

SMecoMP

WP3 Eco-Entrepreneurial Surveys and Network Development

Del.3.2.5 Current State and Best Practices report May 2019

FEDERATION OF INDUSTRIES OF GREECE

<i>Deliverable Number</i>	3.2.5
<i>Project Title</i>	<i>A knowledge Alliance in Eco-Innovation Entrepreneurship to Boost SMEs Competitiveness</i>
<i>Project Acronym</i>	<i>SMecoMP</i>
<i>Project Duration</i>	<i>01.12.2017 – 30.11.2019</i>
<i>Project Partners</i>	LB (PB1) <i>University of Macedonia – Department of Economics (GR)</i> PB2 <i>Federation of Industries of Northern Greece (GR)</i> PB3 <i>Bulgarian Industrial Association – Union of the Bulgarian Business (BG)</i> PB4 <i>Trakia University (BG)</i> PB5 <i>"St. Kliment Ohridski University" Bitola, Faculty of Economics-Prilep (FYROM)</i> PB6 <i>Agency for promotion of entrepreneurship of the Republic of Macedonia (FYROM)</i> PB7 <i>Cyprus University of Technology (CY)</i> PB8 <i>Cypriot Enterprise Link (CY)</i> PB9 <i>Youth Entrepreneurship – NE (GR)</i> PB10 <i>Chamber of Commerce and Industry of Ioannina (GR)</i>

SMecoMP

WP3 Eco-Entrepreneurial Surveys and Network Development

Del.3.2.5 Current State and Best Practices report
May 2019

FEDERATION OF INDUSTRIES OF GREECE

Contractor:



Project co-funded by the European Union and National Funds of the participating countries

Table of Contents

1	Introduction.....	- 4 -
2	Methodology	- 5 -
3	Review of the conclusions from Deliverables 3.2.3 and 3.2.4	- 6 -
3.1	Conclusions from Deliverable “3.2.3 Assessment Surveys on Eco- Innovation Entrepreneurship Knowledge and Skills”	- 6 -
3.2	Conclusions from Deliverable “3.2.4 Identification of Ecopreneurs Training Needs & Existing Educational Initiative”	- 8 -
4	Existing educational programmes and training practices in eco-innovation entrepreneurship	- 12 -
4.1	The importance of training in eco-innovation entrepreneurship	- 12 -
4.2	Methodology for identifying Best Practice.....	- 14 -
5	Best practices of eco-innovation training in Greece	- 17 -
5.1	Training activities under co- funded European programmes.....	- 17 -
5.1.1	«Green Business Innovation: Territorial Cooperation Program "Greece - Italy 2007 - 2013"»	- 17 -
5.2	Educational Programmes	- 19 -
5.2.1	Master of Science in Environmental Management and Sustainability, IHU Thessaloniki	- 19 -
5.2.2	Master of Science in «Environmental Management and Environmental Education» Technological Educational Institute of Thessaloniki	- 20 -
6	Best Practices Worldwide.....	- 23 -
6.1	Corporate education and training	- 23 -
6.1.1	IKEA.....	- 23 -
6.1.2	Mitsubishi Electric	- 24 -
6.1.3	Toyota Industries.....	- 26 -
6.2	Training activities under co- funded European programmes.....	- 28 -
6.2.1	Project “GET-UP” Programme ERASMUS+	- 28 -
6.2.2	Project “This is a Green world” Programme ERASMUS+.....	- 30 -
6.2.3	Project “Grow Green”, Programme ERASMUS+.....	- 32 -
6.3	Educational programmes and seminars	- 37 -
6.3.1	Global MBA in Green Energy and Sustainable Businesses, University of Bologna Business School	- 37 -
6.3.2	Master's degree in Engineering and Environmental Management (IGE), ISIGE - MINES ParisTech.....	- 38 -
6.3.3	Master's Degree Programme in Corporate Environmental Management (CEM), Jyväskylä University School of Business and Economics	- 40 -

6.4	Training initiatives taken by the social partners and other stakeholders	- 42 -
6.4.1	Klima:aktiv, Austrian Energy Agency	- 42 -
6.4.2	Marshall Plan 2 “Green”, Employment-Environment Alliance.....	- 44 -
6.4.3	Integrated National Centre for Training in Renewable Energies (CENIFER) -	47 -
7	Conclusions.....	- 50 -
	References.....	- 51 -

1 Introduction

This report is carried out under the framework of the project “A knowledge Alliance in Eco-Innovation Entrepreneurship to Boost SMEs Competitiveness”, which is funded by the Interreg Balkan -Mediterranean programme.

The current state report concerns to the existing situation regarding best practices on eco-innovation and entrepreneurial training needs and educational initiatives that are implemented by companies.

It is composed of two separate parts, as following:

The first part presents a short review and the conclusions of two surveys on eco-entrepreneurial qualifications and entrepreneurial training needs and existing educational initiatives in Greek companies (chapter 3).

The second part presents the best available practices as found in the regional and global literature (chapter 4, 5 and 6).

Finally, a summary of the final conclusions is presented in chapter 7.

2 Methodology

The current state report on Current State and Best Practices of eco-innovation training in Greece is based on the results of two surveys that were conducted under the framework of “A knowledge Alliance in Eco-Innovation Entrepreneurship to Boost SMEs Competitiveness: SMecoMP” project. Also, desk-based research to the relevant literature is used to find the best available practices in the regional and global literature. The exact methodology for identifying the best practice is presented in chapter 4.2.

Concerning the surveys, the first one was conducted in an attempt to record the Eco-Entrepreneurial qualifications that business executives should have or acquire in terms of Environmental Entrepreneurship and Innovation (Deliverable 3.2.3).

In order to extract accurate statistical conclusions, an on-line questionnaire was developed, including closed format and Likert scale questions and one open question. The questionnaire was developed in two main sections. In the first section, were asked the personal details of the participants such as name, enterprise, job title, age, educational level, time of work and the economic sector of the enterprise. In the second section participants had to answer to Likert scale questions referring to required qualifications for business executives. In the open question, respondents had the opportunity to mention any additional qualification or skill that they believe that it is necessary for a business executive in order to help reinforce the environmental innovation of a business. At the same time, in-depth interviews are used for a range of purposes in order to obtain a more detailed understanding of the required qualifications for business executives.

In addition, in the framework of the SMecoMP project, another survey was carried out on a representative sample of companies aiming to the identification of Ecopreneurs Training Needs and also mapping the existing educational initiatives (Deliverable 3.2.4). The methodological approach of the survey was the same as previous. In particular, an online questionnaire was developed, including closed format and Likert scale questions, as well as one open question. The questionnaire consists of three main sections. In the first section, were asked the details of the surveyed company of the participants. In the second section participants had to answer to Likert scale questions referring to eco-innovative training needs. The third section refers to the personal information of the respondent, such as name, enterprise, job title, age, educational level, time of work and the economic sector of the enterprise. Finally, in-depth interviews were used for the purposes of this research, too.

3 Review of the conclusions from Deliverables 3.2.3 and 3.2.4

In this chapter is presented a review of the conclusions of the surveys that were undertaken under the deliverables “3.2.3 Assessment Surveys on Eco- Innovation Entrepreneurship Knowledge and Skills” and “3.2.4 Identification of Ecopreneurs Training Needs & Existing Educational Initiative”.

3.1 Conclusions from Deliverable “3.2.3 Assessment Surveys on Eco-Innovation Entrepreneurship Knowledge and Skills”

The concept of sustainability is equal to the environmental protection and it is gradually being incorporated into Greek development policy with a view to promote new economic activities that will develop new professions and create new jobs, especially in the fields of environment and culture, where Greece has significant comparative advantage.

This concept also includes efforts to promote the spirit of eco-entrepreneurship through the strengthening of vocational training, career guidance and lifelong learning, in particular in the field of environment. The willingness of the greek government to promote education and training policies in the environmental field aims at developing human resources, improving the potential of young people for productive employment, and raising awareness among citizens. The co-funded education policies in Greece are part of the priorities of the European Social Fund (ESF) and the National Action Plan for Employment (ESD). In this direction, strengthening the spirit of eco-entrepreneurship with a view to sustainable development, is achieved only through the contribution of education and training.

Training programmes aiming at enhancing employees’ specific competences/ qualifications, since it is imperative for an executive to be able or to possess the necessary skillset so as to efficiently evaluate business opportunities. More and more skills are proven to be essential for companies as they make it easier to facilitate innovation, adopt new technologies, attract investments, compete in new markets, and to develop diversify economic activities.

In general, business executives operating in the field of eco-entrepreneurship, need to have specific knowledge of the European legislation on:

- environmental and energy management,
- sustainable development,
- production and consumption policies,
- environmental management and auditing schemes, etc.,

Furthermore, it is important to develop managerial skills such as:

- leadership skills,
- adaptability/ transferability,
- system analysis (primacy of design),

- holistic approach,
- risk analysis,
- coordination skills,
- entrepreneurship spirit, etc.

Based on this concept, the present survey was conducted in an attempt to record the Eco-Entrepreneurial Qualifications that business executives should have/ or acquire in terms of Environmental Entrepreneurship and Innovation.

In the survey participated 46 enterprises, mostly operating in the category of “Professional, scientific and technical activities” (39%) economic activity sector, followed by “Manufacturing” (24%), “Construction” (9%) and “Energy, Water supply; Sewerage, Waste Management and Remediation Activities” (7%).

Concerning the respondents’ profile, the majority of them belong to the age groups of 45-54 and 25-34, and currently hold executive (31 out of 46) and senior (12 out of 46) job positions. What is more, the great majority of them possess either a university or technological degree, while most of the respondents (33 out of 46) have more than 5 years working experience.

The survey showed that respondents are not familiar with the concept of Eco-entrepreneurship. In particular, a percentage of 59% business executives stated that have little idea what eco-entrepreneurship is and only 33% stated that has a sufficient knowledge about the specific field.

For survey’s purposes, emphasis was given to certain skills/ qualifications that executives should possess in order to orientate their companies’ activities towards eco-entrepreneurship.

In particular, according to the respondents the most important qualification is the “Determination of the environmental impact in the process of designing a product, implementing a process” (16 answers - 35%). Moreover, other qualifications with high levels of importance are the “Knowledge of European legislation on environmental and energy management” and “Identify and capitalize the incentives and funding opportunities for green entrepreneurship” (15 answers each - 33%).

In addition, high level of importance also has the knowledge and/ or the implementation of best practices on sustainable development, production and consumption policies, as well as the use of environmental criteria in the designing and / or analyzing process of the life cycle of a product or procedure or service (14 answers each -30%).

On the contrary, less important qualifications seem to be the "Knowledge and / or Implementation of Environmental Tools such as Life Cycle Analysis, Eco-Labeling, Environmental Audit, etc." (11%), following by the "Knowledge and / or Implementation of Energy Management Systems (ISO 50001)" and the "Design and implementation of green practices in transport, storage and distribution (logistics)" (13% both).

Finally, respondents referred to the additional qualifications or skills that business executives should possess in order to facilitate eco-innovation activities into their company. Specifically:

- 27% of them stated that additional training on eco-innovation is required,
- 11% of them stated that managerial, management, communication and strategic qualifications are important,
- 8% of them mentioned that knowledge on specific fields such as auditing, Space-friendly, space-saving electric ISRU and economics is necessary,
- 3% believe that a bachelor degree on Mechanics and Environment is an asset for a business executive.

In conclusion, the survey showed that business executives are not familiar with the concept of eco-entrepreneurship. However, it was highlighted the importance of acquiring skills and qualifications relevant to eco-innovation and entrepreneurship, as well as the need for further training on the field.

3.2 Conclusions from Deliverable “3.2.4 Identification of Ecopreneurs Training Needs & Existing Educational Initiative”

The aim of the survey on Eco-innovation and entrepreneurial Training Needs and Existing Educational Initiatives was to explore the training needs of business executives and to map the existing initiatives and training courses on eco-innovation.

In the survey, participated 180 enterprises. The majority of them, 139 in number, were companies with up to 50 employees, mostly coming from the “Other services activities” economic activity sector (42 enterprises), followed by “Manufacturing” and “Wholesale and retail trade; repair of motor vehicles and motorcycles” sectors almost with the same number of enterprises (29 and 28 accordingly).

Regarding business executives’ profile who participated in the survey:

- 127 of them were men and 54 women, in the age of 36-50 and 50 and above.
- Their educational background consists of university degrees (94 respondents out of 180) and technological institutions (64 respondents) degrees.

Concerning their working experience, most of them – 99 in number- stated that they have 0-5 years of experience.

The survey also showed that the participating companies are familiar with the concept of eco-innovation at a rate of 77%, but only a small amount of them have attended training seminars on eco-innovation (24%, 43 enterprises).

According to the 43 enterprises that participated in training seminars towards eco-innovation, the survey showed that the enterprises mostly participated in seminars on “Environmental technologies and systems” category having a small percentage of enterprises that did not participate (5%). In contrast, on the categories of “Organizational innovation for the environment” and “Product and service innovation offering environmental benefits” the percentage of no-participation was in higher degree (60% and 62% accordingly). Specifically:

- on “Environmental technologies and systems” training category, most of the companies participated on “Green Energy technologies” (20%), and on “Pollution prevention and control technologies” and “Waste management equipment” with 15%.
- On “Organizational innovation for the environment”, enterprises showed a preference on the fields of “Environmental management and Auditing Schemes” (23%), and afterwards on “Chain management” (10%) and “Pollution prevention schemes” (7%).
- On “Product and service innovation offering environmental benefits” training seminars category, enterprises mostly participated on “Environmental services” having a percentage of 16%. The field of “New or environmentally improved products (goods) including eco-houses and buildings” had a percentage of attendance 8% while the fields of “Services that are less pollution and resource intensive (e.g. car sharing)” and “Green financial products” had 7% attendance.

In an attempt to explore the training needs of business executives, participants were asked to express their level of interest on the three (3) aforementioned training seminars categories - Environmental technologies and systems, Organizational innovation for the environment and Product and service innovation offering environmental benefits.

Having a total view of the 3 training categories, the majority of the enterprises expressed interest on the sub-fields of "Cleaning technologies that threat pollution released into the environment" (61 preferences), afterwards on " Services that are less pollution and resource intensive" (58 preferences), followed by a high degree of interest on the sub-fields of "Green energy technology" and "Pollution prevention schemes" with 57 preferences.

Specifically, for the **“Environmental technologies and systems” training subject**, the majority of the respondents show strong interest on the fields of “Cleaning (clean-up) technologies that treat pollution released into the environment” (61 preferences), on “Green energy technologies (57 preferences), and on “Pollution prevention and control technologies” and “Environmental monitoring and instrumentation” with almost the same level of interest (56 and 55 preferences accordingly).

As a result, according to the above analysis it is quite obvious that due to the gradual development of the Circular Economy, the existing workforce is interested in enhancing its working qualifications with the appropriate skills on green economy technologies, such as renewable energy systems and environmental protection facilities.

For the training subject of **“Organizational innovation for the environment”**, the participants show strong interest on having training seminars/ activities on the field of “Pollution prevention schemes” with 57 preferences, as well as interest on the field of “Environmental management and auditing” with 51 preferences.

Finally, on the training category of “Product and service innovation offering environmental benefits” **respondents show strong interest on services** that are less pollution and resource intensive (58 companies), on new or environmentally improved products (56 companies) and on environmental services (53 companies).

It is good to point out though, that the same time with the 56 companies which expressed strong interest on services that are less pollution and resource intensive, a large amount of companies - 45 in number, declared a slight interest on the field.

Furthermore, the survey showed that the training initiatives that are offered in Greece on the field of eco-innovation are not sufficient and they are not adequately promoted to the business world so as companies to be aware of them.

In particular, participants declared that the number of training activities/ seminars that are offered in Greece on eco-innovation is insufficient in a rate of 61% (109 companies out of 180), while 61 respondents are not aware about such trainings programmes. Additionally, their access to high-quality and affordable training seminars, was negatively evaluated having 129 companies to declare that they don't have access to such activities/trainings.

They also evaluated the **importance of certain competences** that a company's employees must have in order to succeed in pursuing eco-innovation.

According to their evaluation, the **marketing and design skills of new products and services**, are considered the most important qualifications for an employee (61 and 59 answers accordingly), followed by **the soft skills** (55 answers) and the “Knowledge of creative thinking tools”, along with “Innovation management skills” and “Knowledge about product life cycles” at the same degree of importance (45 answers).

Even though, the above qualifications are of a great importance for the business community, the survey showed that a high percentage of companies believe that their employees do not possess such competences (51%) while 40% of them believe that employees possess the required qualifications.

Companies in an attempt to educate their employees declared that would encourage their employees to attend training seminars on eco-innovation (89%) and also stated that would be interested in receiving information on eco-innovation practices in their industry field.

Concluding, the survey showed that enterprises need further information on eco-innovation issues and special training on the field.

The quality, the cost and the number of the training seminars that are currently offered in Greece, is not sufficient, and are not in the position to cover the needs of the companies which moreover are not aware of them. The aforementioned situation is directly connected to the current economic crisis that has a negative effect on several fields of the economy including both public and private initiatives on training programmes.

On the contrary, companies expressed strong interest on specific fields of eco-innovation giving a priority to the fields of “Cleaning (clean-up) technologies that treat pollution released into the environment”, “Services that are less pollution and resource intensive” and “Green energy technology”.

This is illustrated by the fact that in the vast majority of European companies consider green growth as one of the most effective ways to overcome the current economic crisis, along with the fact that environmental protection nowadays is considered as a priority of European and Global policy.

Additionally, the survey showed the imperative need for a company to have qualified employees with certain competences as well as the need for training seminars orientated towards this need in order to succeed in pursuing eco-innovation. This need is derived by the general belief that eco-innovation entrepreneurship is recognized as the key catalyst for sustainable development, as well as the key to the future economy growth and job creation.

Besides the above-mentioned survey, as a part of the activities of the project there were taken place interview sessions with the executives of ten companies, in order to identify the eco-innovation and entrepreneurial qualifications and training needs of enterprises.

Regarding the main conclusion of interview sessions, it was indicated that in Greece there are companies which struggle to survive in this harsh economic environment and sometimes need to make crucial and cruel decisions such as lay off people or reduce the quality of certain products/services.

What is more, some of them are usually forced by the EU to make changes and adapt to new EU policies regarding environmentally friendly practices, which are costly.

On the contrary, it was concluded that companies need to be eco-friendlier but acknowledge that this requires to implement basic training programmes to their employees on general environmental practices, before organizing training initiatives for subjects such as waste management, recycle, energy management, etc.

Companies operating in the food and beverage sector are currently certified under ISO 14001, but this is the only formal protocol that they follow. More standard procedures (maybe less complicated and cheaper) should be implemented and in order to help smaller companies with day-to-day operations and waste disposal practices.

Finally, it was concluded that most of the companies prefer to implement training seminars within their own facilities through work attachment programmes, while in smaller companies (such as retail companies) online training programmes are more preferable, due to their tight working schedule.

4 Existing educational programmes and training practices in eco-innovation entrepreneurship

4.1 The importance of training in eco-innovation entrepreneurship

In the modern competitive environment, companies are facing significant challenges, including environmental issues related to climate change, lack of resources, transition of energy, loss of biodiversity, and differences in safety and security issues.

In addition, factors such as the latest development in the global technology market, the devastating effects on the environment, the increasing consumer pressure for more quality and environmentally friendly products, the strengthening of the role of non-profit organizations (NGOs) in the global economy, the gradual weakening of the traditional role of the state and the involvement of the social partners in business ethics and corporate governance, have led to the emergence of a new business model.

Nowadays, an increasing number of companies is taking steps to improve its environmental footprint, through investment in research and development of green technologies and practices.

Environmental protection is considered as a priority of European and Global policy, while green entrepreneurship is a modern economic activity that takes the environmental dimension into account as an opportunity and not as an obstacle.

It is a fact that the development of the green economy can contribute significantly to the restoration of the European economy, towards a wider development phase, by exploiting the new business opportunities offered by green companies (Cedefop, 2010).

In fact, the majority of EU Members consider green growth as one of the most effective ways to overcome the current economic crisis. In particular, Lubin and Esty (2010) as reported in the Harvard Business Review, consider sustainability and green economy as the next transformative trend for business, and are comparable in size to mass production, the movement of quality processing, IT revolution, and globalization.

Green entrepreneurs provide the breeding ground for starting and sustaining a green economy by providing green products and services, by introducing more green production techniques, by boosting demand for green products and services and by creating green jobs.

The future entrepreneurs in green economy can create sustainable jobs and wealth for the community; can commercialize new green innovations that will make improve people lives and also can contribute to national economic development in step with environmental protection.

As a result, there is an urgent need to develop appropriate educational and training interventions that will encourage young green entrepreneurs to succeed in this business sector.

Eco-innovation entrepreneurship is recognized as the key catalyst for sustainable development, as well as the key to the future economy growth and job creation.

It is directly connected with the demand for healthy products and services, the development of renewable energy sources, bioclimatic buildings and energy saving solutions, as well as recycling and ecological protection and in general it is considered as a requirement for a clean a healthy environment.

What is more, in this context, the European Union's environmental policies contribute to shaping this greener future. In particular, in 2015 the European Commission approved the Circular Economy Action Plan in order to:

- Accelerate Europe's transition to a circular economy.
- Stimulate global competitiveness.
- Promote sustainable economic growth.
- Create new jobs.

The Circular Action Plan creates new business opportunities and encourages greater sustainability in key sectors of the economy. In particular, the Action Plan on the Circular Economy set out measures to "close the loop" of the circular economy and tackle all phases in the lifecycle of a product: from production and consumption to waste management and the market for secondary raw materials. At the same time, it includes a number of actions that will target market barriers or boost circularity in specific sectors or material streams, such as plastics, food waste, critical raw materials, construction and demolition, biomass and bio-based products, as well as horizontal measures in areas such as innovation and investment.

It is a fact that companies are already developing new, sustainable business models, expanding their markets and using resources in more innovative and efficient ways.

Consequently, as the Circular Economy becomes a reality, there are gradual fundamental changes in the global economy with a direct impact on employment, as the shift towards a green economy requires new workplace skills.

Thus, according to the above analysis it is quite obvious that there is an existing need for more green jobs as well as to train the existing workforce with the appropriate skills.

Employee training for new job positions in the green economy and also for the "greening" of existing jobs can be done within the company either through work attachment programmes, or through other training initiatives taken by other organizations.

However, universities, institutes and vocational training centers which can provide the necessary knowledge and training on eco-innovation methods, through specialized educational programs, could play an important role in closing any skills gaps.

From all of the above, it is concluded that through training both upper and lower business executives with clear awareness of environmental challenges should be able to contribute in the long run to the development of eco-innovation corporate culture that goes hand in hand with these changes.

In this context, in Greece several university departments and technological educational institutes offer undergraduate courses referred to issues of environmental concern while the Aristotle University of Thessaloniki, the Agricultural University of Athens and the University of Western Macedonia have relevant guidelines or sectors. Several technological educational institutes have departments that provide specialized studies in eco-innovation issues. Moreover, graduates of higher education institutions can also attend postgraduate study programs in order to acquire expertise in environmental protection and sustainable development.

Particular mention should be made to the co-financed through the National Strategic Reference Framework/ NSRF 2007-2013 programs for Continuing Vocational Training for the unemployed, which are implemented by certified Vocational Training Centers throughout Greece. Training in green business activities aims at enhancing the skills of the participants in the production of products or the provision of environmentally friendly services.

4.2 Methodology for identifying Best Practice

A **best practice** is a method or technique that has been generally accepted as superior to any alternatives because it produces results that are superior to those achieved by other means or because it has become a standard way of doing things, e.g., a standard way of complying with legal or ethical requirements or defining "how" to best implement a specific policy. In other words best practice is a relevant policy or intervention implemented in a real life setting and which has been assessed in terms of adequacy and equity and effectiveness and efficiency related to process and outcomes.

The term ‘good practice’ in relation to eco-innovation entrepreneurship training programme refers to: any experience/initiative displaying techniques, methods or approaches which function in a way – and produce effects and results – which is considered to be particularly effective for delivering lifelong learning which supports greening economies and which, therefore, deserves to be disseminated and proposed to other organizational contexts.

A general definition of ‘good practice’ indicates an initiative that:

- ✓ has been working well (effectiveness);
- ✓ could be mainstreamed or replicated elsewhere (sustainability);
- ✓ is good for learning how to think and act appropriately;
- ✓ is embedded within wider skills development and/or greening strategies (integrated).

For the purposes of this study, the best practices were identified through desk-based research to the relevant literature. The best practices proposed by the bibliography were evaluated on the basis of the following criteria to make their final classification. These criteria include:

1. **Relevance:** political/strategic context of the practice or intervention.

2. Effectiveness & efficiency: the degree to which the intervention was successful in producing a desired result in an optimal way.
3. Transferability: to which extent the implementation results are systematized and documented, making it possible to transfer it to other contexts/settings/countries or to scale it up to a broader target population/geographic context.
4. Sustainability: assesses the practice's ability to be maintained in the long-term with the available resources.
5. Intersectoral Coordination: assesses the ability of the practice to foster collaboration among the different sectors involved in the domain of interest.
6. Participation: assesses the inclusion of stakeholders throughout the whole life cycle of the process and the ability of the practice to foster collaboration among the different sectors involved.

Best Practice Classification

Candidates for Best Practice may either be at an early stage of development, fully mature, or somewhere in-between. In this context, practices can be classified against the following evolutionary scale:

1. Developing - A program that is in concept or development and shows potential to become a best practice. Its relevancy, effectiveness and potential for replication among other organizations is not yet proven.
2. Promising - A program that has worked within one organization and shows promise during its early stages for becoming a best practice with long term sustainable impact. A promising practice must have some objective basis for claiming effectiveness and must have the potential for replication among other organizations.
3. Good – A program that meets most of the following criteria: leads to an actual change, has an impact on the policy environment, demonstrates an innovative or replicable approach, and demonstrates sustainability.
4. Best - Those methods or techniques that have consistently shown results superior to those achieved with other means in a given situation and that could be adapted for other situations. This must be shown to work effectively and produce successful outcomes by the evidence provided by subjective and objective data sources.

Rating of best practices

After thorough research in secondary sources on best practices for eco-innovation entrepreneurship education programs and other initiatives and after taking into account other practices implemented in European projects, a selection was made of practices that satisfied most of the afore mentioned criteria and received the highest score during the rating procedure.

Every good practice was rated from 1 to 5, where 1 corresponds to a *small satisfaction* of the criterion and 5 to *excellent satisfaction* of it. The tables below present the final score of each of the selected practices. The rating methodology was based on the practical experience and specialized knowledge of the project team which prepared this study.

A/A	Best Practice	RELEVANCE	EFFECTIVENESS & EFFICIENCY	TRANSFERABILITY	SUSTAINABILITY	INTERSECTORAL COORDINATION	PARTICIPATION	FINAL SCORE
1.	Green Business Innovation project	5	3	3	3	4	4	3,67
2.	IHU	3	3	4	5	3	3	3,50
3.	MSc, Technological Educational Institute of Thessaloniki	3	3	4	5	3	3	3,50
4.	IKEA	3	4	3	4	3	4	3,50
5.	Mitsubishi Electric	4	4	3	4	4	4	3,83
6.	Toyota	3	3	4	4	2	4	3,33
7.	GET-UP project	4	3	4	3	4	3	3,50
8.	This is a Green world project	4	3	3	3	3	4	3,33
9.	Grow Green project	4	3	3	3	3	4	3,33
10.	MBA, University of Bologna	5	4	4	5	4	3	4,17
11.	IGE, ISIGE	5	4	4	5	4	3	4,17
12.	CEM, Jyväskylä University	5	3	4	5	4	3	4,00
13.	Klima:aktiv	4	4	3	4	5	5	4,17
14.	Marshall Plan 2	4	4	3	4	5	5	4,17
15.	CENIFER	5	4	4	4	5	5	4,50

In the following chapter is presented the final proposed best practices of eco-innovation entrepreneurship education programs and other initiatives.

5 Best practices of eco-innovation training in Greece

5.1 Training activities under co-funded European programmes

5.1.1 «Green Business Innovation: Territorial Cooperation Program "Greece - Italy 2007 - 2013"»

General info

The Green Business Innovation project was implemented within the framework of the Territorial Cooperation Program "Greece - Italy 2007 - 2013", with the main objective of developing opportunities for green innovation in enterprises in the manufacturing, commerce and services sectors in order to strengthen business cooperation and technology transfer. cross-border eligible region of Italy and Greece.



Main Objective

The project objectives are summarized below:

- ✓ Developing and implementing green innovation practices.
- ✓ Development of environmental consciousness and continuous improvement of business performance.
- ✓ Development of skills and knowledge of human resources in the eligible area.

In this context, have been implemented both training programs and targeted counseling actions on enterprises' employees in order to acquire skills in the green economy.

Training activities

During the implementation phase of the Green Business Innovation Project, expert consulting services were delivered to 21 companies of the eligible area (Region of Western Greece) in order to increase the awareness of entrepreneurs in green issues.

Specifically, the consultants of the project provided beneficiary companies with supportive and mentoring services on applying green economy practices that suited best to their activity.

The consulting services were delivered during meetings. The primary target of this process was to help the beneficiary companies adopt gradually a new development model, which would lead to reduced operational costs, environment protection and penetration to new markets.

- ❖ During the first meeting, the consultants mapped the current situation of each company as well as its general environmental profile. For example, the equipment/machinery used in production and administration activities, building characteristics, eco-friendly methods, RES use, energy/fuel consumption, green certificates etc. Afterwards, the consultants made some initial suggestions to the companies, so as to improve the environmental image and encouraged them to adopt green technologies in order to reduce operational costs.

- ❖ During the second meeting, the consultants presented the detailed results of the first meeting and presented specific recommendations/proposals that would potentially lead to:
 - ⇒ upgrade the company’s profile,
 - ⇒ reduce the operational energy costs,
 - ⇒ rational use of resources
 - ⇒ protect the environment

- ❖ During the third meeting, the consultant would prepare the companies better for the networking event (partenariat), by informing about the place, date, participants, areas of potential cooperation, ways to cooperate and communicate, etc.

Additionally, the project included actions for interactive participation, exchange and experience of green innovation through the establishment of a partenariat.

One of the main aims of the "Green Business Innovation" project was the establishment of a cross-border Greek-Italian business network in the eligible area of Western Greece and Puglia Regions. The network is supposed to exchange experiences in green applications and practices, strengthen business cooperation and technology transfer and make various kinds of agreements aimed at synergy and mutual benefit.

The result of this long process was the partenariat event held in Patras on the 20th of May, with the participation of Italian and Greek companies. The purpose of the partenariat was the direct networking between businesses through one-to-one meetings between their representatives. Participating companies had a significant number of meetings, and there were some initial agreements on cooperation in various fields.

5.2 Educational Programmes

5.2.1 Master of Science in Environmental Management and Sustainability, IHU Thessaloniki

General info

The MSc in Environmental Management and Sustainability programme of the International Hellenic University – IHU (Thessaloniki, Greece) is designed to offer a thorough understanding of environmental and sustainability issues that can be applied in a policy or management context.



In today's highly competitive market, sustainability can become a critical profit center for any organization through energy-saving processes, reduction of fuels consumption, optimization of raw materials and other uses of resources, minimization of waste management and air pollution abatement costs, to name a few.

Duration

The MSc in Environmental Management and Sustainability (full-time) is a 14-month programme taught over three terms. Lectures mainly take place on weekday evenings. The programme is also available in part-time mode over 26 months for those who cannot commit to a full-time programme either for work or other reasons.

Objectives

The aims and objectives of the programme are summarized as follows:

- A deep understanding of the current status and future trends in sustainable development and social corporate responsibility.
- Application of environmental tools and techniques to integrate sustainable practices (economical, environmental and social concerns).
- Adaptation to continuously increasing strictness of environmental legislation.
- Understand the economic and social justifications for various environmental policy approaches made at different levels.
- Innovative pollution control practices.
- Adaptation of strategic environmental assessment approaches in different contexts and different levels of decision making.
- Evaluation of environmental policies in a cost benefit analysis concept.

Structure

The MSc in Environmental Management and Sustainability (full-time) is taught over three terms.

During the first term, students are required to follow five mandatory core courses. During the second term, students are required to follow three mandatory core courses tailoring their programme further by two elective courses. Finally, in the third semester, work is dedicated exclusively to the Master's dissertation. The dissertation provides an opportunity to apply theory and concepts gained during the year to a real-world problem. Specifically, the programme structure is as follows:

A. Core Courses

❖ First Term:

1. Quantitative Methods
2. Project Management
3. Project Finance
4. Environmental and Energy Economics
5. Environmental Management Systems

❖ Second Term:

1. Energy and Climate Change
2. Cost-Benefit Analysis
3. Environmental Impact Assessment

B. Elective Courses (Choice of two Elective Courses)

1. Energy and Environmental Law
2. Environmental and Energy Policy
3. Financial Risk Management
4. Forecasting Methods
5. Life Cycle Assessment
6. Panel Data Econometrics
7. Smart Cities
8. Sustainable Production and Consumption

C. Dissertation

The dissertation provides a good opportunity to apply theory and concepts learned in various courses to realworld, Environmental Management & Sustainability-related issues or challenges. Students are supervised throughout their projects by a member of the academic faculty and the academic associates.

5.2.2 Master of Science in «Environmental Management and Environmental Education» Technological Educational Institute of Thessaloniki

General info

In the academic Year 2018-2019, the Department of Agricultural Technology of the Alexander Technological Educational Institute of Thessaloniki, launched the operation of the Postgraduate Study Program "Master of Science in Environmental Management and Environmental Education" (Government Gazette 2901 / B / 19-7-2018) which has two directions:



- ⇒ Green Entrepreneurship and Innovation
- ⇒ Environmental Education – Education and Communication

Objectives

The purpose of the MSc through its operation is to develop specialized environmental managers, oriented to green entrepreneurship, introduction of environmental innovation procedures into enterprises, sustainable development, financial management of environmental impacts, management of EU environmental funding programs, as well as in the design and development of environmental education programs.

The learning objectives of the Postgraduate programme are related to the promotion of knowledge transfer and Innovation, mitigation of environmental impacts and sustainable business development.

In particular, enhancing Green Entrepreneurship is expected to lead to the development of business competitiveness by creating new or pioneering products-services, aiming at sustainable competitiveness on the global market. Graduates acquire knowledge, skills and competences corresponding to the 7th level of professional qualifications, as defined by the European Qualifications Framework.

Duration

The duration of the postgraduate programme is eighteen (18) months and is structured in three academic full-time periods.

Structure

A. Core Courses – Mandatory

1. Environmental Programmes and Policy
2. Economy of Natural Resources & Environment
3. Environmental Pollution and related actions
4. Management of Environmental Resources and Sustainability

B.1. Direction: Entrepreneurship and Innovation

1. Environmental Impact Assessments

2. Environmental management systems (ISO 14001)
3. Green Development and Environment
4. Innovative Environmental Investments
5. Energy Policy and Decision Making
6. Postgraduate Diploma Thesis

- *Without Postgraduate Diploma Thesis: Compulsory courses 1-5*
- *With Postgraduate Diploma Thesis: Selection of three courses from 1 to 5 and compulsory 6*

B.2. Direction: Education and Communication

1. Domestic Saving and Recycling
2. Climate change, adaptation and mitigation
3. Environmental Education and Consciousness
4. Environmental Communication and SMEs
5. Environmental Actions in Education
6. Postgraduate Diploma Thesis

- *Without Postgraduate Diploma Thesis: Compulsory courses 1-5*
- *With Postgraduate Diploma Thesis: Selection of three courses from 1 to 5 and compulsory 6*

6 Best Practices Worldwide

6.1 Corporate education and training

6.1.1 IKEA

General Info

Though IKEA began taking an active interest in social activities in the early 1970s, its interest in environmental activities can be traced back to the mid-1980s when a new law was passed in Denmark regulating the maximum permissible emissions from formaldehyde off-gassing in particle boards. The government tested IKEA's products and found that the formaldehyde in some of the products was above the limit allowed. IKEA was sued and a fine was levied on it. Sales in Denmark went down by 20% and the company's image suffered as a consequence.



In order to minimize the use of wood in its furniture, IKEA concentrated on bringing out products made of recycled and reusable material.

As a result, the management board of the company decided to offer regular training to its employees in order to make them more environmentally conscious. Commenting upon IKEA being an environmentally responsible company, company spokesperson Marty Marston said, *"At IKEA, we're moving toward a way of thinking based on the philosophy that everything we take should be used, reused, and recycled, either by ourselves or nature, in such a way that causes the least possible harm to the environment"*.

IKEA started off with a 'train the trainers' approach to spread environmental awareness across the organization. Trainers chosen from each department attended a weeklong training course. The company then decided to provide training to employees involved in product design and those who were in direct contact with the customers from the purchase, distribution, and retail departments.

For example, by 1995, IKEA North America implemented an environmental training program, with the Four System Conditions of a Sustainable Society principles at its core (TNS System Conditions).

Training activities

In general, as it was mentioned above, the environmental training program of IKEA utilizes the “train-the-trainer” principle. Specifically:

- In the first step, the trainers are selected from different organizations and functions within the company and then trained at a five-day seminar.

- In the next step, these trainers are assigned to educate all management teams and all employees, primarily those having a direct customer or supplier contact. For each group, the extent of the program is adapted to the functional needs.

The basic modules of the environmental training programme are presented below:

Module 1 Basic environmental knowledge according to TNS:

The basic environmental training is based mainly on the Four System Conditions of a Sustainable Society principles.

Module 2 The company’s environmental program:

At this module is provided detailed environmental knowledge according to the background, policy and action plan of IKEA's environment program

Module 3 Education adapted to the tasks of each group:

At this module is provided specific training for different groups of employees that are in direct contact with the customers. Product developers, technicians and other key internal stakeholders (Range, Purchase, Distribution, Retail, etc) are invited to take part in training modules on waste, energy, water and other environmental issues.

Except from the above, a separate training program is implemented to key internal stakeholders of each sector of the company on how to use the IKEA Sustainability Product Score Card.

Furthermore, according to company’s training program, stores receive details of the IKEA position on different environmental issues to use for addressing questions or concerns raised by customers.

Moreover, an “ECO-facts” database was created that contains brief descriptions of different topical environmental issues with summaries of known. Coworkers have access to the “ECO-facts” database to gather information to address customer inquiries or solve other problems (Avlonas & Nasos, 2014).

6.1.2 Mitsubishi Electric

General Info

Mitsubishi Electric is working to develop personnel who think for themselves what is required for the environment and act on it.



Based on this, the management board of the company is committed that will continue environmental activities in the years to come as we work to achieve Environmental Vision 2021 and our environmental plans.

Training activities

In the area of environmental training, the company has implemented various educational programs in two categories: general education and specialized education. The goal of the specialized education program is for personnel to acquire the knowledge and skills required to create a low-carbon, recycling-based society, respect biodiversity, and conduct the environmental management activities that form the pillars of Environmental Vision 2021.

For example, under the 8th Environmental Plan (fiscal 2016 - 2018), the company implemented the "Mitsubishi Electric Group Environmental Management" e-Learning course, the aim of which is to improve the basic knowledge and awareness level of environmental issues. The program is offered globally and provides the same contents in Japanese, English and Chinese so that all who take the course can learn using the same materials.

The company’s Environmental Education System is presented below:

Target Field	General employees	Managerial staff
Environmental awareness education	Activities to foster environmental awareness <ul style="list-style-type: none"> ● Preserving biodiversity at business sites ● "Satoyama" Woodland Preservation Project ● Mitsubishi Electric Outdoor Classroom 	
Specialized education	Key Environmental Personnel Training	Environmental Promotion Chief Administrator Training Environmental Section Manager Training
	MELCO Seminar Environmental Courses <ul style="list-style-type: none"> <li style="width: 33%;">● Waste <li style="width: 33%;">● Design for the Environment <li style="width: 33%;">● Environmental Audits <li style="width: 33%;">● Energy-saving <li style="width: 33%;">● Biodiversity <li style="width: 33%;">● ISO14001 <li style="width: 33%;">● Chemical Substances <li style="width: 33%;">● Environmental Risk 	
General education	Environmental Training Course for Employees in Their 20s or 30s	Environmental Training Course for New Section Managers
	Environmental Course for Employees Dispatched Overseas	
Basic education	e-Learning for all employees, Mitsubishi Electric Environmental Management	
	Common basic training for new employees	

What is more, Mitsubishi Electric conducts "Training Course for New Environmental Section Managers" and "Training Course for Environmental Section Managers" for section managers in charge of environmental issues at factories and those who drive environmental activities at head office and business management departments.

Through the former course, participants learn about how to behave as a new manager, shared roles between the head office organizations and the business site, environmental operations within the business site, and the expertise of experienced section managers.

During the latter course, compliance-related issues are studied, while failed cases are shared. The attendants also visit other companies to see how they are tackling environmental issues, as well as exchanging views among participants.

In 2017, "Training Course for Environmental Section Managers" was held at the Power Device Works in Kumamoto Prefecture. The business site was affected by the Kumamoto Earthquake that occurred in 2016. During the course, the restoration process at the Works was explained, while reports were made on how other Mitsubishi Electric plants tackled restoration following past earthquakes. Additionally, group discussion was held on how business contingency plans (BCPs) should be formulated and points to improve in responding to future earthquakes.

6.1.3 Toyota Industries

General Info

Toyota Industries conducts three types of environmental education for its employees, consisting of:

- General education implemented at the plant level.
- Company-wide environmental education based on employee position.
- Specialized training implemented throughout the company.



General education at the plant level is conducted on a departmental basis. The goal of this education is to provide employees with a thorough understanding of the environmental impact of the department's activities and the goal of environmental efforts. Plant employees are also educated regarding the corporate environmental action plan.

Company-wide environmental education consists of new employee training and also training for newly promoted supervisors and managers. These programs are designed to provide each group of employees with the environmental knowledge required for their respective positions within the company.

Specialized training includes, for example, training for internal auditors. This latter form of training is designed to nurture future leaders to become guides for environmental activities.

Training activities

For example, in 2002, Toyota Industries introduced training in environmental design for its designers and also sponsored three seminars on environmental management that were led by guest speakers invited from outside the company. The seminar that was held in July 2002 was entitled, "Integrating Management Strategies and Environment Efforts to Create a Sustainable Company" and was led by Professor Ryoichi Yamamoto, Head of the Center for Collaborative Research of the University of Tokyo. Approximately 300 employees attended this seminar, which described how firms must promote environmental management and

become sustainable companies to ensure their corporate survival. The employees who attended this seminar came away with a greater understanding of the steps needed to achieve a sustainable company.

Nowadays, apart from various training programs, Toyota Industries use e-learning and Environment Month to raise employees’ environmental awareness.

In particular, e-learning programs on ISO 14001 standards and certification tests for environmental specialists (biodiversity test and Eco Test) are available on the company’s intranet to help employees learn more about the environment. Furthermore, during Environment Month in June, screenings of environment-related movies are held for employees. The company also participates in the All-Toyota Global Environment Month campaigns for Toyota Group companies.

At the following table is presented the annual schedule of environmental activities that company’s employees are participate in:

	April 2017	May	June	July	August	September	October	November	December	January 2018	February	March	April
ISO seminars	← Environment fundamentals training for new employees →		● Training for newly appointed ISO leaders			ISO14001 standards revision seminar (December 17)		Environmental seminar for employees posted overseas			←	● ISO seminar (March 27–28)	
Group meeting					● Conference on the Global Environment					Environmental Promotion Conference		●	
Internal audits			← Corporate systems internal audit (June 2–28) →					← Corporate systems internal audit (November 21–December 21) →					
			← Energy conservation audit (June 22–July 4) →										
Third-party audits				↔ Third-party audit (July 10–14)								↔ Third-party audit (February 19–22)	
Internal awareness			← Monthly environmental activities →							Encourage warm business attire in winter Set room temperature to 22°C			
		Encourage cool business attire in summer Set room temperature to 28°C											

6.2 Training activities under co-funded European programmes

6.2.1 Project “GET-UP” Programme ERASMUS+

General info

The project GET-UP is implemented under the “Key Action 2 - Strategic Partnerships” of the ERASMUS+ Programme, by 8 partners come from seven different countries, namely: University of Paderborn Faculty of Business and Economics Department of Business Education II (Germany), University of Pitest (Romania), Small Firms Enterprise Development Initiative Limited (UK), Meath Community Rural and Social Development Partnership Limited (Ireland), European University Cyprus, University Business Foundation of the Region of Murcia (Spain) and Innoventum OY (Finland).



Objectives

GET-UP focuses on the design and development of a Curriculum capable of supporting nascent green entrepreneurs and micro-business owners to realize their business ambitions in the Green Economy.

The primary target groups addressed by GET-UP project are:

- ✓ potential green entrepreneurs who are interested in developing new green businesses;
- ✓ existing micro-enterprise owners who wish to pursue a greener business or product model and are interested in workforce up-skilling;
- ✓ VET professionals who are interested in supporting learning in this new growth sector.

Training activities

GET-UP partners work on developing a modular curriculum to support Green entrepreneurship learning. Partners are also proposing the development of an in-service Continuing Professional Development (CPD) training resource to facilitate the engagement of VET professionals with the new curriculum resources and on-line learning environments developed.

The CPD Training Programme includes 9 Modules:

Module 1 - Introduction to the GET-UP Curriculum

The first module "Introduction into the GET-UP Curriculum" is a face-to-face element of the CPD Programme. The learning outcome of this module is to provide information about the GET-UP curriculum and its modules, the learning outcomes of the GET-UP participants, the indicative content of the GET-UP curriculum.

Module 2 - General introduction to Economy and Business Administration

The learning outcome of this module is to provide knowledge about effective management of challenges in the field of motivation and leadership, as well as the strategies for managing resources and time in a green business. Specifically:

- ✓ Understanding of the importance management to society and individuals
- ✓ Understanding of the role of management
- ✓ Ability to list and define the basic functions of management
- ✓ Understanding of the basic management skills and their relative importance to managers
- ✓ Knowledge of skills that help managers become successful
- ✓ Understanding of the relationship between leading and appreciation for the Styles and traits approaches of leadership
- ✓ Insights into using Stakeholder Relationship within the Business framework.
- ✓ Appreciation of emerging appreciation themes and issues themes of today

Module 3 - General orientation in Entrepreneurship

The learning outcome of the third module is to provide knowledge about entrepreneurship and the current trends in Europe, about tools such as Feasibility Analysis, Business Plan and Business model canvas and information about the legislation and regulations affecting the business ideas. Specifically, during this module is provided knowledge about:

- ✓ The current entrepreneurship trends in Europe.
- ✓ The four stages of the entrepreneurial process and the components (innovation, financing, marketing, managing) of each stage.
- ✓ The development of business ideas and the design of business plans and marketing plans.

Module 4 - Orientation in the field of Green Economy

The fourth module of the training programme deals with Green Economy and Green Business – Markets and is articulated in the following units

- ⇒ Unit 1: Green Economy & Green Business
- ⇒ Unit 2: Trends and Benefits of the Green Economy
- ⇒ Unit 3: Opportunities of greening business processes
- ⇒ Unit 4: Lesson Tool: PESTEL Analysis
- ⇒ Unit 6: Information on Financial Opportunities
- ⇒ Unit 7 Exercise: Financial opportunities in the Green Economy
- ⇒ Lesson plan

Module 5 - Green Entrepreneurship and its specifics

The learning outcomes of this module are summarized below:

- ✓ Describe particular characteristics and traits of a Green Entrepreneur.
- ✓ Analyze if these characteristics are presented in taught individuals.
- ✓ Express competently best practices on the themes of: Triple bottom line, New technologies, Sustainable business ideas/ interaction of economy to ecology.
- ✓ Explain elements such as new technologies and sustainable business ideas to the above themes.
- ✓ Appraise the Green entrepreneurship themes and their implementation through an exercise.
- ✓ Inoculate knowledge of Green entrepreneurship in VET.

Module 6 - Teaching and Learning in Blended-Learning Environments

Module 6 is a part of the CPD programme of GET-UP. It covers information about Blended-Learning. It is designed as an online module.

Module 7 - The Learning Platform

This online module introduces the online environment of the GET-UP. It is a part of the CPD programme and offers information about the platform.

Module 8 - Case-Study Part I: Insight into the Online Observatory- Best practices

This module introduces the idea of the Green Entrepreneurship Online Observatory and its functionality, and familiarizes participants with the Observatory contents and their relation to the Curriculum

Module 9 - Case-Study Part II: How to create a business? - Providing information

The ninth module of the GET-UP CPD programme is designed as a face-to-face module and its content refers to the necessary steps for the development of a green business.

6.2.2 Project “This is a Green world” Programme ERASMUS+

General info

The project “This is a Green world” is implemented under the “Key Action 2 - Strategic Partnerships” of the ERASMUS+ Programme, by the consortium which consists of the Tafalla City Council (Spain), the NGO “Institute of Entrepreneurship Development – IED” (Greece), the non-profit educational institute “Wisamar” (Germany), the non-profit association “La Colporteuse”, the Registered Charity “Action with Communities in Rural Kent- ACRK” (UK) and the Cypriot Municipality of Agios Athanasios (Limassol).



Objectives

The project intends to:

- Stimulate young people’s spirit of initiative, employability and entrepreneurship, focusing on disadvantaged youth and offering them a useful tool to access the labour market through green jobs.
- Provide theoretical and practical knowledge, based on non-formal education, related to organic farming, eco-friendly agriculture and sustainable development, through protection of the environment.
- Train young job seekers in green jobs by focusing on the promotion of new entrepreneurial development perspectives.
- Establish a cooperation and exchange network among NGOs related to youth, education and employment in Europe, in order to create long-lasting relations and contribute to better and more suitable policies.
- Increase debate, discussion and action on youth issues of interest to the community.
- Stimulate thought in young people concerning important issues and act as a motivating factor within communities, promoting cultural diversity and encouraging broad local youth involvement and participation.
- Promote sustainable materials, as well as respectful behaviors regarding their daily environmental practices, turning it into an entrepreneurial interest.
- Identify the needs of disadvantaged youth in local communities, analyze and suggest solutions in economic and social terms (i.e. employment, training, inclusion, etc).

Training Activities

The training activities of the project included the organization of local workshops, as well as four transnational visits in Germany, UK, Cyprus and Spain, in which were invited companies’ representatives and members of the educational community in order to present the most efficient methodologies to promote social inclusion of young people, based on the opportunities of the “green economy”.

Specific information about the training activities is presented below:

❖ Germany:

In Germany, a seminar was organized for youth workers involving youth workers, trainers, and facilitators of each partner and also a study visit. The seminar referred to entrepreneurship and professional orientation that each organization provides to their daily work. The participants received training on career guidance based on green jobs and adapting methodologies to young people from each region in order to facilitate information and training at home.

The approach is characterized by a methodology of informal learning, under the supervision of Wisamar, which representatives explained their experience in the field of green jobs and social inclusion, from an educational perspective.

The seminar educational approach based on the resources that each region has, with regard to evaluation and guidance in the labor market strategies. The seminar included meetings with other associations related to the farmhouse, biomarkets and sustainable behavior in their region.

❖ UK, Cyprus and Spain:

In the transnational workshops that took place in UK, Cyprus and Spain, participated from each country: youth workers, educators, trainers and facilitators with basic knowledge about entrepreneurship and career counseling.

During these workshops were designed according to the methodology exchange of each institution, organization.

Training seminars, workshops and study visits prepared by the host partner, according to the experience of each country, to enhance youth entrepreneurship, based on green jobs and new opportunities.

6.2.3 Project “Grow Green”, Programme ERASMUS+

General info

The project “Grow Green”, which is implemented under the “Key Action 2 - Strategic Partnerships” of the ERASMUS+ Programme, intends to complete this boost by providing young farmers with all the information needed, in order to be capable of enhancing the profitability of their enterprises. In that way, the project will not only enrich young professionals’ knowledge but also will boost regional economy through the establishment of new enterprises in the agricultural sector.



The consortium that implements the project consists of the Cypriot NGO “Citizens in Power”, the Greek NGO Institute of Entrepreneurship Development - IED and the Spanish company “Red2Red”.

Objectives

The main objectives of "Grow Green" is summarized below:

- Decrease of youth unemployment by involving more young people in the agriculture sector.
- Reduction of NEET (referring to a person who is not in employment, education or training), by mostly focusing and approaching countries which have both high rates of NEET, but also growth potential of the agro-food sector.
- Boost of agro-entrepreneurial culture amongst young people.

Furthermore, “Grow Green” will give the opportunity to aspiring young farmers to move one step further in their training, by providing them a specially-designed web platform for the purposes of the project, where participants will have the opportunity to identify the skills and knowledge needed to be involved in the sector in a successful way.

It is equally important that “Grow Green” does not only focus on young people who either want to start of their own agricultural business, but also seeks to provide additional knowledge and skills to professionals who are already engaged in the agricultural and bio-agricultural sector whilst simultaneously ensuring the creation of a strong networking with other successful professionals.

Training Activities

The project will set up a package of a ‘web platform’ and educational videos that will:

- Inform young people about both the agricultural market trends and the business environment of agriculture.
- Further develop young people’s knowledge and skills in order to strengthen their agro-business profile.
- Evolve good practices, and particularly educational methods on agricultural fields, thus seeking to motivate youngsters to be involved in the agricultural sector.
- Assist young people already involved in the agricultural sector to develop and implement innovative practices.
- Create potential partnerships and future collaborations, through which new initiatives between experienced and new farmers will be developed.

The online training tools and workshops are presented below:

a. On-Line Training Course on Agriculture

Course topics:

1. Pesticides,
2. Soil, irrigation & water
3. Climate change and agriculture
4. Organic farming
5. Agricultural technology & innovation

b. On-Line Training Course: Be Entrepreneur; A Business Plan for Agricultural Enterprises

Course topics:

1. The Business Model Canvas
2. Agricultural Marketing
3. Networking
4. Tips for being successful

c. On-Line Training Course: The Agricultural Sector within the three local spaces

Course topics:

1. The Exchange of Best Practices related with the Agricultural Sector and Agricultural Marketing
2. The Existence of Relevant Programs & Funding in each of the three local environments; Cyprus, Spain and Greece
3. Tips for being successful
4. The Agricultural Sector within the three local spaces; Cyprus, Spain and Greece

d. The NON-Formal Training Course on Agro-Entrepreneurship

Session 1: Video presentation for young people who are willing to find a job in the sector of agriculture (PITCH/VIDEO CV).

The Video Presentation – Pitch/video CV, is an innovative approach in the labour market. The process of developing the presentation will be proved beneficial for young farmers and newcomers of the field, in realizing and detecting their strong features, whilst regaining confidence in order to be capable to make a good presentation of their skills to a future employer, thus becoming, on the one hand, more competitive players in the labour market and, on the other hand, more active and powerful citizens. The participants will be provided with practical advice on how to create a pitch. Each group will record a video presentation, presented by young people in a local language which will basically constitute an oral personal presentation, like the one that is frequently being required during the first part of a real interview. At a subsequent level, young people who intend to find a job in the agricultural sector, will be capable to prepare their own pitch, under the supervision of mentors.

Session 2: Agro entrepreneurship across EU

The Agro entrepreneurship across EU session is an activity at which participants describe and briefly analyze ‘agro’ projects that had been carried out by the organizations they belong to or other organizations, in general. Therefore, personal experiences and good practices will be exchanged, thus broadening the participants’ knowledge and especially increasing their capacity and accuracy in advising young people derived from their communities to start an Agricultural enterprise. Participants must be encouraged by the trainer to provide in their presentations anything related to agro-entrepreneurship which is correlated with their countries, such as statistics, examples, numbers, good practices, bad practices, ways of registration of an Agribusiness, future possibilities for development of the sector etc.

Session 3: Agro entrepreneurship across EU

Online material like e-articles, e-videos, e-forums, e-audios, blogs, movies, websites and e-books could enhance young people’s knowledge on agro-entrepreneurship. Each participant’s task is to collect online material that inspires, motivates, educates and empowers young people to practice agro-entrepreneurship. Specifically, participants will come up with a list of online links and give titles to them. Later on participants need to share the outcomes of their research with the rest of the group and trainers can add more info in the end.

Session 4: Observing Opportunities for Agro-business in the Villages

Participants will observe the entrepreneurial environment of three villages of their area.

The task for participants is to analyze the entrepreneurial activity of business enterprises, with the scope to consider which of them can be converted to Agro-enterprises. For this purpose, participants could use the Business Model Canvas, which is given within the Section: ‘Be Entrepreneur; A Business Plan for Agricultural Enterprises’. Subsequently, participants will gather in the plenary to share their findings and justify their thoughts with the rest of the group.

Session 5: The concepts of Agro entrepreneurship

Participants are divided into groups. Each group gets the opportunity to develop a different concept of agro- entrepreneurship such as harvesting, farming, training agro workers, soil& irrigation, pesticides, bio-farming techniques, processing of foods etc. Later on, each group receives an example of agro- entrepreneur (who focuses on the aforementioned fields) and they are asked to study him and choose the best practices (in the participants’ opinion) that his company applies. Subsequently, each group presents to the rest of the group the best example. A discussion in plenary follows where participants discuss in detail the different concepts of Agro entrepreneurship, its relevance with social impact such as employ-ability of people at remote areas, quality/healthy foods etc

Session 6: How to crowdfunding your farm

The main activities of this workshop are focused on explaining how crowdfunding can be used as a useful tool for farmers to support their companies. This workshop will cover the basics of running a campaign, from start to finish. Specific focus will be given to the understanding of the ingredients of a campaign, from choosing their goal and creating rewards to the management of the campaign. There will be shared good examples for crowdfunding,

Session 7: Organic and harvest remaining products

This workshop aims to increase awareness among farmers for the benefits of using organic and harvest remaining products for their business, environment and society. It is also focused on assisting young people that are already involved in the sector to develop and implement innovative practices in the agricultural sector and based on the zero-waste philosophy.

Session 8: The benefits of intercropping

Participants will be divided in small groups and they should try to define intercropping. Then they will present their discussion to the other groups. A definition will be created from the discussion. Then different types of intercropping will be provided to the participants (e.g. olive trees and herbs). Each team will receive a case of an existing one-crop farm that could transfer to a two-crop farm and they should create a business plan for creating a new business which could establish in the same farm.

Session 9: The importance of a rational use of pesticides and fertilizers

This workshop is aiming to bring together young farmers and those with a long experience. The farmers will exchange good practices based on their theoretical and practical knowledge and experience for the use of pesticides and fertilizers.

6.3 Educational programmes and seminars

6.3.1 Global MBA in Green Energy and Sustainable Businesses, University of Bologna Business School

General info

The Global MBA in Green Energy and Sustainable Businesses of the University of Bologna Business School is addressed to young managers who are interested in the challenges imposed by climate change.

General management skills are required from the professionals that would participate in the programme, as well as the ability to apply these skills in the field of sustainability and the efficient use of natural resources. The faculty comprises a team of international lecturers who integrate an advanced educational approach, enriched by their diverse viewpoints on these issues. Based on a six-pillar approach (Accountability, Ethics & CSR, Law, Technology Management & Strategy, Entrepreneurship), the programme provides tools to support the efficiency of existing resources, as well as the ability to plan new scenarios based on sustainable business models.



Objective

The main objective of the Global MBA in Green Energy and Sustainable is to provide students with all the essential knowledge so as to explore in-depth solutions to three basic requirements for a successful business:

- Social equity
- Economic prosperity
- Environmental quality

Duration

The Global MBA in Green Energy and Sustainable Businesses is a 12-month, full-time program, which includes 518 hours of class activities, 1.300 hours of individual and group work and a 500-hour internship.

Structure

The academic part is divided into three terms:

1st Term General Management Courses:

1. Corporate Finance
2. Corporate Strategy

3. Financial and Managerial Accounting
4. International Finance
5. Marketing Management
6. Cross-cultural Management
7. Organizational Analysis: Leading People and Organizations

1st and 3rd Term Track Specific Courses:

1. Production and Logistics
2. Corporate Social Responsibility/Business Ethics
3. Environmental Law
4. Global Technology Management
5. Green Strategy and Sustainable Development
6. Measuring Sustainable Performance, International Business Law
7. Management Consulting
8. Business Planning

The three terms are followed by an internship period of 500 working hours. This internship can be carried out at various companies and agencies in Italy or abroad.

Students who are interested can also choose to take an extracurricular course of Italian.

6.3.2 Master's degree in Engineering and Environmental Management (IGE), ISIGE - MINES ParisTech

General info

The ISIGE (Institut Supérieur d'Ingénierie et de Gestion de l'Environnement - Higher Institute for Environmental Engineering and Management) is a training centre shared by MINES ParisTech, Ponts ParisTech (ENPC), and AgroParisTech (ENGREF). Among the training courses, there is the Advanced Master's in Environmental Management and Engineering and strong partnerships in the context of international training programmes.



Main objective

The main objective of the program is to convey to all students the fundamental knowledge and skills for a future transition manager and help them to apply this knowledge and skills through specific projects related to Engineering and Environmental Management sector.

Duration

The duration of the programme is 6 months (October to March) of academic courses and 6 months of professional mission (April to September) leading to the writing of a professional thesis sanctioned by a defense, with 2 courses:

- Full-time course: 6 months of classes / 6 months of company assignment
- Work-study path: 6 months of academic period with alternation of course modules and company stays / 5 months full-time assignment in a company

Structure

The programme is organized in teaching modules, 4 main modules for all students, plus 3 additional modules for full-time students.

Module A1: Preparing for Corporate SD Management Functions

Contents: Understanding of the Company (from its functions to the stakeholders), Institutional and regulatory context, Management systems and main standards (DD, CSR) Corporate Reporting Strategies, From the linear economy to the circular economy.

Module A2: Analyzing and questioning the key challenges of tomorrow

Contents: How to react to climate change? (Mitigation or adaptation): What place to give to the living? (biodiversity, bio-mimicry, bio-materials), What energy for a post-carbon society? (efficiency, renewable energy, sobriety), What answers to the scarcity of resources? (industrial metabolism, economics of functionality, dematerialization).

Module A3: Developing projects around innovative tools and approaches

Contents: Implementation of a renewable energy or energy efficiency project, Implementation of an eco-design approach in a logic of circular economy, New approaches around water management.

Module A4: Changing Scale

Contents: From local to global, from individual to collective, Stakeholder analysis and environmental controversy, Taking into account long-term effects, ethical issues and innovation management, Urban approach, Geopolitical analysis of issues and international approach, Case Studies: Sustainable Campus Project, Urban Travel.

6.3.3 Master's Degree Programme in Corporate Environmental Management (CEM), Jyväskylä University School of Business and Economics

General info

The Corporate Environmental Management (CEM) Master's Programme of Jyväskylä University School of Business and Economics (JSBE) in Finland is a sustainability programme with an environmental focus.



Jyväskylä was the first university in the Nordic region to offer a complete master and doctoral programme in Corporate Environmental Management. Training in CEM was launched in 1995 and the programme has been an international master's degree programme since 2003. Jyväskylä University School of Business and Economics has been proactive in integrating corporate environmental management in its curriculum, research, and other activities.

Main objective

The Corporate Environmental Management (CEM) Master's Programme of Jyväskylä University School of Business and Economics (JSBE) aims at educating students to become experts in corporate sustainability with an environmental focus.

Specifically, It offers an integrated and interdisciplinary approach to environmental issues preparing the graduates to tackle these complex issues in business life.

The international learning environment provides skills for identifying and managing environmental impacts; promoting environmental sustainability in business; and innovating new business solutions and sustainable business models. In other words, the educational programme empowers future professionals to help companies and organizations implement environmental sustainability policies and strategies.

Duration

The CEM-programme (2 years duration) consists of compulsory environmental management courses, minor studies in environmental/natural science (students with business background) or basic business studies (students with environmental/natural science background), and language/communication skills courses, and optional courses.

The programme offers courses in 3 different focus areas:

1. Identification of environmental impacts in organizational operations.
2. Management of environmental impacts of organizational operations.
3. Promote environmental sustainability in business and innovate new business solutions and sustainable business models.

The educational programme is articulated as follows:

- major studies in Corporate Environmental Management,
- minor studies in business studies OR additional requisite studies in environmental science, c) language studies,
- supplementary studies if the student’s previous Bachelor’s degree does not contain all the required courses.

Structure

The programme consists of compulsory environmental management courses, minor studies in environmental/natural science (students with business background) or basic business studies (students with environmental/natural science background), and language/communication skills courses, and optional courses.

Compulsory environmental management studies include courses on societal transformation towards sustainability, material flow management, environmental management systems, environmental management strategies, sustainable marketing and consumption, project working, and environmental management in stakeholder networks. Master’s thesis is included in the studies.

In particular the courses of the programme are:

1. Advance Studies in Corporate Environmental Management

- Content: *societal transformation towards sustainability, material flow management, environmental management systems, environmental management strategies, sustainable marketing and consumption, project working, and environmental management in stakeholder networks.*
- Compulsory Studies: *Sustainability Transition and Business, Material Flow Management, Managing a Green Organization, Corporate Environmental Management, Project Work or internship, Corporate Strategies for Sustainable Business, Sustainable Consumption and Marketing, Environmental Management in Stakeholder Networks, Research Methodology, Master Level Research Tutorial, Master’s Thesis, Maturity Test*

2. Other Common Studies

Introduction to Master's Programmes, Language Studies: Language Studies for Finnish Students, Language Studies for International Students

3. Compulsory Other Studies

- Students with Environmental Background
Basic Business in Practice, Introduction to Management and Leadership, Introduction to Marketing, Introduction to Accounting, Introduction to Entrepreneurship, Introduction to Corporate Communication, Basic Business Studies in Practice.

- Students with Business Background
Introduction to Environmental Sciences, Climate Now, Environmental risk perception and communication, Environmental technology, Prerequisite of life on Earth, Water and water systems, Humans and the Environment, Stainable water supply and sanitation.

6.4 Training initiatives taken by the social partners and other stakeholders

6.4.1 Klima:aktiv, Austrian Energy Agency

General info

In Austria, social partner involvement in the area of continuous vocational training (CVT) is institutionalized in the Public Employment Services (PES), whose relevant bodies are of tripartite nature. Furthermore, the social partners are deeply involved in the process of devising continuing training programmes and guidelines.

The Klima:aktiv programme is embedded in the Austrian Climate Strategy to meet the Kyoto targets and has collected all voluntary and supportive measures under one umbrella. The Klima:aktiv programme coordinates specific green labour market measures with environmental policy and sustainable development initiatives.

Main objective

The aim of the initiative is to encourage and introduce energy efficient and climate-friendly measures for communities, households and businesses. In this respect the Klima:aktiv programme addresses 4 key areas: construction and refurbishment, mobility, energy savings and renewable energy. The support is mainly given through technical and financial assistance.

One of the main objectives of Klima:aktiv is to create a network of highly trained and qualified professionals on climate protection by active investment in education and further training.

Model of social partner engagement

The Klima:aktiv programme is “hosted” by the Ministry of Agriculture, Forestry, Environment and Water Management and managed by the Austrian Energy Agency. Several structures (boards and panels) help to ensure good communication between different employers and stakeholders affected by the programme.

Co-operation agreements exist with several partners to provide training, including colleges, research institutes, and other organisations. Co-operation also exists with a range of other

institutions, including business representatives such as chambers of commerce and chambers of crafts.

Trade unions are partners in the project and have helped to identify the gaps and steer requirements for further training particularly where this relates to changes in traditional job profiles (e.g. solar installers as a new form of plumbing and heating installation).

In 2011, the Klima:aktiv network consisted of 300 employers (including employers' associations), and 5,000 'project partners' helping to implement the programme.

Key content and results of the programme

The key emphasis of the Klima:aktiv training programme is to build on existing skills to support a low carbon economy. In particular, the focus is on training to develop or update competences in the area of new technologies.

The programmes operate in the 4 key areas in cooperation with existing local and regional activities, consulting on education and training initiatives, establishing clear and transparent standards, implementing quality assurance measures and providing financial subsidies and awareness raising campaigns.

Until 2013, the identification of skill and competence needs was based on existing studies and stakeholder experience. Last year Klima:aktiv was involved in the first phase of the EU project BUILD UP Skills. The result of the first phase provided an identification of skills and qualifications needed for the construction and refurbishment sector.

The Klima:aktiv programme provides qualifications and coordinates further education and professional training activities for key players in a range of sectors to ensure quality management or to provide information and marketing of the training initiatives aimed at specific target groups. The main focus of the training activities is on advanced vocational training. It also develops and delivers certified training required across the 4 thematic areas.

The training is tailored to the particular occupation and level of prior experience and training, and typically consists of both generic and more technical training. The generic training provides information on energy efficiency to raise awareness. In this context the main results achieved by vocational and further education can be summarized as follows: - More than 9,000 professionals trained by Klima:aktiv (plumbers, master builders, eco-driving trainers, planners, energy consultants, etc.) - *900 professional building specialists* are actively using the e-learning platform. This platform aims at keeping the competence partner network engaged through an interactive community. - 980 fuel-saver trainers trained - In the mobility field new training courses and qualifications were introduced. Such measures include further training for driving instructors to obtain certifications as eco-driving trainers, tailored training “fit for E-bike” for the retailers of sports goods and bicycle mechanics and the qualification of youth mobility coaches.

The *dissemination process* consists of online information platforms to inform consumers, companies and professionals of the range of 'green' training programmes and specialized training opportunities with leading institutes of further education.

Klima:aktiv resulted in the ability to form partnerships and build up efficient networking activities between companies, public institutions and civil society. This experience has been leveraged to support Austria’s involvement in the first phase of the pan-European BUILD UP Skills project aimed at boosting the continuing or further education and training of workers in the construction industry.

Success factors and lessons learned

The organizational structure and governance model between national, regional and local level allows for effective control of the initiatives and of the processes underlying it. Furthermore the networking activities developed by the programme play a crucial role in its effective implementation.

In terms of training, a success factor has been the ability to bring a high number of heterogeneous and usually not coordinated training and initiatives under the same umbrella. This increased the overall efficiency and effectiveness of the programmes and ensured a better alignment between the delivered and industry requirements in terms of skills and competences developed.

Another important success factor has been the positive “image” of Klima:aktiv, which is seen as an independent programme. This eased the collaboration among stakeholders representing different interests.

Klima:aktiv increased public awareness concerning climate protection. This resulted in a change of the demand side of the market and induced stakeholders to pay more attention to climate-friendly investments.

The programme was initially planned as a bundle of 23 different initiatives around specific climate relevant topics e.g. consulting, awareness raising, quality management and training. Implementing these individual initiatives led to a wide range of different arrangements being established with the partners, creating conflicts. To handle these, by, for example, ensuring that the initiatives address the same target group in a coordinated way, new, innovative ways to exchange information and align priority processes were needed. For this new communication architectures were established, to facilitate large group interventions via networking tools such as Open Space, World Café and Future Conferences.

6.4.2 Marshall Plan 2 “Green”, Employment-Environment Alliance

General info

In Belgium, In August 2005, the Walloon Government adopted the priority action plan for the future of Wallonia, known as the Marshall Plan. The Marshall Plan 2 “Green” is a continuation and reinforcement of this initiative.

The Employment-Environment Alliance (EEA) is at the heart of the 2nd Marshall Plan. The actions proposed in the framework of the EEA policy work to improve the match between supply and growing demand (Weber, 2014).

Main objective

The Marshall Plan 2 “Green” aims to create a cluster of competitiveness; stimulate new activities; reduce the costs of doing business; boost research and innovation related to firms; and develop skills for employment in a greening economy.

The Marshall Plan 2 “Green” focuses on several green priorities. Indeed, the purpose of this plan is also to develop green synergy centres, promote jobs in eco-industries, advise job seekers on opportunities provided by a greening economy, organize training sessions for education institutions and to deliver eco-climate cheques.

Model of social partner engagement

The Marshall Plan 2 “Green” set up employment-environment alliances drawing on the approach used in Germany. The alliances seek to conclude a “multi-sectoral” contract with the social partners such as the FGTB (‘Fédération Générale du Travail de Belgique’), CGSLB (‘Centrale générale des syndicats libéraux de Belgique’), CSC (‘Confederation des Syndicats Chrétiens’), UWE (‘l’Union Wallone des Entreprises’), UCM (‘Union des Classes Moyennes’), as well as the CES (‘Conseil Economique et Social’), research centres, universities, the region, the Walloon public employment service (FOREM), and Walloon training institute (IFAPME).

Within the framework of this 2nd Marshall Plan, the Walloon Government also ensures greater synergies between Wallonia and the Brussels region (as well as the country's other Federal entities) where they can be developed in an effective and mutually beneficial way.

The working method of the EEA is highly participatory, through the establishment of working groups with industry. It is in this context that the Walloon Construction Confederation (CCW) is involved in various projects within the EEA.

Key content and results of the programme

In order to identify needs, policy makers proceeded in two ways. Firstly, ‘green’ components on the training already offered to unemployed individuals were identified, and developed where these were missing. Secondly, professional federations were interviewed to identify emerging occupations and skills requirements related to eco- industries.

Workshops were implemented for stakeholders in the sustainable construction sector which covered issues surrounding relevant education and training, business support, access to funding, research and innovation, and the development of indicators of excellence (certification, labels, and charters).

In total, 15% of the programmes were devoted to training in green skills. 25 skills centres were built, including one centre that concentrates exclusively on environmental training. It focuses on delivering training on different green building practices such as roof insulation.

In total, 35,074 training programmes related to green skills have been carried out, including 80% of training courses linked to sustainable development. Around 2.4 million training hours have been delivered to job seekers (and 23,541 job seekers have been screened in order to evaluate whether they could work in the field of sustainable development. Moreover, 107,426 hours of bloc-release training have been carried out and new Master's (courses have been established in sustainable worksite and production management.

The competitiveness *cluster Greenwin* was created in 2011. The main objective of the cluster is to favour economic development in Wallonia. It is a network which encompasses small and large companies, universities, research centres, training providers and organizations in order to promote the green economy and driven by the opportunities afforded by the pooling of skills and resources. Its strategy relies on two types of needs among member companies:

- The green symbiosis of existing areas of activity (e.g. design/architecture, heating and ventilation, chemical/biological processes), where training courses and content remain to be developed.
- New green occupations: completely new careers that came into being a few years ago in response to the deepening of environmental concerns. These new green occupations include: carbon auditor, life-cycle analysis expert, energy/environmental auditor/advisor, eco-designer, thermographer, biomass expert, carbon strategist, industrial ecologist, waste evaluator/broker, fitting engineer installing technologically advanced insulation solutions, etc.

In order to encourage workers to engage in a process of retraining, free job trials were provided and young professionals were giving the possibility of spending one week in three different firms in order for them to choose what field they wanted to specialize in.

Some measures such as eco-climate cheques, which are cheques that firms buy for their employees who can only spend them on referenced green products, aim at stimulating demand for green products.

A budget of €2.7 billion over five years (2009-2014) has been made available to put the plan into action, of which €1.15 billion comes from 'alternative finance'. Of the total available budget, €337 million is devoted to the development of human capital, and almost €280 billion to support the development of the EEA.

Success factors and lessons learned

One of the main successes of the EEA is that it acts as a link between policy makers and the world of work, and brings together training providers, employers and other partners, including the PES.

Coordination turned out to be a cornerstone of the success of the programme. The fact that all of the departments of the region such as the departments of employment, environment and education agreed on same policy strengthened the effectiveness of the program. This inclusive scheme enabled policy makers to take into account multiple dimensions when designing the programme.

One of the specific features of this plan is its aspiration for regular evaluation in order to give better direction to the tools used in the recovery strategy. These evaluations are of two kinds: annual monitoring reports and specific evaluations. Furthermore, defining clear budgets for each component of the programme ensured the sustainability of the actions and played a key role in ensuring wide-ranging stakeholder involvement.

6.4.3 Integrated National Centre for Training in Renewable Energies (CENIFER)

General info

The Center for Training in Renewable Energies (CENIFER) is a public education and training centre mainly financed by the Government of Navarra (Spain). CENIFER (EEO, 2013) is one of the 44 national educational reference centres for vocational educational and training. These centres, certified by the Ministry of Labour and Social Affairs, were created to perform actions for innovation and experimentation in the field of vocational training. Moreover, CENIFER has also a foundation for the promotion of training in the technical field of renewable energy. The creation of this foundation was approved by the Government on 22 December 2003 (Weber, 2014).

Main objective

CENIFER was created to train professionals in the field of renewables; some professionals have found employment in the region and others abroad. This national centre analyses training trends and skills needs in order to implement innovative practices, establish benchmarks and good practices for other vocational educational centres. They also seek to promote networks with business and universities.

CENIFER is also responsible for designing and updating training courses at the national level and for coordinating universities, private companies and education centres in order to meet the needs of the labour market.

Key content and results of the programme

The Government of Navarra with the collaboration of enterprises 41 has promoted CENIFER to respond to the training needs that arise in the field of clean energy. 42 Company participation is considered essential in CENIFER. Companies actively participate in the elaboration of the curriculum of the students through Tripartite Foundation for Training in Employment, the state entity in charge of promoting and coordinating the execution of public policies in the field of Continuing Training.

CENIFER training in renewable energies is sponsored by the Department of Innovation, Enterprise and Employment and the Department of Education of the government of Navarra as well as six of the biggest companies in the sector. This tool promotes technical training in the field of renewable energies.

CENIFER now offers various courses on renewable energies for different profiles including vocational training for businesses, professionals and teachers which are also often tailored to meet specific business needs. More than 50 courses have been offered, most of them, 35, addressed to enterprises and professionals, some have focused on Navarra region (5) and some others had a national approach (9). CENIFER offers 3 vocational training courses for young people.

The centre covers all forms of training to develop, refresh, and update skills among new entrants, teachers and existing workers:

Specific or regulated, aimed at young people preparing for the professional world. CENIFER has developed 3 upper vocational and training cycles lasting 2,000 hours on solar energy and efficiency, thermal and fluids, and renewable energy. Students receive a formal accreditation after passing the exams.

Occupational: for unemployed people in order to work in a sector with growth prospects.

For businesses and professionals: intended for all those who already work into renewables and need to keep updated.

Technical development for teachers: for constant updating of teachers in this field.

Collaborative programmes for the training of technicians from other countries.

The training encompasses six areas: thermal-solar energy; photovoltaic solar energy; regulation and control of industrial communication nets; wind energy; hydropower energy; and a common area. The common area includes: regulation, dealing with environmental aids and grants, electronics, air conditioning and industrial processes, etc.

In 2011, 31 courses were implemented with 388 students (21 % less than in 2010).

In 2012, 80,000 euros were assigned to them under the title renewable energy. Moreover, this centre has received the support from Employment Ministry and European funds. Enterprises also make donations of obsolete machinery. A total of 5.41 million euros has been invested in the creation of the centre. CENIFER has a workforce of 22 people at its 40,000- square- meter premises in Imárcoain. The complex has 9 classrooms and 8 workshops. More than 5,000 students have been trained in the centre from its opening up to December 2009.

Success factors and lessons learned

The success of CENIFER is the involvement of the Government of Navarra and the participation of enterprises. Students are trained with the materials and machinery used in the companies, there is a good match between the skills demanded in the labour market and the training provided to the students.

CENIFER has demonstrated leadership and strongly contributed to the development of vocational training that incorporates an environmental dimension into its schemes, learning cycles, tertiary degrees and programmes (EEO, 2013). A lack of monitoring and evaluation of training outcomes however precludes more detailed understanding of the programme’s success.

7 Conclusions

The economic crisis has accelerated many structural changes within the majority of industries in the economy. As a consequence, there is an urgent need for the implementation of strategies, in order to help ‘displaced’ people to move from declining economic sectors to more viable business activities.

Such activities include “green” jobs and jobs in “green” sectors that encourage eco-friendly production and consumption, not only to create a more sustainable economy, but also to generate quality job positions.

Under that framework, organizations are constantly looking to facilitate new methods and practices in order to improve their performance and gain a competitive advantage. This report indicates positive trends in employers’ attitudes towards the development of the green economy and its implication for skills and training activities.

In the same time, over the last decades environmental education has been implemented mainly in training centers and higher educational institutes. Thus, there are many seminars related to green economy and eco-innovation, a plethora of workshops and conferences, as well as post graduate and graduate programmes in university institutions.

The surveys that were conducted under the framework of the SMecoMP project showed that although the participating greek companies are very familiar with the concept of eco-innovation, only a small amount of them have attended training seminars on eco-innovation.

Furthermore, the surveys showed that the training initiatives that are offered in Greece on the field of eco-innovation are not sufficient and not adequately promoted to the business world, so as companies to be aware of them.

The employers also evaluated the importance of certain competences that a company’s workforce must have in order to succeed in pursuing eco-innovation practices. According to their views, the marketing and design skills of new products and services, are considered the most important qualifications for an employee.

As a result, it is quite obvious that due to the gradual development of the eco-innovation entrepreneurship, the existing workforce is interested in enhancing its working qualifications with the appropriate skills on green economy technologies, such as renewable energy systems and environmental protection facilities.

In conclusion, the surveys showed that enterprises need further information on eco-innovation issues and special training on the field. Under these circumstances, training providers need to collaborate with policymakers and social partners in order to ensure a consistent policy framework that can improve recognition of green skills, making it easier for people to apply them to new job positions.

References

Avlonas N., George P., N. (2014). Practical Sustainability Strategies: How to Gain a Competitive Advantage, First Edition, John Wiley & Sons, Inc

Cedefop (2010), Skills for Green Jobs, European Centre for the Development of Vocational Training

EEO (2013), EEO Review: Promoting green jobs throughout the crisis - Spain, European Employment Observatory (EEO)

Lubin D., A., Esty D., C. (2010). The Sustainability Imperative, Harvard Business Review, May 2010 issue.

Ryan, J. F. (2016) Criteria to select best practices a proposal from the Commission available at: http://ec.europa.eu/health/major_chronic_diseases/docs/reflection_process_cd_final_report_en.pdf

Weber, T. (2014). Skills needs in greening economies: INTEGRATED PROGRAMME of the EU Social Dialogue 2013-14 – Final Report. ICF GHK, Brussels

Electronic sources:

- https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy_el
- <https://www.tech.ihu.edu.gr/index.php/en/msc-in-environmental-management-and-sustainability>
- <http://greens-project.eu/>
- <https://www.mitsubishielectric.com/en/sustainability/environment/policy/management/education/index.html>
- <https://www.green-entrepreneurship.online/en/learn/cpd-training-programme>
- <http://www.greenbusinessinnovation.eu/>
- <http://agriculturaltechnology.teithe.gr/mscs-diaxeirish-perivalontos-ekpaideush/>
- <http://www.icmrindia.org/casestudies/catalogue/Business%20Ethics/Business%20Ethics%20-%20IKEA%20Environmental%20Practices%20-%20Making%20Good%20Business%20Sense.htm#Environmental%20Training>
- <https://www.naturalstep.ca/four-system-conditions>
- <http://grow-green.org/>
- <https://www.bbs.unibo.eu/hp/global-mba-green-energy-and-sustainable-businesses>
- <http://www.isige.mines-paristech.fr/formation/ige/>
- <https://www.jyu.fi/en/apply/masters-programmes/masters-degree-programmes/corporate-environmental-management>