while customers benefit from environmentally-friendly and stylish products.

#### Innovative character:

Transforming waste materials into fashionable and high-quality clothing, promoting sustainable fashion.

## Barriers and problems detected during implementation:

Challenges include the consistency of waste materials and the higher cost of recycling and sustainable production methods.

Link to the website: <a href="https://ecoalf.com/">https://ecoalf.com/</a>

# Innovative Natural Lighting Solutions (Belgium)

EcoNation's LightCatcher is an intelligent daylight system that optimizes natural light in buildings, reducing energy consumption.



Name of the promoting organisation: EcoNation

Location where it has been implemented: Gent, Belgium

Target group: Building owners & operators.

Objectives: Reduce energy use and emissions by maximizing the use of natural light.

## Benefits to the entity and the target population:

EcoNation promotes energy efficiency and sustainability. Building owners benefit from reduced energy costs and users enjoy natural lighting

## Innovative character:

The LightCatcher system intelligently maximizes natural light usage, reducing the need for artificial lighting.

## Barriers and problems detected during implementation:

Los desafíos incluyen los costos iniciales de instalar el sistema y la compatibilidad con los diseños de edificios existentes.

Link to the website: <a href="http://www.econation.be/">http://www.econation.be/</a>

# **Eco-Friendly Non-Stick Cookware (Belgium)**

GreenPan produces non-stick cookware with a unique ceramic coating,
Thermolon, reducing CO2 emissions and avoiding harmful chemicals.



Name of the promoting organisation : GreenPan

**Location where it has been implemented :** Brussels, Belgium.

Target group: : Conscious consumers.

**Objectives:** Provide safer, greener non-stick cookware alternatives.

## Benefits to the entity and the target population:

GreenPan reduces emissions in production while customers benefit from safe, efficient, eco-friendly cookware.

## Innovative character:

The Thermolon ceramic non-stick coating is a first-of-its-kind in the cookware industry.

## Barriers and problems detected during implementation:

Challenges could include overcoming market dominance of traditional non-stick cookware and educating consumers on the benefits of ceramic coatings.

Link to the website. <a href="https://www.greenpan.us/">https://www.greenpan.us/</a>

# Sustainability Ratings for Global Supply Chains (France)

EcoVadis provides comprehensive sustainability ratings and tools to enhance performance across global supply chains



Name of the promoting organisation: EcoVadis

Location where it has been implemented: Paris, France.

Target group: Global businesses.

**Objectives:** Promote sustainability in global supply chains via reliable CSR scores.

## Benefits to the entity and the target population:

EcoVadis promotes sustainable practices, while businesses can improve their sustainability performance and reputation.

## Innovative character:

Combining ICT and CSR expertise to deliver reliable, comprehensive sustainability ratings.

## Barriers and problems detected during implementation:

Challenges could include gaining trust and acceptance of sustainability ratings across diverse businesses and industries.

Link to the website. <a href="https://www.ecovadis.com/">https://www.ecovadis.com/</a>

# Sustainable Forestry Investment (France)

EcoTree enables individuals and businesses to invest in sustainable forestry, helping to increase forest growth and sequester carbon.



Name of the promoting organisation: EcoTree

Location where it has been implemented: Brittany, France.

Target group: Individuals and businesses.

**Objectives:** Foster sustainable forestry and combat climate change through carbon sequestration.

## Benefits to the entity and the target population:

EcoTree profits from investments, while investors gain both financial returns and environmental benefits.

#### Innovative character:

Uses a unique investment model that promotes sustainable forestry and provides financial returns.

## Barriers and problems detected during implementation:

Challenges include engaging long-term investors due to the delayed return on investment inherent to forestry.

Link to the website. <a href="https://ecotree.green/es">https://ecotree.green/es</a>

# Solución de contaminación atmosférica urbana: The CityTree (Germany)

Green City Solutions has created the CityTree, a mobile, space-efficient installation that reduces urban air pollution using a combination of plants and IoT technology.



Name of the promoting organisation: Green City Solutions

Location where it has been implemented: Berlin, Germany.

Target group: Urban municipalities and businesses.

Objectives: Reduce urban air pollution and improve local biodiversity

## Benefits to the entity and the target population:

Green City Solutions benefits from sales of CityTrees, while cities and citizens gain improved air quality and a cooler urban climate.

## Innovative character:

Combines plant science and IoT technology to reduce air pollution in a space-efficient way.

## Barreras y problemas detectados durante la implementación

We don't have real-time data. Challenges include ensuring the CityTrees are properly maintained and obtaining buy-in from cities and businesses.

Link to the website. <a href="https://greencitysolutions.de/en/">https://greencitysolutions.de/en/</a>

# Coffee Waste Upcycling (Denmark)

Kaffe Bueno recycles waste from coffee production, transforming it into active ingredients for cosmetics, nutraceuticals, and functional foods.



Name of the promoting organisation: Kaffe Bueno

**Location where it has been implemented:** Copenhagen, Denmark.

Target group: Coffee shops, cosmetics, nutraceuticals, and functional food industries.

**Objectives:** Repurpose coffee waste into valuable products, promoting a circular economy.

## Benefits to the entity and the target population:

Kaffe Bueno profits from selling repurposed coffee waste, while reducing waste and creating high-value products for various industries.

#### Innovative character:

Utilizes biotechnology to recycle and transform coffee waste into high-value products.

## Barreras y problemas detectados durante la implementación

Challenges include ensuring a steady supply of coffee waste and maintaining efficient extraction processes.

Link to the website. <a href="https://www.kaffebueno.com/">https://www.kaffebueno.com/</a>

# **Promoting Eco-friendly Lifestyle (France)**

Greenweez is an online retailer specializing in organic and eco-friendly products, ranging from food and hygiene to household items and toys.



Name of the promoting organisation: Greenweez

Location where it has been implemented: France

Target group: Conscious consumers worldwide.

Objectives: Make eco-friendly products accessible, promoting a sustainable lifestyle.

## Benefits to the entity and the target population:

Greenweez benefits from the sales of eco-friendly products, while consumers gain easy access to a wide range of sustainable goods.

## Innovative character:

Leading online platform in France dedicated to organic and eco-friendly products.

## Barriers and problems detected during implementation:

Challenges include maintaining a diverse product range that meets rigorous ecofriendly standards and adapting to changing regulations.

Link to the website. <a href="https://www.greenweez.com/">https://www.greenweez.com/</a>

# **Smart Indoor Aquaponics (Sweden)**

EcoGarden by Ecobloom is an indoor smart garden that uses aquaponics, simulating a sustainable natural ecosystem within a stylish, compact setup.



Name of the promoting organisation: Ecobloom

Location where it has been implemented: Stockholm, Suecia

Target group: eco-conscious individuals and educational institutions.

Objectives: Promote sustainable and organic farming methods via aquaponics.

## Benefits to the entity and the target population:

Ecobloom benefits from the sales of EcoGardens, while users gain an educational tool for sustainable farming and a convenient way to grow fresh produce indoors.

#### Innovative character:

The innovative character lies in combining traditional farming with modern technology to create a compact, self-sustaining ecosystem.

## Barriers and problems detected during implementation:

Challenges include educating consumers about aquaponics and ensuring user-friendly design and operation.

Link to the website. <a href="https://ecobloom.se/">https://ecobloom.se/</a>

EcoGarden: El ecosistema interactivo más inteligente del mundo | Indiegogo

# Mezolift (Greece)

The Greek business that makes solar lifts offers lower fuel costs and lower maintenance requirements over their lifetime. In particular, the company's owner creates lifts that use renewable energy. This innovative product exemplifies best practices that encourage and elevate green entrepreneurship.



Name of the promoting organisation: MEZOlift

Location where it has been implemented: Kilkis, Greece

Target group: general public.

**Objectives:** The aim of the solar elevator is to reduce the environmental impact of traditional lifts by using solar energy as an energy source.

#### Benefits to the entity and the target population:

Solar lifts offer the organisation a remarkable level of energy independence. By generating electricity on-site through solar energy, the entity can minimise dependence on external energy sources and grid infrastructure. The implementation of solar lifts brings significant advantages to the target population, aligning with their aspirations for a sustainable and environmentally friendly way of life. It also provides them with cost savings and energy independence.

## Innovative character:

A solar elevator is an advanced concept that combines solar energy and vertical transport systems to create an environmentally friendly mode of transport. It operates with the help of a small solar cell, which significantly reduces construction costs.

Link to the website. http://www.mezolift.gr

# **BioAgros** (Greece)

The company's emphasis is on using ecologically friendly practices, natural soil-building processes, and avoiding the use of synthetic chemicals, pesticides, and genetically modified organisms. They use renewable energy sources, promote paper recycling and use decomposed organic matter for animal feed and energy production.



Name of the promoting organisation: BioAgros.

Location where it has been implemented: Krya Vrysi, Greece

Target group: Sellers and consumers.

**Objectives:** Their main goal is the production and promotion of organic goods, demonstrating their everlasting dedication to environmentally friendly procedures.

## Benefits to the entity and the target population:

Several aspects such as commercial viability, financial sustainability, welfare improvement and ecological conservation. From a wide range of benefits, including market prospects, profitability, improved health outcomes, to environmental sustainability.

## Innovative character:

It is characterised by its innovative approach to sustainable agriculture and its ability to meet changing consumer demands. BioAgros stands out as an innovator in the organic produce industry due to its commitment to sustainable agriculture and its use of cutting-edge farming techniques that prioritise the long-term well-being of the environment.

#### Barriers and problems detected during implementation:

Resistance to change within the agricultural sector, which was a serious obstacle to the organisation's development and growth. Lack of easily accessible markets to create a strong presence and attract a larger customer base.

Link to the website. https://www.bioagros.gr

# **JOIST Innovation Park (Greece)**

The Innovation Park, located in Larissa, exhibits many admirable practices that demonstrate a commitment to sustainability. Energy saving initiatives are given top priority in its construction. The use of energy-efficient lighting, heating and cooling systems is part of this. It acts as a channel for the transmission of cutting-edge concepts and best practices by linking research institutions, businesses and individuals.



Name of the promoting organisation: JOIST

Location where it has been implemented: Larissa, Greece

**Objectives:** Operate locally and foster the growth of the city's economy and environment. Encourage innovation, foster knowledge transfer, develop a dynamic physical ecology, forge strong relationships and promote economic growth.

## Benefits to the entity and the target population:

It provides access to a prosperous innovation environment, enabling collaboration, exchange of ideas and field-leading advancement between individuals, start-ups and established companies. It promotes networking and cooperation, opening up prospects for joint growth. These advantages enable the target population to innovate, expand their businesses and improve their capabilities.

## Innovative character:

It fosters cooperation, information sharing and multidisciplinary thinking by melding physical and digital components. Due to its focus on multidisciplinary cooperation and the integration of digital platforms, innovative solutions incorporating various points of view can emerge. It acts as a catalyst for creativity, encouraging the exchange of ideas, promoting teamwork, and igniting the creation of innovative ideas and solutions.

Link to the website. https://joistpark.eu/

# Just Go Zero (Greece)

It is the first implementation of circular economy ideas on Tilos Island. It embraces the principles of the circular economy, reaffirming Tilos Island's leadership in sustainable innovation. The JUST GO ZERO initiative serves as an example of how public-private cooperation can effectively deliver circular economy concepts, providing guidance for other regions and associations.



Name of the promoting organisation: Municipality of Tilos and "POLYGREEN".

Location where it has been implemented: Tilo Island, Greece

**Target group:** businesses, consumers, local government organisations and public bodies

**Objectives:** eliminate the use of waste bags, litter bins and landfills through the implementation of specialised collectors that promote recycling and reuse.

## Benefits to the entity and the target population:

It promotes the preservation of a cleaner and healthier environment for local people and visitors. The circular economy encourages recycling and reuse of materials, thus promoting resource efficiency. The growth of regional businesses engaged in resource recovery, waste management and recycling promotes job creation and economic expansion, benefiting the island's economy and opening up employment prospects for its citizens.

#### Innovative character:

It lies in its ability to transform the mindset of island residents, encouraging them to adopt new perspectives and sustainable lifestyles. It fosters a sense of ownership and empowerment, instilling a shared responsibility to promote sustainable practices and efficient waste management. This inclusive model cultivates strong community cohesion and collaboration, motivating people to contribute their ideas and efforts towards the success of the project.

Link to the website. <a href="https://www.justgozero.com/">https://www.justgozero.com/</a>

# Vamvakies: a Green Social Project (Greece)

Este This pioneering project combines the production of agricultural goods with the establishment of a photovoltaic park, integrating the generation of renewable energy with agricultural practices. The initiative not only optimises land use, but also promotes ecological preservation. The integration of solar panels and agricultural production generates clean energy and contributes to food production, establishing a mutually beneficial relationship between the energy and agricultural sectors.



**Name of the promoting organisation :** Enel Green Power, Wise Greece, the Municipality of Kozani, and the West Macedonian Bioeconomy and Environment Group.

Location where it has been implemented: Kozani, Greece

Target group: Women and residents of Kozani

**Objectives:** foster sustainable practices and promote green business in the area with a strong emphasis on education. Promote inclusive growth, improve sustainability and facilitate the empowerment of people through active participation, with a focus on women's empowerment.

## Benefits to the entity and the target population:

It offers education and empowerment possibilities, giving them essential information and skills in sustainable practices and green entrepreneurship. Their employability and financial perspectives can increase as a result, improving livelihoods and achieving financial independence. The project also promotes social cohesion and community participation by providing local women with a platform for collaboration and a support network.

#### Innovative character:

The initiative creates a special synergy that harnesses the potential of several sectors by combining the fields of agriculture, social empowerment and renewable energy generation. A forward-looking strategy that maximises land use and encourages sustainable habits.

Link to the website. <a href="https://www.wisegreece.com/oi-draseis-mas/ekpaideftika-programmata/vamvakies-a-social-green-project/">https://www.wisegreece.com/oi-draseis-mas/ekpaideftika-programmata/vamvakies-a-social-green-project/</a>

# Laouta (Greece)

Laouta is an exceptional Greek company that skilfully combines cosmetics and green entrepreneurship. They opt for organic and sustainable options whenever available, and maintain complete transparency regarding their formulas. They help regional agriculture and rural economies by supporting small farmers.



Name of the promoting organisation: Laouta

Location where it has been implemented: Athens, Greece

Target group: Consumers of natural and organic products.

**Objectives:** produce and promote high quality herbal cosmetics that are effective, long-lasting and affordable for everyday use.

## Benefits to the entity and the target population:

It guarantees that its consumers will get natural and organic cosmetics, ensuring that its products are gentle, safe for the skin, reliable and of high quality. In line with the growing demand for sustainable and environmentally friendly solutions, the company places a strong emphasis on the use of 100% recyclable and biodegradable containers, which helps to reduce waste and environmental impact.

#### Innovative character:

Laouta has successfully integrated the ideas of beauty and sustainability, creating a niche market for themselves. They have developed a unique offer for customers who value natural and ecological products, providing a variety of herbal cosmetics that are efficient and sustainable.

Link to the website. <a href="https://www.laoutashop.com/es">https://www.laoutashop.com/es</a>

# Wattcrop (Greece)

WattCrop, a company that aims to lead the country in the development of renewable energy sources and energy storage projects. They prioritise sustainability by completing rigorous environmental impact studies, using green products and technologies, and aggressively reducing waste and carbon emissions.



Name of the promoting organisation: WattCrop

**Location where it has been implemented :** Ptolemaida, Greece

Target group: Local community

**Objectives:** focuses primarily on emission-free energy production and storage, aiming to reduce environmental impact and opening the way for a green future. The company's focus is to enhance biodiversity and preserve natural environments by contributing to the conservation of local ecosystems, ensuring the long-term ecological health of the region.

## Benefits to the entity and the target population:

WattCrop generates tangible benefits for both the local community and the environment. It contributes to a balanced energy landscape and the overall prosperity of the region, with a strong emphasis on community well-being. It is a leader in the green energy sector, attracting investors, partners and customers who value environmental awareness and social responsibility. In addition, WattCrop's social activities and job creation efforts empower the local population.

#### Innovative character:

WattCrop is recognised as an innovative green company that distinguishes itself by integrating the latest technologies and practices in renewable energy. The company embraces advances in solar, wind and energy storage systems, using cutting-edge technology to optimise the production, storage and distribution of energy.

Link to the website. https://wattcrop.com/

# Agrecofarms (Greece)

Agreco Farms, combining the words
"agriculture" and "ecology", represents
the company's dedication to maintaining
traditional farming practices and
preserving the environment. It gives
visitors an in-depth insight into the organic
production of simple and healthy Cretan
food. It offers a variety of organic body
care products with an emphasis on
authenticity, drawing inspiration from the
mythological nature of Crete, while
supporting local communities and
promoting sustainable agriculture.



Name of the promoting organisation: Agreco Farms

Location where it has been implemented: Rethymno-Crete, Greece

Target group: Local community and tourists.

**Objectives:** actively support the rural economy and preserve traditional agricultural methods in Crete by working with regional producers.

## Benefits to the entity and the target population:

Both residents and tourists benefit from a special understanding of the region's cultural heritage, organic farming practices and traditional agricultural techniques. It encourages a closer relationship with nature and a sustainable way of life, motivating people to make reflexive decisions that are good for both the environment and their own well-being.

## Innovative character:

It takes a creative approach by combining traditional farming practices with modern organic farming methods. The farm offers a unique and immersive experience that highlights the importance of heritage and sustainability through the preservation and demonstration of centuries-old farming techniques.

Link to the website. <a href="https://agrecofarms.gr/">https://agrecofarms.gr/</a>

# Costa Nostrum – Sustainable Beaches (Greece)

They employ a variety of best practices that demonstrate their dedication to being socially and environmentally responsible. The promotion of sustainable beaches, comprehensive reviews of beach-related criteria, taking into account carrying capacity to protect natural resources, and proactive measures to prevent environmental impacts are some of these activities.



Name of the promoting organisation: Costa Nostrum

Location where it has been implemented: Irakleion - Crete, Greece (other beaches)

Target group: residents, tourists and beach management stakeholders

**Objectives:** aims to establish a replicable model for sustainable beach management in other seaside regions. Preserve natural resources and improve the well-being of local communities.

## Benefits to the entity and the target population:

The project promotes the conservation of natural resources, ensuring that beaches are pristine and ecosystems are protected. By providing them with pure and ecological beach places to enjoy, this benefits both tourists and the local population. Costa Nostrum promotes economic growth while taking into account social and environmental fact

## Innovative character:

They have a comprehensive and balanced approach, taking into account the economic, social and environmental components of sustainability. Costa Nostrum employs a proactive strategy to regulate the effects of tourism by determining the maximum number of visitors a beach can get without disturbing its ecological balance. This ensures the preservation of the ecosystem and allows swimmers to have a more pleasant and sustainable experience.

Link to the website. <a href="https://costanostrum.org/el/">https://costanostrum.org/el/</a>

# Pelagoo (Greece)

Pelagoo aims to implement sustainable methods that support environmental protection and safeguard the islands' natural resources. This covers programmes such as waste management, ecosystem preservation and the integration of renewable energy. Pelagoo aims to use technology to improve the infrastructure and quality of life on remote islands.



Name of the promoting organisation: Pelagoo

**Location where it has been implemented:** Kalamos Island, Greece.

Target group: local population, organisations and companie.

**Objectives:** provide resilient and sustainable solutions to isolated island populations. To help these communities overcome their difficulties by focusing on innovations in the fields of environment, education, technology and hosting.

## Benefits to the entity and the target population:

They bring numerous benefits to isolated island communities. Through sustainable development practices, they improve quality of life and generate economic opportunities. They preserve natural resources and contribute to a healthier environment. In addition, their educational initiatives empower community members through skills development and knowledge sharing, fostering long-term resilience.

#### Innovative character:

It presents new strategies to address the particular problems faced by isolated island populations by incorporating advances in the fields of environment, education, technology and hosting. Its emphasis on sustainability, clean energy and ethical tourism demonstrates its progressive attitude.

Link to the website. https://pelagoo.org/

# Rigiocattolo (Italy)

They receive toys as gifts from people, repair them and bring them back to life.

Three services are provided: Repairing; by bringing the toy and leaving it to the Rigiocattolo team, it is possible to have it repaired and made functional again. Rental; it is possible to choose a game, pay a deposit, use it for a month and bring it back again, withdrawing the deposit or taking a new game. Provision of courses on reuse/recycle.



Name of the promoting organisation: Rigiocattolo

Location where it has been implemented: Campobasso, Italy

Target group: parents and children.

**Objectives:** Working towards a sustainable economy, reducing waste and giving new life to toys, providing consumers with the tools to recycle, reuse and repair

#### Benefits to the entity and the target population:

It operates in a shop in the city centre. It enjoys strong sympathy and interest from many people; donations arrive spontaneously and continuously. It is contacted several times a week for information, toy orders, repairs, training courses. The main success achieved so far is in the number of toys not ended up in landfills.

#### Innovative character:

It remunerates some operators with situations of social disadvantage (disability, long-term unemployment, ...). At national level, it is the first case of a company operating on toys and this is the reason why it has received recognition from the Molise Chamber of Commerce for green activities and it has been included in the Italian Circular Economy Platform, in the mapping of reuse centres and in the Circular Market app. At international level, it has been contacted by two Norwegian entities (Nordic Innovation and LOOP) for the Nordic Circular Summit in November 2021.

## Barriers and problems detected during implementation:

The concept was born just before Covid; therefore, one of the main difficulties was to engage the number of volunteers. The other one is related to funding (it is starting to pay volunteers with regional grants).

Link to the website. <a href="https://rigiocattolo.com/">https://rigiocattolo.com/</a>

# Aliva (Italy)

The aim of Aliva is to give birth to handcrafted products created with wood from centuries-old olive trees. Profits coming from the sales of these products are used to provide training, prevention measures and to finance the observatory of the Italian olive groves. Production is made by selected craftsmen of the territory. Each Aliva 's product is numbered (only 1000 pieces per item are created) and certified (with photos, location, and details on the olive tree). Packaging is also sustainable.



Name of the promoting organisation: Aliva

Location where it has been implemented: Apulia, Italy

**Target group:** consumers interested in handcraft/small furniture pieces.

**Objectives:** Produce certified handcrafted products with pruned olive trees. Improve local olive grove owners' knowledge of the threats affecting olive trees. Protect olive trees from threats affecting their existence. Restore the olive tree population of Salento (Puglia).

## Benefits to the entity and the target population:

Part of the profits generated from the sale of Aliva products are destined to an environmental project, which aims at raising awareness in the local territory with respect to the threats to the health of olive trees. For every Aliva product sold, the company plants an olive tree in Salento (Apulia) through its collaboration with OlivaMi.

#### Innovative character:

Aliva produces its goods without felling trees, with pruning carried out only if necessary for the plant. Aliva offers a series of free training courses, aimed at olive grove owners (private individuals and farms), to help them prevent olive trees threats correctly and consciously.

## Barriers and problems detected during implementation:

One of the main barriers lies in the mentality of the people. Olive trees are often seen only as "olive producers" when, in fact, they are above all naturalistic and historical heritage to know, protect and defend.

Link to the website. https://www.alivadesign.it/

# Bisofa (Italy)

Nature, tradition, and design are the core of Biosofa. It is the only manufacturer in Europe to produce 100% natural and plastic-free contemporary sofas.

All products are handmade in the local area and each creation is made individually, free of toxins and plastic.

Biosofa represents the perfect combination of design, Italian manufacturing tradition and respect for the environment and for our planet.



Name of the promoting organisation: Bisofa

Location where it has been implemented: Lentate sul Seveso – Lombardy, Italy

**Target group:** consumers interested in sofas.

**Objectives:** To create sofas that have the lowest possible impact during their product life cycle, taking into account the three different phases: production, use, disposal. Produce biodegradable sofas that do not cause environmental damage. Promote sustainability and its other values to a wide audience. Constantly search for new and 100% natural materials.

#### Benefits to the entity and the target population:

Biosofa's furniture is built in a modular way, so that, should something break, all pieces are easily repairable, and parts can be replaced. Once the furniture has come to the end of its life, the materials are easily separated and recovered for recycling. Being biodegradable, they could also be left in the garden of the owners to decompose.

#### Innovative character:

Some of Biosofa's construction techniques are more than 500 years old. All its pieces are made in an Italian village and it is a family business.

## Barriers and problems detected during implementation:

The founder created the first furniture collection in 2012. It took another eight years to perfect the production methods and complete the collection.

Link to the website. <a href="https://biosofa.com/">https://biosofa.com/</a>

# Bella Dentro (Italy)

The business model of the project is based on buying directly from agricultural producers and at a fair price those products that are not valued by the market because of aesthetic and dimensional canons but have good quality and are tasty and sell them to the consumers



Name of the promoting organisation: Bella Dentro

Location where it has been implemented: Milan, Codogno y Rimini, Italy.

Target group: producers and consumers

**Objectives:** restore the right value, both to unjustly discarded agricultural products and to the work of producers, who normally do not receive any compensation for this commodity not admitted to the retail market.

## Benefits to the entity and the target population:

177,649 kg of fruit and vegetables have been saved from waste. Bella Dentro started a food processing business together with two social cooperatives dedicated to the labour inclusion of people at risk of exclusion and disabled people.

## Innovative character:

2 shops have been opened and 2 laboratories are operational. They created from scratch a fruit and vegetable supply chain parallel to the existing one, totally focused on the fight against waste.

## Barriers and problems detected during implementation:

At the beginning, Bella Dentro spent months studying and researching in the countryside and farms, as harvest volunteers and as "infiltrators" inside large cooperatives or retailers. Moreover, since they had to money at the beginning, they decided to start personally selling "wasted" fruit and vegetables around the streets of Milan on a three-wheeled mean of transport.

Link to the website. <a href="https://www.belladentro.org/">https://www.belladentro.org/</a>

# Fungo Box (Italy)

Fungo Box is the first circular economy project of II Giardinone. It is a do-it-yourself kit for domestic mushroom cultivation, made of mycelium, coffee grounds and cellulose. Every week, II Giardinone collects coffee grounds from local bars to make kits. Following the instructions, fresh mushrooms will grow in 10-15 days; the box can be reused depending on humidity. At its end of life, the soil can be exploited as natural fertiliser and it is also effective as insect repellent.



Name of the promoting organisation: Il Giardinone Cooperativa Sociale

**Location where it has been implemented:** Locate Triulzi, Italy.

Target group: consumers (both adults and children).

**Objectives:** help individuals to cultivate, live and think in a more sustainable and circular way.

## Benefits to the entity and the target population:

25500 Kgs of coffee grounds have been collected since 2016. Coffee grounds contain 99.8% of the nutritional components of coffee. Fungo Box has also become an important tool for educational projects in schools and a replicable model in other cities. Thanks to circular economy projects II Giardinone was able to promote activities of inclusion and promotion of diversity though the employment of people at risk of social exclusion.

#### Innovative character:

18600 Kit Fungo Box Kit have been sold since 2016. By converting urban waste into ultra-fresh food and soil restorative, Fungo Box is a perfect example of double circularity. It is exciting and educational: from children to adults, it shows the cycle of nature and the value of waste.

Link to the website. https://www.fungobox.it/

# Caffeefrom (Italy)

Coffeefrom is the second circular economy spin-off made by Il Giardinone, born to give a second life to industrial coffee grounds through a virtuous industrial symbiosis, Coffeefrom today is the name of an innovative bio-based material, composed of recycled coffee grounds from the food industry and biopolymers.



Name of the promoting organisation: Il Giardinone Cooperativa Sociale

**Location where it has been implemented:** Locate Triulzi, Italy.

Target group: consumers and companies.

**Objectives:** develop thermoplastic materials in which the recycled coffee grounds constitute a new input.

## Benefits to the entity and the target population:

Coffeefrom is a perfect model to create job opportunities for fragile workers, directly involved in the logistics and packaging activities. 200 Tons of coffee grounds are transformed every year. 3 materials have been created so far. We can also identify environmental benefits such as reducing the level of CO2 emissions for coffee grounds disposal and the possibility to have a sustainable and lasting alternative to single use plastics.

#### Innovative character:

Coffeefrom is an example of industrial symbiosis, since the supply chain - geographically located between Lombardy and Emilia-Romagna - is able to take care of the waste, coming from the food industry, and to transform it across different sectors. In this way, there are no wastes, but second-raw materials to process again. Through this model, there is clear evidence of new job opportunities for all involved partners.

Link to the website. <a href="https://coffeefrom.it/en/home/">https://coffeefrom.it/en/home/</a>

# Materially (Italy)

Materially helps start-ups, companies, architects and designers in the development and promotion of sustainable innovation starting from materials. Materially is the ideal partner for development and implementation of innovation strategies based on materials. Events, networking and the materials library are at the core of Materially's activity.



Name of the promoting organisation: Materially

**Location where it has been implemented :** Milan, Italy.

Target group: start-ups, companies, architects, designers and the general public.

**Objectives:** innovation, design, promotion for materials manufacturers, end users and general public.

## Benefits to the entity and the target population:

Materially supports materials manufacturers with innovation and networking projects. It supports companies in the development of new concepts and products, seeking creative and sustainable material solutions thanks to a multidisciplinary approach and design thinking methodologies. It promotes the use of sustainable materials also to the wider audience (including children) through workshops.

#### Innovative character:

Materials are a key element of the sustainability of a product and a central and tangible part of the transition to an economy that goes from linear to circular. Materially offers dedicated tools for this transformation: from the Material library, to training and events, exploiting design thinking, for the growth of a culture of sustainability that involves the whole society.

#### Barriers and problems detected during implementation:

The most challenging time was between the years 2020-2022 while, not only the company had to deal with the pandemic but also with the death of the president and the director.

Link to the website. <a href="https://www.materially.eu/es/">https://www.materially.eu/es/</a>

# Tondo Lab (Italy)

Company created to support start- ups in designing and implementing circular solutions and in helping companies to communicate their circular approach.

Assessing circularity tools for products and companies, organising education initiatives, organising workshops and hackathons on innovation (Re-Think and Hacking the City) and designing circular solutions are the key activities that the lab offers.



Name of the promoting organisation: Tondo Lab

Location where it has been implemented: Milan, Italy. (Whole country)

Target group: people, schools, research institutes, and public institutions.

**Objectives:** Develop knowledge among people and test new solutions related to the circular economy. Support corporates and start-ups in designing and implementing circular solutions. Develop an innovative approach to work on circularity, creating synergies among different people and targets.

#### Benefits to the entity and the target population:

The format of the Re-Think and Hacking the City events was designed to stimulate critical thinking towards some elements of the current industrial economic system, showing the possible evolutionary trends of the Circular Economy. Practical paths are shown, capable of leading to innovative and entrepreneurial activities that might have a positive impact on the local and national system.

#### Innovative character:

7 Re-Think events have been organised in 4 different Italian regions (Liguria, Lombardy, Apulia, Campania). Topics for the different events are chosen according to the peculiarities of the local territories and emerging sectors. Hackathons with schools are organised within the events to foster the entrepreneurial spirit among young people. 2 Hacking the City events were organised in 2021 and 2023.

Link to the website. <a href="https://re-think.today/">https://re-think.today/</a>

https://www.hackingthecity.today/

# Social Innovation Campus By Fondazione Triulza (Italy)

Created to involve new generations in planning for a sustainable future, through impactful technologies and dialogue with different stakeholders. The Campus is the context in which to imagine and experiment with innovative solutions for the cities of the future, mixing different knowledge and worlds.



Name of the promoting organisation: Fondazione Triulza

Location where it has been implemented: Milan, Italy.

**Target group:** High School and University students; New generations of Cooperators and social entrepreneurs; Third Sector Organizations and Philanthropic Entities; Research Centers; Public Administrations; Companies and Startups.

**Objectives:** involve the new generations in planning a sustainable future.

#### Benefits to the entity and the target population:

By creating suitable participatory and shared contexts, social innovation also comes from the citizens, communities, society and above all from the new generations.

#### Innovative character:

Over 5,500 people, 68% of whom were young people, followed the 78 initiatives organised, with schools from 18 municipalities in Lombardy, Veneto and Sicily and innovative startups and social coops from 8 Italian regions. The fourth edition also consolidates the "community" around the first Italian campus on social innovation: 57 partners, 171 speakers and 68 jurors, discussants and mentors.

Link to the website. https://fondazionetriulza.org/social-innovation-campus/

https://www.sicampus.org/

# Tcr Tecora (Italy)

A leading supplier of stack emissions sampling systems, continuous dioxin emission samplers, gravimetric samplers, industrial hygiene devices, oxygen and combustion control analyzers. Its mission is to design products compliant to international standards, helping environmental engineers and stack testers to improve their productivity and minimise off-spec products in industrial processes.



Name of the promoting organisation: TCR Tecora

**Location where it has been implemented :** Cogliate - Lombardy, Italy.

**Target group:** Environmental Agencies and laboratories, indoor air quality consultants and industries.

**Objectives:** Design products compliant to international standards, improve the productivity of environmental engineers, reduce off-spec products in industrial processes, contribute to the continuous training of companies.

#### Benefits to the entity and the target population:

TCR TECORA has created more than 50 instruments; +100.000 repairs and maintenance services. It offers the customer products in accordance with international standards, which simplify the work of the employees, reducing the cost of the operation, while improving the quality of the measurement. It also offers training to companies and PhD projects.

#### Innovative character:

TCR TECORA has served more than 3760 companies. TCR Tecora solutions are innovative and deliver superior revenues. The innovativeness of the companies lies in its investments in new technologies and innovative production processes. The company works in a constant relationship with laboratories and research centres for a constant improvement in technological optimization.

Link to the website <a href="https://tcr-tecora.com/en/">https://tcr-tecora.com/en/</a>

# Back To The Rural (Italy)

Immersive, itinerant and international learning programme. Trainings in English by international teachers and focused on digital skills, in particular digital storytelling and crowdfunding. It aims to provide young people with the right tools for effective territorial marketing.



**Name of the promoting organisation :** Embassy of the United States in Italy, CIAPE y Fondazione Mondo Digitale

Location where it has been implemented: Cogliate - Lombardy, Italy.

Target group: young people (<35)

**Objectives:** Promote the tourism and entrepreneurial potential of rural areas, leveraging the human, economic, cultural, environmental and historical resources of the municipalities involved. Invest in the training of young people who live in small towns and who want to contribute to enhance their territory through the knowledge acquired, strengthening their sense of community.

#### Benefits to the entity and the target population:

The so-called "Rural Tech Camp" aimed at equipping youths from rural territories with digital and crowdfunding skills in order to better promote rural municipalities and their entrepreneurial activities. The training has given rise to project ideas which will have a follow up thanks to the mentorship; therefore benefiting rural territories in the long run.

#### Innovative character:

The innovativeness lies in the fact that it is no longer the youth who leave the countryside to get training but it is the "training" that comes to visit him/her.

#### Barriers and problems detected during implementation:

Cultural barriers/initial scepticism from stakeholders not used to initiatives of this type, and economic constraints: most of the staff involved offered their work voluntarily due to scarcity of economic resources available.

Link to the website <a href="https://www.instagram.com/backtotheruralItaly/">https://www.instagram.com/backtotheruralItaly/</a>

# A-BA (Italy)

entirely sustainable fashion product, traced from the yarn to the end of life (blockchain), narrating the ethical work of the Social Tailoring that produces it and the creativity of those who design it. It is a proposal of 'architecture of the body' with a "for-all design" that has the ambition of being an economically virtuous and sustainable project and a 360° circular economy production process.



Name of the promoting organisation : A-BA

Location where it has been implemented: Rome, Italy.

Target group: Women, men (millennials).

**Objectives:** Changing the philosophy of dressing: buy less, use better. Offer high performance clothing, with simplified design, an ethical supply chain and low environmental impact. Implement an inclusive working model

#### Benefits to the entity and the target population:

a-ba offers high-performance clothing that combines comfort, ergonomics, versatility and style. A simplified design that reduces production time and costs. a-ba applies an ethical supply chain, transparency, it produces with natural or recovered fibres, with low environmental impact/re processable/disposable/compostable.

#### Innovative character:

Innovation lies in the combination of technological and product innovation and the application of an emotional smart label. A Connection is established between the consumer and the brand through a QR-code that creates a constant relationship of trust. You can buy the garment; you can use it and resell it on the a-ba e-shop; a-ba can also advise you how to reuse it in a creative way or how to best dispose it.

### Barriers and problems detected during implementation:

An obstacle for the development of the brand and the dissemination of sustainable topics is linked to the people thinking that sustainable fashion is very expensive and is not affordable for all

Link to the website <u>www.barbaraannunziata.com</u>

# Spring Lab (Italy)

A place where bring old furniture and furnishing accessories back to life, improving their quality, functionality and aesthetics. The key of her success is to try to think out of the box, combining the taste of the final consumer (aesthetics) with the need to reuse existing things.



Name of the promoting organisation: Spring Lab

**Location where it has been implemented:** Rome, Italy.

**Target group:** consumers interested in upcycling and restyled furniture or furnishing accessories.

**Objectives:** Upcycle and reuse as much furniture as possible. Improve the knowledge of the circular economy among the population and to help people produce in a sustainable way. Spread the culture of quality against quantity.

#### Benefits to the entity and the target population:

In 5 years a lot of furniture has come back to life and several families started rethinking their spaces without buying new but restyling or upcycling existing furniture. She collaborates with Rebibbia prisons for workshops on the transformation of pallets and with the Recovery Festival in Rome, the RiscartiFest.

## Innovative character:

Organises recycling workshops with young people and adults, she supervises university students in designing products made from waste. She collaborates with Roma Altruista in the management of corporate volunteers who have to transform a space in a sustainable way.

#### Barriers and problems detected during implementation:

The difficulty for some people to perceive the value of the time used to transform/upcycle a product

Link to the website <a href="https://springlab.art/">https://springlab.art/</a>

# 3Bee (Italy)

Develops unique and innovative technologies that enable people to listen to the bees' needs and intervene when they are unwell. 3Bee is the partner of companies that want to implement CSR policies and have a positive and concrete impact on biodiversity and pollinator protection.



Name of the promoting organisation: 3BEE

Location where it has been implemented: Lurate Caccivio, Italy.

Target group: companies and most recently schools.

**Objectives:** Develop concrete projects with a strong environmental and social impact in the world; Protect bees and biodiversity; Raise awareness and educate companies young children on sustainability issues.

#### Benefits to the entity and the target population:

3Bee and its projects have an impact on several Sustainable Development Goals (SDGs), in particular 13 - Climate Action, 15 - Life on Land and 11 - Sustainable Cities and Communities. 120 millions of Protected Bees + 1200 millions of Pollinated Flowers + 1000 of Monitored Hives + 302 Tons of  $CO_2$  Absorbed (indirectly)

#### Innovative character:

3Bee develops systems to improve the bees' health and to protect biodiversity.

In 3 years 3Bee has developed a network of 10K beekeepers and has involved already dozens of schools.

3Bee has revolutionised the ancient and precious art of beekeeping by encouraging its growth and rediscovery through the application of innovative technologies such as IoT, artificial intelligence and machine learning.

Link to the website <a href="https://www.3bee.com/es/">https://www.3bee.com/es/</a>

# First Organic Cooperative (North Macedonia)

Brings health and happiness with organic products to all households by joining together organic agricultural producers.

Promotes ecological living.



Name of the promoting organisation: First Organic Cooperative

**Location where it has been implemented :** Ohrid, Kumanovo, Valandovo, Dojran y Bogdanci, North Macedonia.

Target group: agricultural producers

**Objectives:** Promote healthier and more sustainable use of natural resources

## Benefits to the entity and the target population:

Sharing knowledge and experience and increase the organic production in the country.

#### Innovative character:

Members work together, sharing experiences and knowledge, to promote organic production as a more sustainable use of natural resources.

Link to the website. https://poz.mk/

# **SPIN (North Macedonia)**

Spin deals with the repair and reuse of old furniture. The goal of Spin is to keep the value of the old piece of furniture, and at the same time with a creative approach to give it a new, fresh and modern look.



Name of the promoting organisation: SPIN

Location where it has been implemented: North Macedonia

Target group: General population

**Objectives:** repair and reuse of antique furniture, interior decoration where mainly ecological principles are applied.

#### Benefits to the entity and the target population:

Most of the old furniture ends up as part of the waste, and unfortunately sometimes as fuel, so the main goal of Spin is the reduction of waste and the impact on the reduction of air pollution. The preservation of the cultural value of old furniture, which today is being replaced by new furniture production, from materials that do not have an ecological origin, is also a contribution.

#### Innovative character:

The idea of this project is to raise people's ecological awareness for the recycling, reuse and repair of old furniture, i.e. to return to life old pieces that would otherwise end up as part of the waste.

Link to the website. <a href="http://www.spin.mk/">http://www.spin.mk/</a>

# Energy Efficient Practise As A Solution To Climate Change (North Macedonia)

The Macedonian Association for Solar Energy, "Solar Macedonia" is a scientific and educational association working at all levels of the supply chain, from manufacturing to service and maintenance of solar energy systems, and promoting solar energy as a sustainable solution to energy needs.



Name of the promoting organisation: Solar Macedonia

Location where it has been implemented: North Macedonia

Target group: producers, contractors, importers and traders

**Objectives:** strengthen cooperation between Macedonian companies in the solar energy sector and connect experts and scientists from all branches to promote renewable energy.

#### Benefits to the entity and the target population:

Promotion of equipment and materials used to perform solar systems, criteria for minimum quality solar systems; awareness raising and education on solar energy in the education system (thoroughly, secondary and higher education); support in the organization of public campaigns for promotion and raising awareness of the citizens on the application of solar energy etc..

## Innovative character:

21 individual members and companies have benefited from Solar Macedonia, due to their strengthened knowledge and skills for the use of renewable energy, solar network of companies.

Link to the website.

# Pakomak (North Macedonia)

The main activity is the management of packaging waste, in accordance with the new Law on the management of packaging and packaging waste.

The founders of the company are 11
leading production companies in
Macedonia: Pivara Skopje AD Skopje;
Prilepska Pivarnica AD Prilep; Vitaminka
AD Prilep; Pelisterka DOO Skopje; Magroni
DOO Skopje (Ladna, Dobra Voda);
Coding Dooel Kavadarci (Gorska voda);
Kozuvchanka DOO Kavadarci; Vivax Ltd.
Skopje; Blagoj Gjorev AD Veles; VV
Tikvesh AD; VV Stobi AD.



Name of the promoting organisation: PAKOMAK

Location where it has been implemented: North Macedonia

Target group: companies and individuals

**Objectives:** organize a system for the collection, selection and recycling of companies' packaging waste, which ends up with end users. Promote a responsible attitude of companies towards packaging waste, thus enabling a better quality life for all.

#### Benefits to the entity and the target population:

The company's goal is to build a long-term and solid cooperation with its customers and with the state and in accordance with European regulations - to minimize the negative impact of packaging waste on the environment. It provides environmentally and economically justified solutions for packaging waste.

#### Innovative character:

With this principle of "producer's extended responsibility", all entities in the chain to the end user (manufacturers, packers, importers, distributors) should enable the reuse or utilization of the packaging material they place on the market. 850 companies have benefited from this initiative.

Link to the website. <a href="https://pakomak.mk/">https://pakomak.mk/</a>

# MB HOME (North Macedonia)

It is the first company in North Macedonia with a team of experts with significant knowledge and experience in the field of design and projecting, execution and development of projects based on the postulates of the international community and world institutions for the protection of nature and the direct impact of climate change by applying



Name of the promoting organisation : MB HOME

Location where it has been implemented: Skopje, North Macedonia

**Target group:** companies and individuals

**Objectives:** rebuilding and renovation of existing buildings, and construction of prefabricated houses.

## Innovative character:

Smart housing with ecological and green design, green architecture and green building, sustainable architecture and smart living.

Link to the website. <a href="http://www.mbhome.mk/uslugi/">http://www.mbhome.mk/uslugi/</a>

# Irina Tosheva - Designer (North Macedonia)

Sustainable fashion does not only mean using recycled and ecological materials and saving water, but also thinking about the well-being of workers. The entire supply and processing chain are involved, from the yarn producer, to the use of the product by customers. Sustainability means no overconsumption or excess.



Name of the promoting organisation: Irina Tosheva

Location where it has been implemented: Skopje, North Macedonia

Target group: customers of clothes, pet owners

**Objectives:** Contribute to the country's circular economy transition. Encourage the market to wear less and better clothes, and for longer.

## Benefits to the entity and the target population:

Working on various project as mentor, educating the young designers and introducing them to sustainability, cyclability and circularity, so it becomes core of their work.

#### Innovative character:

Maintaining everything to the level of necessity, and also thinking about the care of the clothes and her life afterwards and for reforestation of the environment

Link to the website. <a href="https://irinatosheva.com/">https://irinatosheva.com/</a>

# Ignea Cosmetics (North Macedonia)

Cosmetics are food for our largest organ, the skin, if we want to consume in a healthy way, then these natural cosmetics are a good selection that have collected all the benefits of mother earth in small bottles.



Name of the promoting organisation: IGNEA

Location where it has been implemented: Kumanovo, North Macedonia

**Target group:** customers of cosmetics

Objectives: producing environmentally-friendly products

## Benefits to the entity and the target population:

Preparation and sale of organic cosmetic products, while the target population has access to organic and natural cosmetic products with tested quality.

#### Innovative character:

The funds receive from the sale are invested in the maintenance of the "Eco Wellness Complex Ignea" where the Ignea' owners grow fruits and vegetables, but also and for afforestation of the surrounding area.

Link to the website. <a href="https://www.facebook.com/lgneaOrganicCosmetics/">https://www.facebook.com/lgneaOrganicCosmetics/</a>

# **Ecomegot (France)**

Eco Megot is a company that works on recycling cigarette butts.

Its goals are Protecting environment, building sustainable cities and communities which involves reducing their impact, promoting the circular economy necessary to preserve our resources and the social and environmental emergency we are experiencing.



Name of the promoting organisation: EcoMegot

Location where it has been implemented: Talence, France

Target group: General population.

**Objectives:** Environmental protection, management and treatment of waste through the collection and recycling of cigarette butts.

#### Benefits to the entity and the target population:

Since the beginning of the activity, it has collected 60 million cigarette butts across France. 60 million cigarette butts that will not end up in nature. In fact, one cigarette butt alone can pollute up to 500 liters of water.

For 6 years now, 30,000,000,000 liters of water, i.e. 12,000 Olympic swimming pools, have been protected from cigarette butt pollution!

Link to the website. <a href="https://ecomegot.com/">https://ecomegot.com/</a>

# MIT Group Company (North Macedonia)

The current production program is designed for the packaging production segment for the poultry industry. It is about the production of packages for eggs (trays and trays from recycled paper). Four basic packaging sizes are produced: 20-XL egg washers, 17-L egg washers, 15-M egg washers, and commercial packaging egg washers 10.



Name of the promoting organisation: MiT Group

Location where it has been implemented: Kumanovo, North Macedonia

**Target group:** eggs sellers and costumers

**Objectives:** Promote recycling to aim to improve the environment by reducing the use of new raw materials and creating a "circular economy" in which waste is not seen as a final product but as a resource for creating new products.

## Benefits to the entity and the target population:

The company's goal is to improve awareness of citizens and protect the environment by processing paper and obtaining a finished product from recycled paper, reducing packaging waste.

#### Innovative character:

MIT GROUP is the only company in North Macedonia and beyond in the Balkans that deals with recycling and processing of paper and obtaining a finished product from recycled paper

Link to the website. http://mitgroupcompany.com/

# **Greentech (North Macedonia)**

The company has employed 55 employees and since its start of work has continuously invested in the development of production and expansion of the network of suppliers.

Working under the motto "For a clean environment", GRINTECH MK emphasizes the need to collect, recycle and reuse plastic packaging waste, with the aim of saving energy, a healthy life and a clean environment for our and future generations.



Name of the promoting organisation: Grintech

Location where it has been implemented: Gazi Baba - Skopje, North Macedonia

Target group: customers, community

Objectives: collect, recycle and reuse plastic packaging waste

# Benefits to the entity and the target population:

The company gives new life to PET packaging and thereby preserve nature, leaving a healthy environment for future generations. At the group level, they process 50,000 tons of PET packaging annually. Target population contribute to the reuse of plastic packaging waste and decreasing of plastic waste.

#### Innovative character:

Grintech is a leader in North Macedonia in PET, PP and PE recycling, located in the industrial part of the Gazi Baba settlement in Skopje.

Link to the website. <a href="http://www.grinteh.com.mk/index.php/bonus-page/departments">http://www.grinteh.com.mk/index.php/bonus-page/departments</a>

# **Ekolife (Slovakia)**

The company is focus on creation of socially responsible, quality, clean, economically viable heating with care for the environment. We are working to educate the population and familiarize them with the sociological, ecological and economic advantages of using pellets.



Name of the promoting organisation: EKOLIFE

Location where it has been implemented: Ginovci – Rankovce, Slovakia

Target group: general public

**Objectives:** Producing pellets. EkoLife pellets are a renewable source of energy and during their burning they do not pollute the environment.

## Benefits to the entity and the target population:

Target group have access to qualitive and cheap energy source in terms of energy received/cost.

#### Innovative character:

EkoLife is a company that uses state-of-the-art technology to produce high-quality pellets, whose product belongs to the A1 class according to the ENplus standard – which means a strictly defined pellet composition.

Link to the website. <a href="https://ekolife.mk/">https://ekolife.mk/</a>

# Pokrov Izbor (North Macedonia)

On 5 hectares of land, various fruit and vegetable crops are grown, and recently the center also has a dryer for dehydrated products. There is also the "Fresh to go" brand, of ready-to-eat salads that have added value and are already sold in market chains such as Vero, Ramstor, Makpetrol.



Name of the promoting organisation: Pokrov Izbor

Location where it has been implemented: Strumica, North Macedonia

Target group: drug, alcohol and gambling addicts people.

Objectives: Organic production and social rehabilitation of vulnerable groups.

#### Benefits to the entity and the target population:

Produce organic products through a rehabilitation program for addicts – treatment, rehabilitation and resocialization of persons with drug, alcohol and gambling addiction problems. Find a job in the place of residence for people who have completed the program. A double benefit is evident from the economic activities because through them work the occupational therapy for vulnerable groups is realized and work habits are acquired or strengthened. The customers have access to organic and healthy products.

#### Innovative character:

The center for the rehabilitation of drug, alcohol and gambling addicts – Pokrov Izbor can be said to be one of the first social enterprises. The innovative component of the organization is in the part of reintegration (social inclusion) and is through the realization of economic activities - organic production of agricultural products.

# Instituto Knof (Slovenia)

An Institute for creative development, is a community of people from Posavje region of Slovenia who believe in entrepreneurship with positive environmental, social and health effects, local self-supply on different levels and inclusion of vulnerable target groups. The vision of KNOF is a green and local economic system which includes principles of eco-design, cradle-to-cradle and fair production as their core values.



Name of the promoting organisation: KNOF

Location where it has been implemented: Krško, Slovenia.

**Target group:** vulnerable groups, social entrepreneurs, local and national community.

**Objectives:** The focus of the KNOF is a sustainable way of life. Through various projects, they want to achieve the greatest possible effects in popularizing a sustainable way of life. They raise awareness among the public, companies, municipalities, communities, educate young entrepreneurs and demonstrate their success through the concrete effects of reuse.

## Benefits to the entity and the target population:

Individuals can become part of KNOF business community in different ways: They can shop at KNOF's sustainable boutiques, shops and online stores. If they have a business idea, they can have their own business center in the incubator and receive support from KNOF mentors and accountants and they can do business in the frame of KNOF social enterprise. They can work and help as volunteers or get involved through programs: on-the-job-training, work trials for young people, vocational/occupational rehabilitation for disabled persons.

#### Innovative character:

KNOF includes vulnerable groups in its activities: young people less than 30 years old without education or work experience, individuals above 50 years of age and disabled people. Usually, they are also long-term unemployed people and they usually go through a process of introduction to the work before they are ready to work independently.

Link to the website. <a href="https://knof.si/">https://knof.si/</a>

# Treecelet (Slovenia)

Their mission is to create a positive impact on nature, animals and people and they are doing this by planting trees, supporting various charities and providing fair jobs here and around the world.

Treecelet sells bracelets and with each bracelet purchased, you plant 3 trees and support local charities



Name of the promoting organisation: Treecelet

**Location where it has been implemented :** Kras, Slovenia.

Target group: Local, national and international community and charities.

**Objectives:** Promote charity through sustainable ways. Treecelet is more than planting trees and taking care of nature. They tend to have a positive impact on the world which also means people.

## Benefits to the entity and the target population:

Buyers can help by purchasing jewellery (they can also decide if they want to plant trees or they want to put it into charity). They benefit in two ways - by getting nice jewellery as well as helping others. With every purchase, they ensure the fair work of people here and around the world.

#### Innovative character:

Connecting jewellery making and charity/planting trees.

Link to the website. <a href="https://trgovina.treecelet.si/nasa-misija/">https://trgovina.treecelet.si/nasa-misija/</a>

# Mizarstvo Ornik (Slovenia)

Carpentry Ornik is a small company specialising in furniture production made of old/used wood and other raw materials.

The company cooperates also with subcontractors to help mostly on the installation, transporting and preparation of the old wood for the production phase. In its production process, Ornik is strongly oriented to circularity and zero waste production.



Name of the promoting organisation: Mizarstvo Ornik

Location where it has been implemented: Apače, Slovenia.

Target group: Local and national comunity, furniture business.

**Objectives:** They are a company specialising in furniture production made of old/used wood and other raw materials.

#### Benefits to the entity and the target population:

Ornik carpentry has a lot of experience in the restoration of baroque, stylish furniture, the production and finishing of equipment for churches, chapels and other sacred monuments-protected buildings. With their many years of presence on the Slovenian and foreign markets, they have gained a lot of experience and knowledge. They are also known for the consistency and highest quality of products, compliance with production deadlines and care for the environment.

#### Innovative character:

Mizarstvo Ornik manufactures products from old hewn wood and thus preserves the natural heritage of our grandfathers and grandmothers. The wood they use is from 100 to 500 years old and is cut in the old manual way, which they transform into products that take you far back, when people lived in a kinder natural way.

Link to the website: <a href="http://mizarstvoornik.com/">http://mizarstvoornik.com/</a>

# Čar Lesa (Slovenia)

With the aim of promoting wood processing and the use of wood products, the Slovenian Wood Protection Association and the Wood Council have been organizing the Čer Lesa exhibitions throughout Slovenia.



Name of the promoting organisation: Čer Lesa

Location where it has been implemented: Liubliana, Slovenia

Target group: general population

**Objectives:** The purpose of the exhibitions and parallel events is to raise consumer awareness of the importance of processing and using wooden products/objects to protect the environment (against climate change) and human health.

#### Benefits to the entity and the target population:

Slovenia has no mineral wealth, nor its own energy resources. But we have wood, which can be processed into high-quality products and buildings with little energy and impact on the environment. That is why the wealth of wood presents us with an immense opportunity to reorient Slovenian industry into an energy-saving and environmentally friendly "bio-economy".

#### Innovative character:

Exhibitions as an educational process. With these exhibitions the target group can acquire knowledge and skills in this field.

Link to the website: <a href="https://carlesa.si/">https://carlesa.si/</a>

# Drugačno Pohištvo (Slovenia)

Oldoak are interesting pieces of furniture and interior design. Each piece of furniture made of old oak wood is a unique, unrepeatable product.

Functional and durable. The traces left in the wood by its previous use tell stories about other times and places.



Name of the promoting organisation: Oldoak

Location where it has been implemented: Liubliana, Slovenia

Target group: Sellers and customers.

Objectives: Reuse oak wood and give it new life in different furniture.

## Benefits to the entity and the target population:

Sustainable furniture made from old oak. Old oak wood impresses with its soft honey color, accentuated age lines, cracks and other irregularities. The noble patina that it has acquired over a hundred or more years of natural aging gives a special character to furniture products.

#### Innovative character:

Reusing old oak to make new furniture.

Link to the website: <a href="https://www.oldoak.si/">https://www.oldoak.si/</a>

# **Smetumet (Slovenia)**

Smetumet are the products, workshops and social activities created from garbage for the sake of garbage. With playful recycling and unique design.



Name of the promoting organisation: Smetumet

Location where it has been implemented: Ljubljana, Slovenia

Target group: local producers

Objectives: Support local producers and farmers. Use of organic and sustainable

products.

#### Benefits to the entity and the target population:

Use of fair trade and social enterprise products and services, self-sufficiency as far as possible, renounce single-use items and choose products with less or no packaging. Seek to buy better quality products that last longer, donate, share, sell or exchange used items. Classification of waste and placing it in appropriate containers; collection of the desired waste for the waste bin.

## Innovative character:

Turning rubbish into new products. Everything, no matter how much we want it, eventually becomes waste. Being aware of waste before it is created, thinking about the possibilities of preventing it, about its reuse, processing, repairing, upgrading and life extension is the purpose of Smetumet's operation.

Link to the website: <a href="https://smetumet.com/">https://smetumet.com/</a>

# Intermontage B.V. (Países Bajos)

Intermontage is a multi-certified interior finishing and design company that aims to function reliably on all fronts and strives for customer satisfaction. The company's areas of focus are sustainable procurement of materials, social cohesion; developing sponsorship policy aimed at local initiatives and the economy, and further investing in innovations and methodologies such as BIM (Revit) and chain collaboration.



Name of the promoting organisation: Intermontage

Location where it has been implemented: Terwolde, Países Bajos

Target group: Local and national comunity, furniture business.

**Objectives:** sustainable procurement of materials, social cohesion; developing sponsorship policy aimed at local initiatives and the economy, and further investing in innovations and methodologies such as BIM (Revit) and chain collaboration.

## Benefits to the entity and the target population:

Intermontage has the knowledge, experience and production lines to professionally tackle all types of projects and to carry them to the full satisfaction of customers. Its mission starts with the right employees in the right place, who are challenged to grow and develop in the interest of themselves, the company, the customer, the market, and the environment.

#### Innovative character:

Intermontage connected interior design with social responsibility which is an integral part of a professional and sustainable form of entrepreneurship.

#### Barriers and problems detected during implementation:

They were growing slowly. Starting in 1977.

Link to the website: <a href="https://intermontage.nl/">https://intermontage.nl/</a>

# Koo International (Spain)

KOO International is a seating furniture manufacturer with more than twenty years of experience in the sector, in which pieces based on design, innovation and coherence are created. It was born in 1998 as a global brand with its own character and identity. It focused on a cosmopolitan, international public, with a marked concern for design, but that in no way compromises on quality.



Name of the promoting organisation: KOO International

Location where it has been implemented: Valencia, Spain

Target group: Local and national comunity, furniture business.

**Objectives:** work on the basis of identified needs and with a very definite final objective: the comfort and enjoyment of people. Their values act as a driving force and mark how KOO carries out its work, combining technical and human resources, the latter being the protagonists.

## Benefits to the entity and the target population:

Through eco-design, they are creating products that can be upgraded and repaired. These products are also largely made from recycled and/or recyclable materials, for example, the use of FSC-certified and locally sourced wood and derivatives (buying exclusively Spanish timber). In addition, KOO International has started to offer product-related services to slow down product ageing and ensure optimal maintenance: restyling, reconfiguration, repair and take back

#### Innovative character:

Cirkoolar is a process initiated by the brand to revise its product formula by researching the best combination of natural, recycled and durable materials and to develop a service programme to extend the life of the product.

Link to the website: <a href="https://www.koointernational.com/">https://www.koointernational.com/</a>

# Coco mat (Greece)

COCO-MAT mattresses are engineered to create and offer a new, customised sleeping experience. The company gradually introduced additional natural materials such as horsehair, cactus fiber, seaweed and lavender to further improve the quality of their mattresses, making the bed even more special for each customer.



Name of the promoting organisation: COCO-MAT

Location where it has been implemented: Athens, Greece.

Target group: Local, national and international community.

**Objectives:** production of mattresses made of natural materials.

#### Benefits to the entity and the target population:

Even since it was launched, COCO-MAT went through a progressive refining of its customer proposition and brand values, developed a global retail network and expanded into hotels and wood bikes, among other areas. In 2015, Coco-Mat had stores in 14 countries, employed at least 250 people, the majority of them in Greece.

#### Innovative character:

The attention paid to CE has so far focused on the use of secondary raw materials, reuse, recycling and extension of products' life cycle, the minimalisation of waste, industrial symbiosis and renewal of materials – in order to fully commit to the principles of reduce, reuse, recycle and to develop corporate social responsibility, a business must reexamine its current systems.

Link to the website: <a href="https://www.coco-mat.com/">https://www.coco-mat.com/</a>

# Bracia Romanowscy Stolarstvo (Polonia)

The company is guided in its activities by one basic principle: the choice of material from which the furniture is made is of great importance. By choosing furniture made of materials whose composition consists of post-consumer materials, we support recycling, living in accordance with the zero waste idea and we care for natural resources that are running out.



Name of the promoting organisation: Bracia Romanowscy Stolarstvo

**Location where it has been implemented:** Warsaw, Polonia.

Target group: Local, national and international community.

**Objectives:** Sustainable furniture production.

#### Benefits to the entity and the target population:

Decisions made today affect the world in which future generations will live. Therefore, if you want to have a positive impact on the environment, you should make changes in your immediate environment, buy and make thoughtful purchases, choose high quality products that will serve you for a long time, as well as not throw things away in a hurry, e.g. by renovating them.

#### Innovative character:

Bracia Romanowscy Stolarstwo produces furniture and construction elements from solid wood. The company manages to find opportunities to use even old furniture, stairs and other construction elements in the production of new products.

#### Barriers and problems detected during implementation:

Currently, the development of the use of post-consumer wood in furniture and joinery production is blocked by Polish legal regulations that prevent the import of post-consumer wood waste, which at the same time comes mainly from Polish furniture exports. The supply situation results in higher product prices, loss of competitiveness and the possibility to sell the manufactured products.

# El Puente del Molino (Spain)

ECOS del Lozoya (El Puente del Molino farm) is an agro-ecological project in which organic forest fruits are grown in an environment surrounded by mountains, forests, meadows and water. The farm has an area of 2 hectares. The production is not very intensive and small-scale, respecting the rhythm of the seasons and the natural cycle of cultivation

No pesticides or synthetic fertilisers are used in the cultivation of the fruit. They are certified by the Organic Agriculture Committee of the Community of Madrid. They carry out activities that involve their clients in the harvesting of the fruit they wish to create, in order to generate environmental awareness.



Name of the promoting organisation: Ecos del Lozoya

**Location where it has been implemented :** Madrid, Spain.

**Target group:** Consumers of organic products. General population.

**Objectives:** Cultivation of organic forest fruits, creation of harvesting experiences for environmental awareness.

#### Benefits to the entity and the target population:

Fruit production respecting the natural seasonal cycle, without the use of toxic agrochemicals that cause long-term diseases. Smallholder fruit production with a high level of quality and flavour.

#### Innovative character:

In addition to using a production method that adapts to the natural seasonal cycles of the product, the purchase process offers an experience of direct contact with the product and natural tours through the farm, with the aim of generating greater environmental awareness.

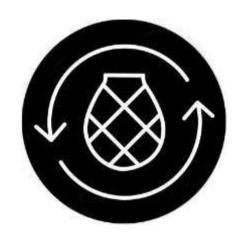
Link to the website: <a href="https://www.elpuentedelmolino.es">https://www.elpuentedelmolino.es</a>

# Redcycle Sustainability Project (Spain)

Redcycle is a project (in cooperation with Aquafil) to collect and recycle disused fishing nets to bring them back to life and turn them into sustainable garments committed to a better future.

A project launched in 2015 that brings together institutions, fishermen's associations, Basque fishermen and the company Ternua to raise awareness and sensitise society and the fishing sector to protect the planet. They are manufacturers of clothing for the practice of sport in a sustainable way. It has physical and online shops.

- 12 Tons: Amount of disused nets collected by Ternua in 2016.
- Reduction of carbon dioxide equivalent to 39,500Kg of CO2.
- Reduction of natural resources, equivalent to 18,612Kg of oil.
- Reduction of waste that ends up in landfills or is incinerated or ends up at the bottom of the sea, equivalent to 10,000 kg.



Name of the promoting organisation: Ternua

Location where it has been implemented: Mondragón, Basque Country. Spain.

**Target group:** Basque fishermen, fishermen's societies, institutions and the general public.

**Objectives:** Collection of disused fishing nets for conversion into high-end sportswear.

#### Benefits to the entity and the target population:

Decrease in water pollution and the affectation of marine life by disused nets.

#### Innovative character:

Reuse of disused fishing nets and the transformation of these materials into high-end sportswear.

Link to the website: https://www.ternua.com/es/sostenibilidad-redcycle

# Trasdeza natur. (Spain)

It is an organic garden that recovers local species of vegetables and fruits and transforms them into dehydrated products in a sustainable way with solar energy. The wastewater is treated in a vegetable pond (green filter) and reused for irrigation. Its products are packaged with recyclable and compostable materials.

This Galician initiative has already received numerous awards such as the price received by Tallón García from the TalentA 2021 programme for rural entrepreneurship organised by Corteva Agrisciencie and the Federation of Rural Women's Associations in Spain (Fademur).



Name of the promoting organisation: Tradeza Natur

**Location where it has been implemented :** Pontevedra, Spain

Target group: General population

**Objectives:** Dehydration of organic products with sustainable energies.

#### Benefits to the entity and the target population:

Excellence and maximum food quality. Because they make their products with delicacy, taking care of the raw material and dehydrating them in a natural, sustainable way, so that they maintain all their properties.

The initiative has won several awards for quality and technological innovation that certify its benefits.

#### Innovative character:

Production of organic fruit and vegetables and dehydrated products with solar energy. Products with all their organoleptic value and nutritional properties.

Link to the website: https://www.trasdezanatur.com/home/

## Josenea Bio (Spain)

It is a circular economy company, dedicated to the production of biomass. It collects biowaste from its neighbours and transforms it into compost to fertilise its own fields, regenerating the land and climate.

The project also contributes to the creation of green social jobs. The aim of the project is to promote the integration of socially excluded people into the labour market by creating small business projects.

It has been recognised with the Good Practices in Sustainable Local Development Award.



Name of the promoting organisation: Josenea

Location where it has been implemented: Navarra, Spain

**Target group:** people living in rural areas in conditions of vulnerability and social exclusion.

**Objectives:** Create employment opportunities for disadvantaged people or groups is one of the most effective tools in the fight against social exclusion and towards the path of personal development. Put people first without forgetting Nature, respecting it in each of the processes carried out in every one of the activities carried out and promoting ecological and eco-sustainable values in the environment.

#### Benefits to the entity and the target population:

Currently the number of people in the process of insertion hired amounts to 17. In its daily operation, Josenea behaves like a real company, so that the training is effective and does not create excessively protected and finalist work spaces. To this end, Josenea's technical team always works with the aim of providing the best training in high quality production.

The company has within its staff a technical person in social and labour assistance and since 2002, more than 85% of the people who have gone through our triennial insertion process, have managed to consolidate their work and personal situation.

Also in 2021, 6 members of the team have achieved stable employment, while another 30 people continue their training process at our facilities in Lumbier and Noáin in Navarra.

#### Innovative character:

The organic farm is self-sufficient thanks to the use of renewable energies for the production processes.

Link to the website: <a href="https://www.josenea.bio/">https://www.josenea.bio/</a>

# GO Match - Madrid KM región (Spain)

GO Match funding Madrid Km región (Madrid) consists of a pilot project of financial innovation to shorten commercial channels of local agro-ecological production that contribute to planning production through pre-sales to consumers and their subsequent loyalty.

Matchfunding is the collective financing of projects that, in addition to receiving contributions from citizens through crowdfunding campaigns, receive extra financial support from an organisation. They currently have an open call, promoted by the Madrid KmRegión Operational Group and the Triodos Foundation, which is aimed at innovative short-channel projects for the commercialisation of food from family and social agriculture in the Madrid region.

The core structure of GO consists of three partners:

- 1. The producers (Association of Agroecological Producers AUPA) as the main drivers of the initiative.
  - 2. Local administrations as the most immediate public support. In this sense, the Association of Agroecological Municipalities Network TERRAE.
- 3. Asociación por la Alimentación Local Sostenible y Saludable (ALYSS) brings to the project the experience and needs of smallscale distributors.



Name of the promoting organisation: Go Match

Location where it has been implemented: Madrid, Spain

Target group: Organic consumers and producers.

**Objectives:** Bring the producer and consumer closer together without intermediaries and, in addition, raise awareness of the local product among the local population.

## Benefits to the entity and the target population:

Reduces the distribution and marketing chain, promoting a fair income for organic producers.

#### Innovative character:

Financial innovation to shorten commercial production channels.

Link to the website: <a href="https://madridkmregion.es">https://madridkmregion.es</a>

# **Andalusian Shepherds School (Spain)**

The Andalusian Shepherds School is a training project that includes the teaching of traditional and rural knowledge, together with environmental aspects linked to livestock farming.

The Andalusian Shepherds' School is aimed at people who want to take on a future project linked to pastoral livestock production and are committed to specialised and practical training.



Name of the promoting organisation: Junta de Andalicía.

Location where it has been implemented: Andalucía, Spain.

**Target group:** people who want to take on a future project linked to pastoral livestock production.

Objectives: support generational renewal in rural areas.

#### Benefits to the entity and the target population:

With more than 9 editions already held, this project has a rate of incorporation into the livestock activity of between 60 and 90% of students.

#### Innovative character:

Prevention of rural depopulation, through training and management of livestock projects with a positive impact on the environment.

Link to the website: <a href="https://escueladepastoresdeandalucia.es/es/inicio">https://escueladepastoresdeandalucia.es/es/inicio</a>

# Network of Agricultural Test Spaces (Spain)

Agricultural incubators are programmes that facilitate generational renewal in agriculture through the provision of socalled agricultural test spaces.

The operational group RETA (Red de Espacios Test Agrarios) promotes these spaces that help to overcome the lack of generational renewal, promote employment, landscape conservation and sustainable agricultural production models.



Red de Espacios Test Agrarios

Name of the promoting organisation: RETA

**Location where it has been implemented :** Extremadura, Basque Country, Navarra y Catalonia

Target group: Farmers

**Objectives:** Agricultural testing to help keep the rural world alive, dynamic and sustainable.

#### Innovative character:

This network provides support to agricultural entities and areas, coordinates meetings between rural agents and generates knowledge to promote social cohesion and rural development.

Link to the website: <a href="https://espaciostestagrarios.org">https://espaciostestagrarios.org</a>

# Feeling Cantabria (Spain)

Feeling Cantabria consists of experiencing tourism closer to Cantabria through its artisans and local producers, getting off the beaten track and living experiences close to the territory and its people.

It is a sustainable tourism project.



Name of the promoting organisation: Feeling Cantabria.

Location where it has been implemented: Cantabria, Spain

Target group: General public, focused on rural tourism.

**Objectives:** generate environmental awareness, care for the environment in ecotourism scenarios.

#### Benefits to the entity and the target population:

Awareness of environmental conservation in tourism activities, increased supply of rural tourism that activates the economy of the communities, reduction of environmental impact related to tourism.

### Innovative character:

Non-traditional tourism proposal, emphasising the enjoyment of areas of great natural beauty without the massification of visitors, which is not very well promoted.

Link to the website: <a href="https://feelingcantabria.wixsite.com/feelingcantabria">https://feelingcantabria.wixsite.com/feelingcantabria</a>

# **Bumerang (Spain)**

Circular economy based company that uses technology, psychology and systems thinking to eliminate single-use plastic from takeaway food and drink through innovation in reuse systems.

It offers a circular solution. A returnable packaging system and covered by the new waste law, as opposed to single-use compostable packaging.



Name of the promoting organisation: Bumerang

Location where it has been implemented: Barcelona, Spain.

Target group: General public, food companies (catering).

**Objectives:** Eliminate single-use plastic from takeaway food and drink. Raise awareness of the environmental impact of single-use packaging.

#### Benefits to the entity and the target population:

It has an impact on pollution reduction and raises awareness of the urgency for the health of the planet to reduce the consumption of single-use packaging.

#### Innovative character:

Integrates innovative technologies for the generation of returnable packaging, reduction of single-use packaging.

Link to the website: <a href="https://youbumerang.com/sobre-bumerang">https://youbumerang.com/sobre-bumerang</a>

# Apadrina un olivo (Spain)

Based in Oliete (Teruel), they work to give prestige and stop the depopulation of rural areas. They work with the sponsorship by individuals of their 6,000 olive trees, which allows them to generate employment for people from the region and at the same time produce high quality oil.

Apadrinaunolivo.org

Name of the promoting organisation: Apadrina un Olivo.

Location where it has been implemented: Aragón, Spain.

Target group: General public.

**Objectives:** Generate employment for people with disabilities. Protect the flora and fauna that grow in and depend on the olive forest. Contribute to reducing the carbon footprint. Encourage rural tourism that contributes to the economic development of the village.

## Benefits to the entity and the target population:

Repopulation of rural environments, generation of employment and economic reactivation for communities undergoing depopulation processes.

## Innovative character:

Development of artisan products that transform the rural world. Innovative strategies for development, employment and repopulation of rural areas.

Link to the website: <a href="https://apadrinaunolivo.org/es">https://apadrinaunolivo.org/es</a>

# Bolsalea (Spain)

A family business, they have been manufacturing sustainable packaging items since 2009.

Experts in the creation and personalisation of bags, storage bags and pouches. They work with respectful materials such as organic cotton, hemp, recycled fabrics and paper.

Bolsalea

Name of the promoting organisation: Bolsalea

Location where it has been implemented: Alicante, Spain.

**Target group:** Companies, warehouses, shops. General public. Women victims of gender-based violence.

**Objectives:** Its purpose is the reduction of single-use plastic bags.

#### Benefits to the entity and the target population:

Contribute to the reduction of single-use bags.

Promote the empowerment of women and the inclusion of people with disabilities in the labour market.

## Innovative character:

Use of organic materials and reuse for the generation of reusable bags. Entrepreneurship that contributes to the environment and to closing social gaps for women.

Link to the website: <a href="https://www.bolsalea.com/">https://www.bolsalea.com/</a>

# CO<sub>2</sub> Revolution (Spain)

A company that offers efficient solutions based on nature.

CO2 Revolution calculates your carbon footprint and helps you offset it through the creation of reforestation projects.

Using computer algorithms and drone technology, the company is able to plant trees by dropping smart seeds from the air.



Name of the promoting organisation: CO2 Revolution.

Location where it has been implemented: Navarra, Spain.

**Target group:** Business sector that wants to implement CO2 reduction measures.

**Objectives:** curbing climate change by reducing CO2 emissions

## Benefits to the entity and the target population:

Large-scale impact on climate change mitigation. Partnership of many companies in this work. Improvement of industrial processes of many companies to reduce carbon footprint.

#### Innovative character:

Integrated reforestation model, which combines manual planting techniques with technological procedures.

Link to the website: <a href="https://co2revolution.es/">https://co2revolution.es/</a>